

A Consolidated Glossary of British Mill Terms



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A CONSOLIDATED GLOSSARY OF BRITISH MILL TERMS

The object of this Glossary is to provide standard definitions for the mill terms used in this country, enabling expressions to be universally understood.

This however must not be to the detriment of local names, and it is suggested that when these are used, the preferred term is added in brackets, allowing those unfamiliar with them to understand without need to refer to the alternative;

e.g. VAT (TUN), SHUTTLE TREES (SHEERS), JOG SCRY (JUMPER), CLEWS (SLUICES), RADDLE (TIVER).

The terms have been taken from many publications, and authors do not always agree, so with the help of several mill experts a compromise has been reached to obtain a reasonable result.

As this is the first time so many mill terms have been brought together, it is certain that some definitions will lead to differences of opinion, but that is to be expected in a work of this kind. Every attempt was made to eliminate errors, but there is no doubt that many will be discovered. The work is in no way complete and any additions, corrections or alterations to the contents will be very welcome.

Coming to mill terms from general Industrial Archaeology, there were many with which I was unfamiliar. That problem led to my collecting a few mill terms and their definition on the computer, but like "Topsy" it grew!

I am indebted to Paul Jarvis for considerable assistance over the four year period of constructing this glossary; to Michael Yates for making his card index of mill terms available, and to many others including Duncan Breckels, Roy Gregory, Alan Crocker, Peter Dolman, John Harrison, Tom Hay, Gareth Hughes, Ken Major, Vincent Pargeter, C T Riley, Nial Roberts, J G Sampson, Alan Stoyal, Malcolm Tucker, Martin Watts James Woodward-Nutt and many others who have kindly offered encouragement, advice and criticisms.

Tony Yoward 1996

Since the Glossary was first published in 1996, many people have been kind enough to send me additions, corrections and alterations for which I am very grateful, and these have all been included in this revised edition which now contains 3,000 terms. Please continue to assist by sending in your amendments so that the glossary remains comprehensive. I am indebted to Helen Major for undertaking the massive task of proof reading this edition.

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The advice given is based upon what the Mills Section S.P.A.B. believes to be sound and satisfactory practice for the repair and preservation of mills generally. This advice is offered in good faith only as a guide.

Due to widely differing circumstances from one mill to another, it cannot be ensured that the practices and methods advised will necessarily be directly applicable or appropriate.

It is therefore the responsibility of those using this document to ensure that the advice given is appropriate to the particular application and for controlling the quality of workmanship and materials. The Society does not accept responsibility for the satisfactory nature of any work carried out.

GLOSSARY OF BRITISH MILL TERMS

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| 'A'-BRACKET | An "A" shaped frame used for supporting a bearing. |
| 'A'-STANDARD | see 'A'-BRACKET. |
| ABSTRACTION | The failure to take grain to that mill to which it is bound by THIRLAGE (Scot.). |
| AGAINST THE SUN | Anti-clockwise (traditional term) See also WITH THE SUN. |
| AGEING | The process by which flour is allowed to stand for some time after grinding until its original creamy colour has turned white. Was carried out by chemical bleaching at one time, but generally no longer so. |
| AGITATOR | see DAMSEL. (northern term). |
| AIR BRAKES | Longitudinal shutters sometimes incorporated on outer end of leading edge of patent sails, actuated by shutter mechanism to open & break up air flow in heavy gusts and thus reduce the speed of rotation of the sails. Also known as SKYSCRAPERS. |
| AIR POLES | Diagonal control rods connecting the shutter bars to the striking gear of Hoopers roller reefing sails. |
| ALARM BELL | A warning bell triggered by lack of grain in the hopper; also a bell which gives warning for anything else, e.g. from a small flood wheel. also known as WARBLER. |
| AMERICAN WINDMILL | see WIND ENGINE. |
| ANCHOR CHAIN | A chain used in conjunction with a winch mounted on the tail pole of a windmill to turn and secure the mill; made fast to CHAINPOSTS or BOLLARDS set around the base. |
| ANCHOR PLATFORM | Platform at the lower end of the tailpole to fix the end of the spoke chain. |
| ANCHOR POSTS | see CHAIN POSTS. |
| ANGEREM | A dish containing 6lbs Dutch weight meal which was used to measure the miller's & mill servants' share of the meal (Scot.). |
| ANGLE of WEATHER | Twist or pitch in a sail, resembling that of a propeller, to catch the wind & give driving power. Usually 5 degrees at the TIP & about 25 degrees at the HEEL, measured from the plane of rotation. |
| ANNULAR SAIL | Circular sail assembly with several radial vanes. |
| ANTI-MILL or UNION MILL | A mill run by a co-operative. |
| ANTI-CLOCKWISE SAILS | Running anti-clockwise when seen from the front of the mill. |
| APPOLD TURBINE | A early type of centrifugal pump driven by marsh mills. |
| APRON | (1) A flat plate at the end of the trough delivering water to a waterwheel. (2) Arc or breast of stone or wood fitted behind a breast or pitchback waterwheel to contain the water in the buckets. (3) The brick or wooden boarded floor to a watercourse, upstream or downstream from a sluice or waterwheel to prevent the water from scouring under the foundations (4.) The area around the bedstone, into which the mill eye is set. |
| ARCHIMEDEAN SCREW | A device for raising water for drainage purposes, consisting of a long sloping coarse-pitched screw, made of wood or metal, rotating in a close fitting trough. See also AUGER. The Japanese have a small archimedean screw which is used "in reverse" for producing power on a farm. |
| ARK (MILLER'S ARK) | A bin for the storage of grain or meal. See MEAL BIN and MEAL ARK. |
| ARMFIELD ARCH | Cast-iron SPRATTLE ARCH much used by J.J.Armfield Co., Ringwood, Hampshire, but in use long before. |
| ARM WHEEL | A wheel having radial arms set on a hub, mortised into a wooden shaft or cast with it. |
| ARMS | (1) The mainshafts or whips of a sail, of the frame supporting the rings or shrouds. (2) The sails of a WINDMILL. (3) The 'spokes' of a WATERWHEEL. See also: CLASP ARM WHEEL, COMPASS ARM WHEEL. |
| ARTIFICIAL STONE | see MILLSTONE(4) COMPOSITION. |
| ARUBA | A hollow tower designed to deliver a jet of water under pressure to a horizontal waterwheel. Used in Spain and the Middle East. |
| ASHLAR | Squared stones used in building. |
| ASPIRATOR | A device for cleaning grain before grinding, utilising a FAN(2) to produce a current of air to remove dust and impurities. |
| ASTRICTION | see THIRLAGE. |
| ATTRITION | Abrasion, The wearing away by friction or by rubbing substances together. |
| AUGER | (1) In MILLS, a horizontal screw helix or Archimedean screw, revolving in a trough or tube and employed for the horizontal movement of grain or meal. It was improved by Oliver Evans an American millwright in the C18th. (2) A carpenter's tool for boring holes; used by millwrights. |
| AUGEREM | A dish containing 6 lbs Dutch weight meal used to measure the miller's and mill servants' share of the meal. (Scot.). |
| AUTOMATIC SWEEP | see PATENT SAIL |
| AUXILIARY DRIVE | The driving mechanism (shafts, belts or gears) to auxiliary equipment in a mill, or associated with an auxiliary engine. |
| AUXILIARY POWER | Any other power source used to augment the wind or water. |
| AWES | The paddles of a waterwheel. See FLOATS. Sometimes the sails or shaft of a windmill (Scot.). |
| AWN | The spike or beard on a grain of barley (Scot.). |
| AXLE | The shaft carrying the WATERWHEEL and the PIT WHEEL. (also a general term for a spindle or shaft set horizontally). |
| AXLE TREE | see WINDSHAFT. See WHEELSHAFT. See AXLE. See SHAFT. |
| BACK CROSS BEAM | A timber beam which supports the tail end of the windshaft. |
| BACK EDGE | The trailing edge of the LAND of a MILLSTONE. |
| BACK FRAME | Supports weather-boarding at the rear of a post mill. |
| BACKING | see SOLE. |
| BACKLASH | Free movement between two sets of gear teeth. |
| BACKS | see SAIL BACK |
| BACKSHOT WHEEL | see PITCHBACK WHEEL. |
| BACKSTAYS | Struts at back of a sail which provide supports for the sail bars & maintains the angle of weather. |
| BACK TO BACK | see DULL to DULL. |
| BACKWATER | When the water level in the TAIL RACE of a VERTICAL WATERWHEEL partly submerges the lower part of the wheel, it acts as a brake on its motion, greatly reducing the power available; this is known as being Backwatered. It can similarly impede the motion of a HORIZONTAL waterwheel. |
| BACK WATERING | The drag caused by the immersion of the lower part of a waterwheel, in relatively static water.. |
| BACK WINDED | see TAIL WINDED. |
| BACK & BROD | A balance beam (BACK or BAUK) with scales (BOARDS) used for weighing heavy objects. (Scot.) |
| BAILS | Curved iron tongs, or separate arms, suspended from a STONE CRANE for lifting and turning a RUNNER STONE. See also CALLIPERS. |
| BAKER'S FLOUR | A grade of flour below PATENT and used in the baking trade. |
| BALCONY | see STAGE(1). |

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| BALANCE | In order to grind evenly and to run smoothly, a MILLSTONE must be balanced. There are two modes of balance to consider. See STATIC BALANCE. See RUNNING BALANCE. |
| BALANCE BOX | A method of fitting balance weights by a small iron box or cavity let into the back of some runner stones for the insertion of (lead or iron) weights. There are usually four. |
| BALANCE DISH | Automatic device for ensuring a regular feed into a machine. |
| BALANCE IRONS | see GOVERNOR (1). |
| BALANCE WEIGHTS | Lead or iron weights inserted in the runner stone to achieve perfect balance. Patent balance weights employed discs of lead or iron carried on a threaded screw. |
| BALANCER BOX | see BALANCE BOX. |
| BALANCE RHYND | see RHYND. |
| BALANCING | (1) The process of adjusting the breaks and separations in a roller mill to produce the desired yield. (2) Ensuring the post mill body is correctly balanced on the post. (3) Ensuring the sails are correctly balanced to reduce the strain on the mill. (4).RUNNER STONE is balanced to run evenly. |
| BALANCER WHEEL | see PITCHBACK WHEEL. |
| BALK | see BAULK. |
| BALL FINIAL | Ornamental spherical top piece on a smock or tower mill cap. |
| BALL MILL | Large barrel or cylinder containing wooden or iron balls. The barrel is rotated on its axis to pulverise or polish the ingredients. |
| BANNOCK | A small quantity of meal of oats, barley or peas due to the servants of the mill by those grinding their grain in it (Scot.). |
| BAR / BARS | (1) see BRIDGE. (2) see SAIL BARS. |
| BARK MILL | A MILL used for grinding tree bark - usually oak - to allow the extraction of tannin for tanning leather. |
| BARLEY | see GRAIN(3). |
| BARLEY MILL | A machine for removing the bran or skin from barley grains to make pearl barley. |
| BARLEY STONES | see MILLSTONES(3) PEAK. |
| BARN SCOOP | see SCOOP. |
| BARREL VAULT | Hole through which the WINDSHAFT passes, at the front of the mill, sometimes with an iron shield or plate to keep out the weather. |
| BASE | The short brick tower supporting a smock mill. |
| BASEPLATE | see BEDPLATE. |
| BATTER | Slope of the wall of a tower windmill, at an angle from the vertical. |
| BAULK | A structural timber of large square cross section. |
| BAXTER | A baker (Scot.). |
| BAY | (1) the space between the sail bars of shuttered sails, usually containing three shutters. (2) see MILL DAM. (3) The division between the frames of a waterwheel. (4) The space between roof couples in a house, mill or building. |
| BEADING | The continuous projecting lip or edge. usually convex, found on castings. |
| BEAM | General term for a large structural piece of timber or iron forming one of the main members of a building or machinery component. |
| BEAM SCALES | A pivoted beam suspended at its centre, carrying a frame to support a sack at one end and a support for weights at the other. |
| BEAN CRACKERS | A purpose made type of crusher or a pair of stones. |
| BEARD | Hair-like growth found on the end of wheat or barley kernels. |
| BEARING | That part of a machine which supports a JOURNAL. Usually made of brass or gun-metal, but sometimes hardwood, stone or castiron. See BRASS or HALF BRASS. See JOURNAL. see NECK BEARING. |
| BEARING BOX | see WALL BOX. |
| BEATER (flour) | The fixed wooden bars in a CENTRIFUGAL FLOUR DRESSER which throw the meal against the silks, also the fixed bars in a bolter against which the sleeve strikes. |
| BEATER (paper) | Machine for beating paper PULP. See HOLLANDER. |
| BEATING ENGINE | see HOLLANDER. |
| BEATLING | see BEETLING . |
| BEAVER | A heavy milled woollen cloth with a raised finish. |
| BEDSTONE | The lower fixed millstone in a horizontal pair. Also known as a LIGGER, NETHER STONE, LOWER MILLSTONE, UNDER STONE or LYER. (to"lig" = to"lie" in Cumbrian dialect). |
| BEDSTONE | Lower stone which is bedded down and immovable (Scot.). |
| BEDPLATE | The cast iron plate which acts as the foundation for an item of machinery. |
| BEEHIVE CAP | see CAP (SHAPES). |
| BEEHIVE QUERN | see QUERN BEEHIVE. |
| BEE SWINGS | Rough particles of outer husk from wheat or buckwheat which escapes being ground, that might tear a hole in the bolting SILK. |
| BEETLING | A pounding process in the finishing of linen cloth, performed by a series of hammers pounding the material. |
| BEHR STONES | see MILLSTONE (1) BURR. |
| BELL | A cranked triangular-shaped iron lever bracket, part of a patent sail mechanism. |
| BELL ALARM | see ALARM BELL. |
| BELL CRANK | A crank, triangular or L-shaped, pivoted at one apex and used for altering the direction of a mechanical force. Known as TRIANGLES if found on sails. Named from the use of this device in mechanical doorbells. |
| BELLY HELVE | see TILT HAMMER. |
| BELT | An endless loop for transmitting power from one pulley wheel to another. Made of leather, canvas & rubber etc. |
| BELT PULLEY | A wheel with a broad flat or convex rim, sometimes flanged, used with a driving belt. Also called a WOOD RIGGER (old term). |
| BERE or BEIR | An early form of a four rowed barley, once widely used and grown in Scotland; still grown in the Orkney Isles. (Scot.). |
| BERRY | A grain of wheat. |
| BEREUIC (bereuicos, a berewick) | A demesne farm. A hamlet or member of a manor; essentially a corn farm. (ancient document term) |
| BEVEL GEARS | GEAR WHEELS profiled to drive at an angle to each other, with the face at an acute angle to the driving shaft. See also FACE WHEEL. |
| BEVEL WHEEL | see BEVEL GEAR. |
| BIDDLE | A wooden mallet (old Sussex). |

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| BILL | Hard steel double-ended wedge-shaped chisel, held in a handle (THRIFT), used for dressing stones; traditionally carbon steel; modern bills may be tipped with tungsten carbide. Flat or Pick. |
| BIN | Storage compartment for grain, usually arranged on the top floor of the mill (BIN FLOOR). |
| BIN FLOOR | The floor to which grain is raised to be kept in storage bins; usually the top floor. Also known as a GARNER FLOOR or GRANARY FLOOR. |
| BINDER | A horizontal heavy structural timber in a smock mill. |
| BIRDS BEAK JOINT | Notches at the junction of quarter bar & cross trees. Also known as BIRDSMOUTH JOINT. (carpentry term for an abutment notch for a sloping member meeting a horizontal or vertical one). |
| BIRDSMOUTH JOINT | see BIRDS BEAK JOINT. |
| BIST | A small cushion of BRAN or OFFAL, used by the stone dresser to kneel on or to rest his elbow. (local term). |
| BIT | see BILL. |
| BITCH | The small sack into which the miller's share of the meal (or mill moter) passes through a small hole in the spout (Scot.) |
| BLACK GREASE | (1) Horse fat for lubricating gears & bearings. (2) A grease made from lard mixed with graphite powder. |
| BLACK-LEAD | It is graphite, as used on old iron stoves. |
| BLACK MILL | (Mhullinn Dhu) See Norse Mill Shetland Mill (Scot.). |
| BLACK SMUT | see SMUT. |
| BLACKSMITH | A smith who works with iron. |
| BLADE \ BLADES | (1) the arm of a FAN(2) which propels the air. (2) see VANES (2), (3) & (4). |
| BLADE MILL | A mill for grinding or sharpening blades, swords, cutlery or other EDGE TOOLS. |
| BLENDING | (1) The mixing of various qualities of wool, prior to spinning. (2) The mixing of grain prior to grinding or flour prior to bagging. |
| BLOCK | One or more rope pulleys (sheaves) mounted in a wooden block, used for lifting or moving heavy weights. |
| BLOOM | An ingot, ball or lump of iron, having undergone the first hammering. The initial product of the direct iron making process. |
| BLOOMER | A smith who makes BLOOMS. |
| BLOOM SMITHY | A FORGE where blooms were made. |
| BLOWING THE HORN | A loud noise like a horn being blown, produced by the cap/sails of a windmill during a strong wind. Peculiar to Lincolnshire tower mills, exact cause unknown (Lincs.). |
| BLOWING HOUSE | A structure housing or adjacent to a furnace for smelting metallic ores or concentrates, which in early days was often equipped with water-powered bellows. |
| BLUE STONE | see MILLSTONES(5) CULLIN. |
| BOAT MILL | see FLOATING MILL. |
| BOAT -SHAPED CAP | see CAP SHAPES. |
| BOBBIN MILL | A wood working MILL for the manufacture of bobbins used in the textile industry. Thread is wound on to them. |
| BOB GIN | A water-powered pump driven by cranks and oscillating beams. |
| BOBS | A counterweighted frame, hung on bell cranks, & employed to balance the weight of the pump rod in mine drainage installations, or to maintain a FLATROD line in tension. |
| BODY | Whole upper part of a post mill above the trestle, containing all the machinery, which revolves as the mill is winded. See also BUCK. |
| BOLL | Unit of grain volume measurement. A boll of oatmeal is about 140lbs (Scot.). |
| BOLLARD | (1) The horizontal or vertical windlass or barrel of a SACK HOIST. (2) A post. See ANCHOR CHAIN. |
| BOLSTER | (1) The heavy plate supporting a neck bearing in a WINDMILL. (2) The heavy plate supporting the inner (outer) bearings of the wheelshaft. |
| BOLSTER HEAD | A wooden beam along the back wall of a horizontal mill supporting the inner end of the bearing (ground sill) that carries the horizontal wheel spindle. |
| BOLT | (1) A round iron or steel bar with a square (or later a hexagonal) head at one end and a screw thread at the other, to take a square (or later a hexagonal) internally-threaded nut. Used to hold or clamp two or more components together. (2) A sliding wooden or metal bar or rod, used to secure a door, shutter or other device. (3) The action of BOLTING. (to bolt). |
| BOLTER | A mechanical device for separating flour from bran, by beating it through a rotating cylinder of cloth. This was at first of wool, then calico & latterly of silk, hence the term 'silks', but other cloth may be used. First introduced in C16 th (later SILK MACHINES were used). |
| BOLTING | Process of separating flour from bran or skin of the wheat by using fine mesh cloth serving as a sieve. |
| BOLTING CLOTH | The revolving sieve sleeve in a bolter, made of wool, calico, silk etc. |
| BOLTING REEL | A frame, usually six or eight sided, mounted on a SHAFT(1) and covered with a BOLTING CLOTH. As the frame revolves, the fine particles pass through the cloth & thus the flour is separated from the bran. |
| BONE MILL | A mill used for grinding bones for fertiliser and for the pottery industry. |
| BONEMEAL MILL | see BONE MILL. |
| BONNET CAP | see CAP (SHAPES) - BOAT. |
| BONSUCKEN | see SUCKEN (Scot.). |
| BOOM | A floating log anchored across the entrance to the mill race designed to prevent floating debris from damaging the wheel. |
| BOOT | The bottom of an ELEVATOR. |
| BORING MILL | see CANNON-BORING MILL. |
| BOSOM | see SWALLOW. |
| BOTTLE MILLS | Small type of Lincolnshire tower mill. Name due to its shape. May have been raised at some time thus giving it its bottle shape. |
| BOTTLE SCREW | see TURNBUCKLE. |
| BOTTOM SIDE RAILS | Lower side rails parallel with and below the SIDE GIRTS of a POST MILL. |
| BOULTER | see BOLTER. |
| BOULTING | see BOLTING. |
| BOULTER HEAD | Wooden stakes packed with stones against the bay of the mill pond. Often packed with iron slag in forge mills (old Sussex). |
| BOULTING MACHINE | see BOLTER. |
| BOUTS | Revolutions of a wheel or sail. |
| BOX | The cast-iron or wooden box in the eye of a bedstone, containing the brasses and grease-wedge which form the bearing for the stone spindle. |
| BOX SECTION RIM | A hollow rim of square or rectangle section. |

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| BOY | see SACK BOY. |
| BRACE(S) | (1) A timber used to strengthen the rigidity of a mill frame, e.g. ties, triangulating beams. (2) The diagonal support(s) of a smock or tower mill gallery. (3) On tailpole winded tower or smock mill caps, the inner (or short brace) and outer (long brace) upright supports of the cap-mounted tail pole. |
| BRAKE | In windmills, a band brake of wood or iron working on the outer rim of the BRAKE WHEEL, & controlled by a BRAKE LEVER, BEAM or STAFF & BRAKE ROPE. Also known as a GRIPE. |
| BRAKE ANCHORAGE | The EYE BOLT to which one end of the BRAKE is fixed in a WINDMILL. |
| BRAKE BEAM | see BRAKE LEVER. |
| BRAKE CATCH | Pivoted wood or iron hook to retain the brake in the 'off' position. |
| BRAKE LEVER | The lever operating the brake mechanism. See also BRAKE. |
| BRAKE ROPE | The rope to work the BRAKE. also called a SNAP ROPE. |
| BRAKE SCREW | A screw mechanism for applying the brake particularly in tower mills, invented by the millwrights Holloway Bros., Shoreham-by-Sea, Sussex. |
| BRAKE SHUTTERS | AIR BRAKES. |
| BREAK FLOUR | Flour produced in the break rolls of a roller mill. Usually of inferior quality, as the breaks are set to produce minimum flour. See REDUCTION ROLLS. |
| BRAKE STAFF | see BRAKE LEVER. |
| BRAKE WHEEL | Primary gear wheel in a windmill mounted on the WINDSHAFT, having face or bevel gear, which drives the WALLOWER, having a contracting brake acting on its rim. Also known as a HEAD WHEEL. |
| BRAN | Ground PERICARP layer of the GRAIN, which may be separated by bolting. The flakes of the outer casing of wheat grain after grinding. |
| BRAN DUSTER | A machine to remove flour adhering to the bran. |
| BRAN JUMPER | see JOG-SCRY. |
| BRASS | A broad term used for brass bearings. |
| BRAY | see BRAYER. |
| BRAYER | The pivoting beam or lever supporting the free end of the BRIDGE TREE, used for the fine adjustment of the gap between the millstones; forms part of the tentering gear. |
| BRAYER BEAM | see BRAYER. |
| BRAYER IRON | see BRAYER. |
| BRAYER TREE | see BRAYER. |
| BREAK | Any one of the roller grinding processes by which the grain is reduced to flour. (First, Second and Third breaks - there can also be 4th & 5th breaks. 4 is normal.) |
| BREAK FLOUR | Flour produced in the break rollers of a roller mill, usually of inferior quality as the breaks are set to produce minimum flour. |
| BREAKING JOINT | The staggering of joints to preserve overall strength e.g.: in a curb, 2 wooden rings of which one overlaps the other. |
| BREAK ROLLS | Grooved rollers used for breaking the grain. Used in the first stage of ROLLER MILLING prior to reduction etc. |
| BREAST | (1) The curved face of a wheel pit. (2) see BREAST of a MILLSTONE. (3) Where the WATERWHEEL is struck by water at about axle level. (4) The front of a POST MILL. |
| BREAST BEAM | (1) The main horizontal transverse beam supporting the NECK OF THE WINDSHAFT. Also known as WEATHER BEAM or RODE BALK. (2) The transverse beam in the breast of the mill beneath the STONE FLOOR, in which case the BREAST BEAM is called the WEATHER BEAM. (East Anglia). |
| BREAST CAP SILLS | The two timbers used to support the roof members of some caps. |
| BREAST of a MILL | The front part of the BODY (or BUCK) of a POST MILL between the MAIN POST and the SAILS. |
| BREAST of a MILLSTONE | The middle section of the grinding surface of a millstone. |
| BREAST-SHOT WHEEL | A WATERWHEEL which is turned by the weight of water in its BUCKETS, the water entering the buckets at about the level of the WHEELSHAFT. Developed in the 18th and 19th centuries See also HIGH BREAST WHEEL, LOW BREAST WHEEL. |
| BREAST WHEEL | see BREAST-SHOT WHEEL. |
| BREASTSUMMER | see BRESSUMER. |
| BREDGRASS | see BRIDGING BOX. |
| BRESUMMER | A large horizontal timber in a post mill. |
| BREYER | see BRAYER. |
| BRIDGE | Curved metal bar secured across the eye of runner stone supporting it on the top of the spindle. See BALANCE RHYND of which it is a part. |
| BRIDGE BEAM | see BRIDGE TREE. |
| BRIDGE RYND | see BRIDGE. |
| BRIDGING BOX | An open-topped iron box to contain and locate the FOOTBRASS of a vertical shaft. Usually has 3 or 4 BRIDGING SCREWS to locate and secure the footbrass to correctly align the shaft, and commonly fitted to BRIDGE TREES to carry the STONE SPINDLE. May also be fitted below the UPRIGHT SHAFT or other vertical shafts. |
| BRIDGING SCREWS | The screws set round a BRIDGING BOX which are used to adjust the position of the TOE BRASS to get the correct vertical alignment of a stone spindle or other vertical shaft. They usually have square heads, but may have ring-shaped heads similar to eye-bolts. |
| BRIDGE TREE | An adjustable lever beam supporting the thrust bearing at the foot of the stone spindle & thus bears the weight of the runner stone; raised or lowered for adjusting or TENTERING the gap between the stones. Part of the hursting or hurst frame. Sometimes made of iron. |
| BRIDLE | see BRAYER (Suffolk). |
| BRIDLE IRONS | (1) An iron coupling in patent sail mechanism connecting the spider to the bell cranks. (2) Clamps to hold a sail back to the arm of a cross. |
| BRIGGING BAR | JACKSTAFF (N.E. Yorkshire). |
| BRIGGING | The accurate plumbing of the spindle, by adjusting the THRUST-BEARING, a process ensuring that the stone spindle is vertical. |
| BRIGGING THE SPINDLE | Truing up the spindle by adjusting the BRIDGING SCREWS or adjusting wedges to ensure the stone spindle is at right angles to the face of the BEDSTONE. The JACKSTAFF is used to indicate when the spindle is correctly adjusted. Also known as TRAMMING/TRAMMELING. |
| BRIGHT | A water meadow glistening with water, but not flooded. |
| BROAD BRAN | Large flaked BRAN. |

BROAD CLOTH Originally cloth made on a broad loom. Latterly any cloth of a plain weave heavily milled.

BROAD AND FLEET Broad and shallow FURROWS on a MILLSTONE.

BROWN STONE see COMPOSITION STONE.

BRUSH see BEARD (2).

BRUSH MACHINE A machine for brushing and polishing wheat after being smutted but before magnetic separation and grading.

BRUSH SIFTER Variety of dresser with fixed horizontal cylindrical wiremesh screen, 4 to 6 feet (1.2 to 1.8m) long in which angled brushes rotate to drive the meal lengthwise while it is being sieved.

BUCK see BODY (East Anglian).

BUCKETS Partitions or receptacles around the rim of a WATERWHEEL in which the water is held, in order to use its weight to turn the wheel. In cases where a high velocity flow of water is directed into the buckets, some kinetic energy may be converted into useful energy by the wheel. Buckets are fitted to OVERSHOT, BACKSHOT and most BREAST-SHOT wheels. May vary in shape. See also SHROUDS, FLOATS, VENTILATED BUCKET and UNVENTILATED BUCKET.

BUCKET MILL A water-powered mill where wooden buckets are made (e.g. Finzean Bucket Mill near Banchory, Deeside).

BUCKET WHEEL A WATERWHEEL with BUCKETS round its rim.

BUDDLE In mining, a vessel used with water to extract ore from lighter particles.

BUHR STONE see MILLSTONE(1) BURR.

BULLS EYE A circular hole in a wall. See also BARREL VAULT.

BULL WHEEL see WALLOWER (Irish).

BUND The raised bank, or embankment of a mill pond.

BUNTING MILL see CLOTH MILL (West country).

BURR see MILLSTONE(1) BURR.

BURR SPINDLE see STONE SPINDLE.

BURR STONE see MILLSTONE(1) BURR.

BUSHEL A measure of volume of grain; the weight will vary with the type of grain. (equal to 8 gallons or four pecks).

BUTTERFLY FURROW see FLY FURROW. See SICKLE DRESS. See DRESS (2) QUARTER DRESS.

BUTTON MILL A manufactory for making buttons from materials such as bone, mother of pearl etc.

BYPASS A channel to take water which is surplus to requirements, past a waterwheel.

BYWATERS ROLLER SAILS A type of PATENT SAIL (no.2782) by Captain Stephen Hooper in 1804, using roller reefing gear with rollers parallel to the sail back.

CAGE A "floating" ring of iron or wood which maintains the spacing of the rollers or balls in a shot curb.

CAKE The result after extraction of the oil from the seeds with the stampers.

CAKE BREAKER (CRUSHER) A machine for breaking up animal cake such as linseed or cotton cake - the residue from oil manufacture.

CALENDERER or CALENDERER An operator of stacks of CALENDERS or heated rollers for hot pressing and glazing of cloth or paper as used in textile and paper making. In the 1850's usually a separate finishing process but now usually integrated in the paper mill.

CALLIPERS Two curved lifting irons which connect a STONE CRANE to the RUNNER STONE via pins inserted into sockets set into the edge of the stone. The curvature of the irons allows the stone to be turned over while being suspended.

CAMS Projecting studs on a trip wheel or axle (camshaft), employed to operate hammers or stamps or other devices requiring intermittent motion e.g. sieves.

CAMSHAFT A SHAFT to which CAMS are fitted.

CANAILLE see MIDLINGS.

CANISTER see POLL END.

CANISTER BOX see POLL END.

CANNON-BORING MILL A MILL used for the purpose of boring the barrels of cannon, using water power.

CANT POST Strong wooden corner posts of a smock mill, canted inwards as they rise. (origin probably from Dutch KANT = side).

CANTS The segments of the wooden rim of a GEAR WHEEL to which the SPOKES and COGS are attached e.g. BRAKE WHEEL, SPUR WHEEL. If the cants are so large as to fill the centre of a wheel, the wheel is 'planked solid'.

CANVAS The cloths which are spread on a common sail.

CAP The moveable roof and frame supporting the WINDSHAFT, SAILS and luffing gear in a TOWER or SMOCK MILL. This cap may have several different shapes most of which are not readily defined e.g. : boat, conical, dome, ogee, onion, pent, pepperpot etc and which may also possess regional variations of construction.

CAP (SHAPES) BEEHIVE Kentish name for a conical domed cap. Also called PEPPERPOT or CONICAL in some areas.
 BOAT typically of Norfolk, resembling an upturned boat.
 BONNET see BOAT shape.
 DOMED in the shape of a dome.
 GABLE West country shape of cap.
 OGEE cap is convex below, concave above, (onion shaped) often surmounted by a sphere or ball. (typically East Anglian but also in Yorkshire).
 PENT pitched roof. A cap with a straight ridge, having a flat, or nearly flat, sections of roof sloping down on either side; the front and rear ends of the cap being triangular.
 WAGON a pent SHAPED CAP, having curved sections of roof to give a partially rounded appearance. A traditional Kentish/Sussex shape.

CAP CENTRING WHEELS Wheels attached to the cap frame which keep the CAP centrally on the CURB.

CAP CIRCLE The lower bearing surface of the cap which rests on the curb, from which the rafters of the cap may rise.

CAP FLOOR The DUST FLOOR.

CAP FRAME The horizontal timber frame forming the base of the cap.

CAP PIECE The rear tie beam of the sheers.

CAP RAFTER CIRCLE In caps with an approximately circular base, the horizontal ring, built over the base members of the cap frame, that supports the rafters.

CAP RIBS Rafters in the cap, or in a post mill roof.

CAP ROLLER see ROLLER (1).

CAP SHEERS see SHEERS(2).

CAP SILLS Diagonal timber braces in the corners of the main frame of a cap, which cover the surface of the curb. The ones at the front may run under the breast beam, supporting it.

CAP SPARS see CAP RIBS.

CAPSTAN A rope winding roller or drum which is rotated by the insertion of rods or bars into holes through the roller. May be used for lifting MILLSTONES or for WINDING the mill.

CAPSTAN HEAD AND BAR A rack and pinion arrangement for lifting a sluice gate, which has an iron pinion attached to a capstan head to allow an iron bar to be used.

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| CAPSTAN WHEEL | On tailpole winded tower or smock mill caps, the large spoked and handled winch wheel sometimes fitted to the lower end of the tailpole to assist hand winding. |
| CARBORUNDUM | The trade name of an abrasive compound of silicon and carbon which is sometimes used for making COMPOSITION millstones. |
| CARCASS | The wooden body of a post or smock mill (carpentry/building term for structural timberwork). |
| CARDING | The preliminary stage before spinning, to open, straighten and mix the wool or other fibres. |
| CARDING MACHINE | A combing device employed in woollen mills, prior to spinning, to produce a thick roll of cleaned wool with the staple all in one direction. Also used with cotton and other fibres. |
| CARDING MILL | see CARDING MACHINE. |
| CARMAN | The driver of a horse van |
| CATWALK | May be used for the staging round a mill. |
| CARRIAGE | see FANTAIL CARRIAGE. |
| CARRIAGE PIECE | A cast-iron support or container for bearing brasses. |
| CARRIER | Part of the timber feed mechanism in a saw mill. |
| CARRY (CAUL, CAULD) | The weir or dam that diverts water from the supplying stream into the lade (Scot.). |
| CART LEVEL FLOOR | A floor at a convenient height for loading onto a cart. |
| CASE | see TUN (old term). |
| CASING | see TUN. |
| CASTING | A metal object made by pouring molten iron, brass or other metal into a mould having the shape of the required object. When the metal has cooled and solidified, the finished or partly finished object is removed from the mould. Moulds are usually made of damp sand, by imprinting a PATTERN. |
| CAST IRON | Iron which has been melted (either, anciently in a blast furnace or in a cupola). The molten iron is removed from the bottom of the furnace and poured into moulds. Cast Iron tends to be brittle due to absorption of carbon and other impurities from the fuel and ore. See CASTING. |
| CATCHPOLE'S SKY SCRAPERS | see AIR BRAKES. |
| CAVIER MILL | A type of HOLLOW POST MILL of the Loire Valley, France (literally 'cave mill'). |
| CENTERING FRAME | A heavy timber frame at dust floor level, suspended from the cap frame by uprights and braces, used to weigh down the cap and to keep it centred within the curb of a tower mill via an iron ring encircling the upright shaft. Called a WELL-FRAME by Rex Wailes by the analogy of its shape to a well-sinking frame. |
| CENTERING WHEELS | The guide and restraining wheels of the cap, in a smock or tower mill. |
| CENTRING RING | A hollow cast-iron cylinder suspended below the cap centring frame with external rollers engaging with the main floor beams, and through which the main vertical shaft passes. |
| CENTRE BEAM | The main central beam of the cap frame. See SPRATTLE BEAM. |
| CENTRE OF WHEEL | Iron HUB with spokes in one or two pieces. sometimes known as spider. |
| CENTRE POST | see MAIN POST. |
| CENTRIFUGAL | A rotating FLOUR DRESSER in which the ground material is forced against a circumferential sieve by internal rotating beaters. The sieve also rotates, but slowly. also known as CENTRIFUGAL SEPARATOR and CENTRIFUGAL REEL SEPARATOR. |
| CENTRIFUGAL GOVERNOR | Governors working by centrifugal force. See GOVERNOR |
| CENTRIFUGAL REEL SEPARATOR | see CENTRIFUGAL. |
| CENTRIFUGAL SEPARATOR | see CENTRIFUGAL. |
| CENTRING FRAME | A rectangular open frame suspended below a cap frame, to weigh down the cap and keep it centred within the curb of a tower mill. Called a WELL-FRAME by Rex Wailes by the analogy of its shape to a well-sinking frame. |
| CENTRING WHEELS | see CAP CENTRING WHEELS. |
| CHAIR BLOCK | The support block for a neck bearing. |
| CHAFERY | A forge at an ironworks where wroughtiron was re-heated for further hammering. |
| CHAFF | Husks and winnowings separated from grain. |
| CHAIN CONVEYER | A machine to convey material horizontally, consisting of a wood or metal trough in which scrapers, fixed to two chains, drag the material along. |
| CHAIN CREEPER | see CHAIN CONVEYOR. |
| CHAIN HOIST | see SACK HOIST. |
| CHAIN POLE | A pole extending down from the fanstage for attaching the striking chain to when the mill is not working. It is equipped with pulleys at the bottom end, through which the chain passes, to prevent it swinging about and hitting the mill tower. |
| CHAIN POSTS | Posts used to fasten the ends of the chain when WINDING a mill with a TAILPOLE, using WINCH & chain. |
| CHAIN PURCHASE WHEEL | see Y-WHEEL (Suffolk) striking wheel. |
| CHAIN SLING | see SLING. |
| CHAIN WHEEL | Wheel turned by means of an endless chain; for winding mill or working striking gear etc. (can be used in reverse for sack hoist e.g. in Lincolnshire). See also Y-WHEEL. Also applied to a wheel in a hoist - either carrying sack chain or as a driving means. |
| CHAIRS | Cast-iron fittings fastened under a cap frame acting as bearings for rollers in a LIVECURB. |
| CHAIR BLOCK | A wooden block carrying the NECKBEARING, same as PILLOW-BLOCK. |
| CHALDER | 13.5 cwt. (Scot.). |
| CHAMBER LYE | Was an important detergent used in the Fulling process. It is, of course, a polite name for urine. In some places this was purchased from householders at 1d per pot, hence the expression "to spend a penny". |
| CHECK FLANGE | see KEEP FLANGE (Suffolk). |
| CHEEKS | Blocks either side of a windshaft for checking it in a gale. |
| CHEEK PIECES | Pairs of tapered wooden beams clamped and bolted either side of the centre of a windmill stock to reinforce it. Same as CLAMPS. (Kent). |
| CHERT | A variety of quartz, resembling flint, but more brittle, occurring in strata. Also called hornstone. (used in flint grinding pans). |
| CHILL | The hardened (external surface) portion of a chilled iron roller. (made by rapid cooling of casting, hence 'chilled iron/steel'). |
| CHRONDROMETER | An instrument used to give the weight of a bushel of grain, using only a small sample. |
| CHUTE | see SPOUT. |
| CIDER MILL | A MILL in which apples are pulped and pressed to extract the juice for cider making. |
| CILL | The edge from which the water enters the wheel. |
| CIRCLES | The circular rims of a waterwheel onto which the paddies are fitted. |
| CIRCULAR FURROW | see DRESS(1). |
| CLAM | An iron grip inserted into the side of millstone for lifting it. Also known as a CLAW, LEWISSES (set of). |
| CLAMP IRON(S) | U-shaped brackets holding the sails to the stocks. |

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| CLAMPS | Strengthening wooden members bolted to each side of the STOCKS & locking the sail assembly in the POLL END. also called CHEEKS, CHEEK PIECES or SIDE CHEEKS. |
| CLAP | The weather-board cover for the open windows of a post mill (unglazed). |
| CLAPS | Trap doors in a windmill (old Sussex). |
| CLAP BOARDS | Butted boarding used for cladding. (nearly obsolete Essex term). |
| CLAPPER | (1) Wood or stone block used as a primitive regulator to control flow of grain from shoe to stones, now obsolete in England. Usually associated with a HORIZONTAL MILL. (2) name for the DAMSEL in some parts of Scotland. |
| CLASP ARM WHEEL | A WHEEL where two pairs of ARMS form a square through which the shaft passes. Wedges are inserted to centre and ensure a tight fit. Increasingly used from the C18th onwards. (Design may be seen in Cathedral treadwheels and illustrated by Agricola, 1556 – The design first appeared published in Dutch mill books from 1728. Rex Wailes.). |
| CLAW | see CLAM. |
| CLEANING MACHINE | see GRAIN CLEANER. |
| CLEAT | (1) Peg to secure a furled sail cloth. (2) A strengthening plate (C17 th Hants). |
| CLEATS | Small cast-iron bearings screwed to a sweep frame for shutters to swing in. Same as THIMBLES (Kent). |
| CLEWER | The control hatch for the water supply to a wheel or bypass (northern term). |
| CLEWS | SLUICES (N Yorks). |
| CLICK | Catch used to lock the winding gear of the penstock or rack & pinion of other water controls. Also called a DETENT. See also RATCHET WHEEL syn.: PAWL. |
| CLICK MILL | see HORIZONTAL MILL. |
| CLOCKWISE SAILS | SAILS running clockwise when viewed from the front. |
| CLOG MILL | A wood-working mill equipped for making clogs for footwear. |
| CLOOSE | Sluice (Scot.). |
| CLOSE STONES | see MILLSTONE. |
| CLOSED BUCKET | see BUCKET. |
| CLOTHING | The act of spreading cloths or closing shutters of sails. |
| CLOTH SAILS | see COMMON SAILS. |
| CLOTHING MECHANISM | see REEFING TACKLE. |
| CLOTHING TROLLEY | see MOVING STAGE (Suffolk). |
| CLOTHS | see CANVAS. |
| CLOUGH | see SLUICE. |
| CLOVES | Crossbridge trees. |
| CLOW | see SLUICE. |
| CLUMP | see MACE (used by old miller in Hants.). |
| CLUTCH | A mechanical means of engaging or disengaging a drive between two shafts. |
| CLUTCH BOX | A coupling, capable of being disengaged & engaged, in two or three part upright shafts (Essex). |
| COACH SCREW | A large screw for fastening timbers together, with a square head instead of a screwdriver slot. |
| COCK HEAD | The pivot point on top of the STONE SPINDLE which supports the bridge of the RUNNER STONE. Also known as an ONION HEAD. |
| COCKEYE | Socket at the centre of the BALANCE RHYND. Serves as supporting bearing for the runner stone. |
| COCK HORSE | A horse, often ridden, added to the front of another to help with drawing a heavy load |
| COCKING LEVER | A wooden lever for lifting the steps of a POST MILL when turning it to wind. Same as TALTHUR (Essex). |
| COCKLE CYLINDER | An indented SEPARATOR for cleaning GRAIN. See also TRIEUR. |
| COCKLER | see COCKLE CYLINDER. |
| COCK PIT | see COG PIT. |
| COFFER DAM | A temporary dam to allow construction / alteration work in a river bed, completely surrounding the work being undertaken. |
| COFFIN CROSS | An iron cross to carry windmill sails, having flanged sides forming a channel into which each SAIL-BACK fits. |
| COG | A measure used in N.Scot. which is a quarter of a PECK (Scot.). |
| COGS | When the 'teeth' of a GEAR WHEEL are separate and replaceable they are called COGS. May be wooden (or metal). Need to be a resilient close-grained wood. Woods used: Apple, Beech, Pear, Hornbeam, Oak, Acacia, Hawthorn, Holly, Ash and Oak often being used for wet work. Wooden COGS, the SHANKS of which are fitted tightly into MORTISES in the rim of the wheel after the fashion of a TENON, are secured by wedges or pins after the fashion of TUSK TENONS. |
| COG BLANKS | Roughly-shaped wooden cogs ready for mounting and shaping. |
| COG BOX | (1) A wooden jig used to cut out the blanks for wooden gear cogs. (2) The cupboard enclosing the driving gears of the mill. |
| COG HOLE | In watermills, the space enclosed by the hursting, containing the pit wheel & drive to the stones. |
| COG PIT | The hole or pit in which the PIT WHEEL runs. See also WHEELPIT |
| COG RAIL | see RACK. |
| COG RING | see RACK. |
| COG ROOM | see COG BOX(2). Usually on the SPOUT FLOOR. |
| COG WHEEL | see a GEAR WHEEL fitted with COGS. |
| COILED SPRING | see SPRING (1) COILED. |
| COLLAR | A built-up square of timber above the QUARTERBARS of a MILL POST on which the SHEERS rest, to provide a steadying effect on the mill body. |
| COLLAR (of a tail pole) | see SHOULDER YOKE. |
| COLLAR | The grooved, moving cylindrical component of a centrifugal governor, attached to the links, and engaged by the fork of the STEELYARD. Same as SPOOL. |
| COLLAR PLATE | Two pieces of sheet metal, each with a semi-circular cut-away, encircling the neck journal of a windshaft to exclude the weather. Sometimes found on waterwheel shafts as well (Kent). |
| COLOGNE STONES | see MILLSTONES(5) CULLIN. |
| COLOUR MILL | Mill for grinding materials to produce colour for paint. |
| COMBINATION PULLEY | A pulley wheel made of wood and metal, usually having a wooden rim on an iron hub. |
| COMMON SAILS | Traditional northern Europe windmill sails, where cloth, sacking or canvas is spread on a lattice framework, each sail being set separately to suit the wind conditions, is the earliest type of sail now in use in England. Various terms are used to indicate the varying amount of cloth spread on a common sail. See also JIB SAILS FIRST REEF the first degree of reefing with a COMMON SAIL, when only the outer tip of the sail cloth is reefed. |

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| | SWORD POINT degree of reefing employed with a COMMON SAIL when about half the sailcloth is exposed to the wind (LONG POINT). |
| | DAGGER POINT degree of reefing employed with a COMMON SAIL which refers to the pointed outline assumed by the outer end of the sailcloth. Only half the area of the sail cloth is spread (SHORT POINT). |
| | FULL SAIL a common sail with cloth fully spread. |
| COMMONS | see COMMON SAILS . |
| COMMON TOLL | see TOLL . |
| COMPASS ARM WHEEL | Wooden wheel with radial arms mortised through the shaft on which it is mounted. This tended to weaken the shaft. |
| COMPOSITE MILL | A rare "post mill" variant, where the body of the mill is supported on the walls of the round-house, but it has no post. See also TURRET MILL . |
| COMPOSITION STONES | see MILLSTONES(4) COMPOSITION . |
| COMPOUND STEAM ENGINE | A beam engine utilising the exhaust steam from its high pressure cylinder to feed a low pressure cylinder. |
| CONDITIONING (tempering) | Controlled moistening of grain to prepare it for grinding by softening the bran and mellowing the floury part of the berry. |
| CONE CLUTCH | A CLUTCH in which the power is transmitted between the shafts by means of the friction occurring when an internal and an external conical bearing, faces of the same angle, are in contact. |
| CONGLOMERATE | A rock composed of rounded fragments of various rocks cemented together in a mass of hardened clay and sand. |
| CONICAL CLUTCH | A mechanical means of engaging or disengaging a drive, where the bearing faces are conical. |
| CONICAL PENDULUM | see GOVERNOR . |
| CONNECTING ROD | A rod designed to convert circular motion into 'to and fro' motion in steam and other engines etc. Used in saw mills. |
| CONSTANT PITCH SAILS | Sails with bars set at identical angles to the whip from inner to outer end. |
| CONTROL GATE | Gate near waterwheel at the end of the flume. Controls flow of water to wheel. Also called SHUT . See SLUICE . See PENSTOCK . |
| CONVEYOR | see AUGER . |
| COOM | The dust which comes off the oat grain during SHELLING . |
| COOMBE (COOMB) | Four bushels of any kind of grain (not flour). |
| COPE | Strengthening pieces of timber. |
| CORBEL | A block of stone/brick/timber projecting from a wall, supporting some feature on its horizontal top surface. |
| CORBELLED WALLS | Walls built out or thickened to support floor beams or joists. |
| COREBOX | (1) A term used by Jesse Wightman for the iron box set in the eye of a bedstone to receive the spindle. See NECK BOX . (2) The iron box containing the steady bearing in a BEDSTONE . (3) The box used for making sand moulds for castings. |
| CORN | Grain or seed of any cereal crop. In America it means only MAIZE . See GRAIN (5) MAIZE . |
| CORN CLEANER | see GRAIN CLEANER . |
| CORN CRACKER | Early grist mill made of logs; usually equipped with a tub wheel or small overshot wheel and a single pair of stones. |
| CORN CUTTER AND GRADER | Cuts wheat or maize into grits and grades it according to particle size. |
| CORN FLOUR | see GRAIN (5) MAIZE . |
| CORN LAWS | Protective regulatory statutes controlling import & export of grain from time of Edward III till 1846 when Free Trade was introduced by Peel. Bounties paid on export & duties on imports. |
| CORN MILL | A MILL in which WHEAT and other cereals are ground and may be further processed for the manufacture of foodstuffs such as FLOUR . |
| CORNER POSTS | (1) FALSE . If the body of a post mill is extended backwards or forwards, the lighter construction posts are "false". (2) TRUE . The corner posts of a post mill body. Where the body has been extended (or is so constructed) to have FALSE rear corner posts, true corner posts lie within the body towards the rear. |
| CORSET | The iron frame, consisting of two or more encircling bands with straps at right angles, to give support to timber. e.g. to the top of a mill post. |
| COTTER | An iron pin, wedge or bolt for securing parts of machinery, usually having taper sides to wedge firmly in position. |
| COTTER PIN | A split COTTER that is opened after passing through a hole. |
| COTTON MILL | A TEXTILE MILL in which cotton is processed. |
| COUCHER | The person who lifts off the papermaking frame to produce hand-made paper. |
| COUNTER BACKS | Special clamps behind the SAILS , in use in the north-west. |
| COUNTER BEARING | In a WATERMILL where the WALLOWER is on a horizontal shaft which carries a BEVEL GEAR(s) or FACE WHEEL(s) , to drive the STONES . |
| COUNTER-CLOCKWISE | Anti-clockwise. |
| COUNTERSHAFT | A drive shaft parallel to another, but running in the opposite direction. |
| COUNTER WHEEL | The bevel wheel on the horizontal countershaft of a drainage mill with a turbine pump, engaging the crown wheel on the bottom of the UPRIGHT-SHAFT . (Norfolk). |
| COUNTER WHEEL | A gear connecting one or more other gears or wheels and turning in an opposite direction. |
| COURBE | The curved section making up part of the rim of a waterwheel (medieval term). |
| COVER | A screen through which grain is sifted. |
| COW-POP WHEEL | A half lantern or TRUNDLE WHEEL . See TRUNDLE WHEEL . |
| CRACKING | (1) A process in stone dressing involved in cutting fine grooves or CRACKS on the lands of millstones.(up to 16 to the inch) also known as STITCHING , FEATHERING , SCRATCHING or DRILLS . Pits at irregular intervals, instead of grooves, are cut for grinding oats. (2) The process of breaking maize, beans etc. between millstones or rollers. |
| CRACKS | see CRACKING(1) . |
| CRADLE | (1) see HORSE . (2) A small portable cage, suspended by ropes from above, used to gain access to the outside of a mill for maintenance such as painting. |
| CRAMMINGS | Milled products (probably oats) used for force-feeding poultry (dialect word - Surrey C19 th). |
| CRAMPS | The metal rings around the main gudgeon (i.e. GUDGEON RINGS). |
| CRANE | see MILLSTONE CRANE . |
| CRANK | A part of or attachment to a rotary SHAFT which is offset such that its axis which is parallel with the shaft, describes a circle when the shaft rotates. Usually used in conjunction with a "connecting rod" to convert the rotary motion of the shaft into a reciprocating motion as for oscillating a sieve. Also used as a component part of engines. |
| CRANK FLOOR | The stage of the sawmill with the CRANKSHAFT . |
| CRANK LEVER | see TRIANGLES . |
| CRANKSHAFT | A rotary SHAFT which is fitted or incorporated with a CRANK . |
| CRANK WHEEL | The wheel of the CRANKSHAFT which engages the brake wheel. |

CREEPER A chain-hauled scrapers running in a rectangular duct.
CRIB see TUN (Scot.).
CROOK STRING A cord used to adjust and hold the angle of the shoe feeding grain to the eye of the RUNNER STONE, also where it operates a GATE, SLIDE or SPATTLE in the HOPPER or SHOE as alternative means of control. Also known as CORD (Northern TERM). See TWIST PEG.
CROSS (1) The four-armed fitting on the front of the STRIKING-ROD in a PATENT SAIL set-up. Same as SPIDER (Kent).
CROSS (2) see IRON CROSS.
CROSSBAR see RHYND (as used by old miller in Hants.).
CROSS BRIDGE TREE see BRAYER.
CROSS-EYE see POLL END.
CROSS-HEAD GUDGEON see CROSS-TAILED GUDGEON.
CROSS IRON see SPIDER.
CROSS RIBS see FEATHERS(1).
CROSS STAYED Diagonal iron stays, set between the frames of a waterwheel to strengthen it.
CROSS-TAILED GUDGEON Bearing pin or JOURNAL with four wings, which the end of the shaft is shaped to fit and securely hold the wings to hold the bearing pin true.
CROSSHALVED A joint between two pieces of timber which cross each other, each let into the other.
CROSS TREE (1) A main horizontal member of the underframe (TRESTLE) of a POST MILL. There are commonly two, set at right-angles, but sometimes three. The outer ends carry the QUARTER BARS & the centre intersection fits the horns on the bottom of the MILL POST to steady it. The crosstrees normally rest on masonry or brick piers and carry the weight of the whole structure via the quarter bars.
(2) In a horizontal watermill, a horizontal bar which steadies the LIGHTENING TREE at half its height to resist side thrust. The Y-shaped end of a quant which slots over the BRIDGE into the MACE on overdriven stones.
CROTCH see QUANT (Suffolk).
CROTCH SPINDLE Name often used in old documents for CROWBAR.
CROW An iron bar having a flattened slightly curved end. Used to raise or lower the RUNNER STONE in conjunction with a MANYHEIGHT and STONE WEDGE to allow a ROPE SLING to be passed through the EYE of the stone for use in turning the stone over for DRESSING. Also known as PINCH BAR. See also STONE WEDGE. Known as a GAVELOCK in northern counties.
CROWBAR Principal stout transverse framing beams of the BODY of a POST MILL, pivoting on top of the POST.
CROWNTREE A broth made from toasted oatmeal (Scot. and N Eng.).
CROWDIE (1) A horizontal gear wheel mounted above the GREAT SPUR WHEEL near the top of the main upright shaft, from which secondary drives may be taken for auxiliary machinery including the SACK HOIST.
CROWN WHEEL (2) WALLOWER in a windmill (Lincolnshire/Suffolk).
CROWNED FACE The curved face of a pulley wheel which causes the belt to run to the centre of its driving face. (This will often allow belt drive when shafts are not truly parallel).
CRUB see TUN (Scot.).
CRUBBLE see TUN.
CRUSHER A machine for crushing oats, barley etc.
CRUTCH see QUANT.
CRUTCH POLE see QUANT.
CRUTCH SPINDLE see QUANT.
CUBITT, WILLIAM The C18th/19th engineer who patented the automatic striking gear.
CULLEN STONE see MILLSTONES(5) CULLIN.
CULLIN STONES see MILLSTONES(5) CULLIN.
CULVERT An underground water channel, sometimes used to supply or drain a waterwheel (e.g. Quarry Bank Mill, Styal).
CUPOLA (1) see CAP SHAPES - DOMED.
(2) A type of furnace for melting cast iron.
CURB The circular timber or iron wall plate including the TRACK supporting the revolving cap of a smock or tower mill.
DEAD A curb on which the CAP slides on hardwood, iron or brass pads, without the use of rollers or wheels to carry the weight.
LIVE A CURB supporting a windmill CAP, on which the cap revolves on rollers or wheels.
SHOT Independent ring of rollers between the CURB and the CAP CIRCLE of a SMOCK or TOWER MILL.
CURB BOLTS Long-shafted bolts extending below the dust floor and holding down the curb in a tower mill.
CURB ROLLER see ROLLER (1).
CURB ROOF Vernacular for a pitched roof having a double slope now called a MANSARD ROOF after the French architect (obsolete Essex term).
CURVILINEAR BUCKET A curved FLOAT associated with a PONCELET waterwheel. The curved floats minimising turbulence and increasing efficiency.
CUSTOM MILL A mill that grinds grain for customers in return for a TOLL or portion of the end product.
CYCLOIDAL GEARING The TEETH of a GEAR WHEEL, the shapes of which are curved in accordance with the path traced by a point on one circle (the generating circle) as it is rolled inside or outside of another circle (the pitch circle).
DAGGER POINT see COMMON SAIL.
DAM (1) A barrier built across a stream to impound and/or to raise the HEAD OF WATER for use in a mill.
(2) A MILL POND in Yorkshire.
DAM EYE The outlet from a mill dam.
DAM HEAD The weir which diverts the water into the mill lade. Also the body of water formed by this weir.
DAMPER see SPATTLE.
DAMSEL An iron or wood, 3 or 4-sided, spindle terminating in a fork, crutch or nut head, which is fitted vertically over the rhynd of an underdriven millstone; employed to agitate the shoe thus feeding grain to the eye of the stones. Known as an AGITATOR in northern counties.
DANSIL see DAMSEL.
DASH WHEEL see SCOOP WHEEL.
DATE BOARD A decorative board fitted under the weather beam in Dutch smock and tower mills.
DEAD COLLAR see COLLAR (2).
DEAD CURB see CURB DEAD.
DEAD LEAD The wide board replacing some of the shutters on the inner half of the leading edge of a double shuttered sail.
DEAD SAILS (1) see COMMON SAILS.
(2) see SKELETON SAILS.

DEAD STONE see BEDSTONE.
DEAD WHEEL see RACK(2).
DEBRIS GRILLE A vertical or near vertical grill, usually of iron bars and sometimes covered with a wire screen to prevent debris, twigs and leaves reaching a waterwheel, or clogging or damaging the machinery of a DRAINAGE MILL.

DECENDER see AMERICAN TERMS.
DECORTICATOR A machine for removing HUSKS from certain seeds.
DEKKERISE The modification of the windmill sails by addition of aerodynamically designed metal fairings enclosing the leading edge and STOCK.

DEMESNE The lands attached to a manor. The home farm.
DERBY GRITS see MILLSTONES (3) PEAK
DERBY PEAK see MILLSTONES(3) PEAK.
DERBYSHIRE GREYS see MILLSTONES(3) PEAK.
DERBYSHIRE PEAK STONE see MILLSTONES(3) PEAK.
DERBYSHIRE STONES see MILLSTONES(3) PEAK.

DERRICK POLE A vertical or near vertical pole supported by guy ropes for suspending lifting tackle.
DETENT see CLICK.
DIAGONAL BRACE The diagonal timber in a smock or post mill wall, or other framing such as FLYPOSTS.
DIPPER WHEEL A driven wheel with shaped buckets to lift tin ore in the form of sands or slimes.
DISC SEPARATOR A machine, consisting of a number of vertically-rotating discs, having their surfaces indented with small pockets. Used for separating seeds as in a COCKLE CYLINDER.

DIVIDES In roller milling, the dozens of products coming from the mill are mixed into a few DIVIDES maybe 6 or less. This skilled process determines the quality, and hence saleability, of the mill's output.

DOG CLUTCH A CLUTCH in which the power is transmitted by projections on which both shafts engage. It is capable of being coupled and uncoupled and thus isolating or using a drive.

DOG see DOG IRON.
DOG IRON A "U" shaped iron bar with pointed ends, which is used in joining timbers together, or holding them temporarily whilst being worked or sawn.
DOGGED So called when timbers are joined with a dog iron.
DOLLY see DAMSEL.

DOMESDAY SURVEY An C11th survey carried out to ascertain the taxable potential of the country; records about 6,000 watermills (a watermill in this context refers to the number of pairs of stones, not necessarily buildings).

DONKEY ENGINE A twin cylinder steam engine used for hauling or hoisting, and without a flywheel.
DONKEY MILL A small mill consisting of a waisted stone on conical one, driven by a donkey walking round and round.
DOUBLE FEED CENTRIFUGAL A centrifugal DRESSER with independent feeds to each end to separate different streams of material.
DOUBLE-FRAMED SAIL A sail framed on the two sides of the WHIP.
DOUBLE HEADER A post mill with two pairs of stone in the BREAST. (Essex).
DOUBLE-LAPPED An extremely durable method of weather-boarding a post or smock mill.
DOUBLE PRESSURE SAILS see DOUBLE SIDED SAILS (old Lincolnshire term).
DOUBLE SHUTTERED Patent sails or spring sails fitted with shutters on both sides of the WHIP or SAIL BACK.
DOUBLE-SIDED SAILS Patent sails or spring sails fitted with shutters on both sides of the WHIP or SAIL .

DRAFT (1) The radius of the DRAFT CIRCLE.
(2) The position of the furrows on a stone.

DRAFT CIRCLE The imaginary circle around the eye of the millstone from which the furrows run tangentially.
DRAFT TUBE A pipe attached to a turbine with the other end submerged in the tail race. Channelled and pressurised the water used by the turbine.

DRAG STICK A hazel stick fixed vertically to the horse so as to enter the EYE of the RUNNER STONE, contacting its inner surface. This prevents clogging by OATS. Also at the skirt to move MEAL.

DRAINAGE BOARD The administration body of a Dutch polder.
DRAINAGE DISTRICT The administration area of a polder.
DRAINAGE MILL A windmill equipped for draining land with SCOOP WHEELS, ARCHIMEDEAN SCREW or PUMPS.
DRAINAGE MILLS IN SERIES Three or four drainage mills working together on the same polder.
DRAW BOARD A primitive type of sluice in the form of a gate-like board hinged at one side which by manipulation of the draw tree can be pushed across a channel diverting the water to the wheel.

DRAW TREE The lever attached to the draw board and passing through the mill wall, thus allowing water flow adjustment.
DRESS (the) see DRESSING (the)
DRESS (MEAL) To remove bran and coarse particles from WHOLEMEAL to produce FLOUR. See DRESSING.
DRESS (STONES) The patterns of LANDS and FURROWS on the grinding face of MILLSTONES.
Millstones may be dressed to run in a clockwise or an anti-clockwise direction. See RIGHT-HANDED MILLSTONES and LEFT-HANDED MILLSTONES.
(1) CIRCULAR DRESS A dressing where the furrows have one or both edges cut in a circular arc.
(2) LOGARITHMIC DRESS A dressing where the furrows are generally alike in length and curvature and the crossing angles are constant all the way out.
(3) QUARTER DRESS MILLSTONE DRESSING in which the FURROWS form a series of triangular patterns or HARPS around the grinding face. Each HARP has typically four straight FURROWS.
The number of HARPS is variable, 8 to 10 being common. The longest FURROW is called MASTER FURROW which normally lies tangentially to an imaginary circle at centre of the stone. There are commonly 3 shorter furrows lying parallel to the master furrow. See JOURNEYMAN, PRENTICE AND FLY FURROWS; also STRAIGHT DRESSING, THREE QUARTER DRESSING, & TWO QUARTER DRESSING.
(4) SICKLE DRESS A dressing having the FURROWS of varying curvature.
(5) STRAIGHT DRESS.
(6) UNION DRESS.

DRESSER (1) Of FLOUR: See WIRE MACHINE.
(2) Of MILLSTONES: See STONE DRESSER. See also DRESSING(3).

DRESSED The FLOUR or other product which has passed through a SIEVE mesh.
DRESSER FLOOR The separate floor in a tower or smock mill housing the dresser and cleaning machine.
DRESSING (1) Of FLOUR: The process of separating bran and coarse particles from MEAL to produce white or some intermediate grades of flour.
(2) Of STONES: The style or pattern of the FURROWS, LANDS and CRACKING on a millstone. See HARPS, SICKLE, STRAIGHT, FURROWS, LANDS & CRACKS.

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| | (3) Of STONES: The process of preparing, restoring or sharpening the grinding faces of a MILLSTONE. Carried out by a STONE DRESSER. |
| | (4) To clean and prepare the working edge of a cutler's or engineer's grindstone. |
| DRESSER GEARS | The essential parts of a dressing machine. |
| DRESSING MILL | see SEED MILL. |
| DRIFT | (1) In stone dressing, the amount by which the furrows diverge from the line of radius. |
| | (2) see ANGLE OF WEATHER of sails. |
| | (3) In a BOAT MILL, when the mooring breaks. |
| DRIFTING | see FURROWING. |
| DRILLS | see CRACKING. |
| DRIVEN | A WHEEL, GEAR or SHAFT which is powered directly from another element called the DRIVER. |
| DRIVER | (1) A cast-iron bar fitted into the millstone spindle, connects the runner stone to the spindle. |
| | (2) A WHEEL, GEAR or SHAFT which provides the power to turn another WHEEL, GEAR or SHAFT. |
| DRIVING SIDE | The trailing side of a SAIL. |
| DRIVING STOCKS | Water-powered HAMMERS employed for FULLING cloth. |
| DROGUE | A four-wheeled timber wagon. |
| DROP LINE | A circle, of slightly smaller diameter than the PITCH-CIRCLE, scribed on to "blank" wooden teeth when cogging a wheel. From the intersections of this line with the centre lines of the teeth, the working profiles of the teeth may be struck, using dividers. |
| DRUG | E Anglian name for a four wheeled timber waggon. See DROGUE. |
| DRY MOLTURE | Toll paid by those whose lands are under THIRLAGE of growing corn in exchange for the freedom to go to market with the rest of their corn (Scot.). |
| DULL TO DULL | (USA term) The method of operating roller mills so that they are run with the longer face of the corrugated cutter edge on the faster roll meeting the shorter face of the edge of the slower rotating roller. Called BACK TO BACK milling in the UK. |
| DUNST | (dusty middlings) small middlings from which all the bran has not yet been removed. (Passes through 8 or 9 silk.) |
| DUST FLOOR | The top floor of a TOWER or SMOCK mill beneath the cap which excludes dust & dirt from the mill. (May be replaced by a BIN FLOOR in some mills.) |
| DUSTING | Separating flour from middlings. |
| DUSTING FLOUR | Used for dusting the unbaked loaf to give a fine colour and texture to the outside of the loaf. |
| DUST MIDDINGS | see DUNST. |
| DUST ROOMS | Sealed compartments for the collection of dust extracted during the milling of flour. |
| DUTCH BLUE | see MILLSTONES(5) CULLIN. |
| DUTCH BLUE STONE | see MILLSTONES(5) CULLIN. |
| DUTCH STONES | see MILLSTONES(5) CULLIN. |
| DUTCH FAN | Mechanical fan with revolving blades for winnowing grain. |
| DUTCH MILL | early term for what we now call a SMOCK mill. |
| DYNAMIC BALANCE | see RUNNING BALANCE. |
| EBONY STAFF | A staff, made of ebony, for checking the face of a millstone. See also PAINT STAFF. |
| ECCENTRICS | A pair of small cast-iron chain pulleys set side-by-side, on a common spindle, to which both are evenly eccentric. Part of spring sail linkage to increase, progressively, the purchase of the shutters as they open against the spring (Kent & Sussex). |
| ECCENTRIC DRIVE | A cam with an off-centre axle, sometimes not circular in shape, which drives machinery such as a bran shaker. |
| EDGE MILL | A mill in which the stones run on their edges. |
| EDGE-RUNNER | see EDGE-RUNNER STONE. |
| EDGE-RUNNER MILL | A mill using EDGE-RUNNER STONES to grind, crush or INCORPORATE. |
| EDGE RUNNER STONE | Stones designed to run on their edges, the edge forming the crushing surface; employed in various industrial processes. |
| EDGE TOOLS | Tools having sharp cutting edges such as knives, axes and scythes etc. |
| EDGE TOOL WORKS | Forges specialising in the production of cutting implements, such as scythes; often water powered. |
| EDGE TOOL MILL | Powered GRINDSTONE to finish (sharp) EDGE TOOLS. |
| EEL SHEAR | A 'spear' for catching eel (old Sussex). |
| EEL TRAP | A cage of iron bars in which eels are caught. Often set in a BYPASS channel at a watermill. Good traps keep the eels alive until needed. Wood or wicker baskets have also been used for this purpose. |
| EFFECTIVE PURIFIER | A machine for separating particles, where the products drop through horizontal airstream and are graded by their densities. |
| ELBOWS | Cast-iron BELLCRANKS on a common spindle, set at right-angles to each other, part of patent sail front striking gear. Serve the same purpose as TRIANGLES. |
| ELEVATOR | A device for raising grain or meal by means of an endless belt with buckets or cups on it, introduced by Oliver Evans(1755/1819). |
| ELLIPTIC SPRINGS | see SPRINGS (2) ELLIPTIC. |
| EMERY | A coarse corundum - a naturally-occurring crystallised oxide of aluminium. |
| EMERY STONE | A stone whose face is coated with a surface of EMERY and cement (often used for shelling oats). |
| ENDOSPERM | The white starchy substance forming the main body of a wheat grain, which yields FLOUR when broken. |
| ENDS | The method used in Holland to record the speed of a windmill by counting the sails (the ends); thus one revolution of the sail assembly equals four ends. |
| ERGOT | A fungal growth, Claviceps Purpurea, which can develop in the Rye grain, but may also be found in wheat and other Gramineae grain. Can be used in medicine. See ERGOTISM. see SMUT. |
| ERGOTISM | A disease caused by eating bread made from flour which is contaminated with ergot. |
| ERGOT OF RYE | see ERGOT. |
| ESCAPE GATE | see FLOODGATE. |
| ESCAPE HATCH | see FLOODGATE. |
| ESOPUS STONES | see MILLSTONES. |
| EAVES GIRT | A horizontal timber in the side wall of a post mill from which the roof ribs rise. Same as UPPER SIDE GIRT (Suffolk). |
| EXELTRIE (axletree) | Wooden axle connecting a pair of wheels. (Scot.). |
| EXHAUSTING OF MILLSTONES | Drawing of air through the stones, thus reducing the temperature of the stones and the meal produced. Dust is drawn away from the working millstones at the same time thus preventing a build-up of combustible material. |
| EXTRACTION | Percentage of product obtained, as measured against the gross weight of the raw material. Extraction of 80% means that for every 100Kg/lbs of wheat 80Kg/lbs of flour is obtained. |
| EYE OF A STONE | (1) The hole in the centre of the runner millstone through which the grain passes to be ground. See SWALLOW. Can also be applied to the hole in the centre of the bedstone. |
| | (2) The inner third of the grinding surface of a MILLSTONE. |

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| EYE BOLT | A bolt having a ring-shaped head, commonly set into heavy timbers above the stones, for use in raising the stones, or other purposes, such as BRAKE ANCHORAGES. |
| EYE OF THE WIND | A term relating to windmill sails, in which, when the sails are directly facing the direction from which the wind is blowing, they are said to be facing the Eye of the Wind. This is a condition for obtaining maximum power. |
| EYE STAFF | Short type of PAINT STAFF, (usually about two feet in length), used to test the surface of the millstone around the EYE. |
| EYE TIN | A tin or light metal casing used to line the EYE of a RUNNER STONE. Prevents HOARDING and the escape of unground grains over the top of the runner stone. |
| FACE (of a millstone) | The working surface on a millstone. |
| FACE (of a cog) | The width of the driving surface of a cog. |
| FACE GEAR | see FACE WHEEL. |
| FACE WHEEL | GEAR wheel with COGS on the plane face or flat of the wheel, and not around the outer edge, used in conjunction with a SPUR PINION, to drive at right angles. As distinct from a spur-wheel where the cogs project radially. |
| FACING | (1) Trimming or shaping a millstone before making furrows. (2) Dressing the area around the eye of a millstone. |
| FAGGOT STORE | A store for bundles of firewood sometimes found associated with bakeries. |
| FALL | see HEAD OF WATER. |
| FALL TROUGH | see TROUGH. |
| FALLING STOCKS | see FULLING STOCKS. |
| FALSE BOARD | The fixed upper 'door' of the undershot hatch. |
| FALSE HOOP | Hoop for holding a balance weight on a millstone. |
| FAN | (1) A wind wheel comprising a set of small BLADES which turns the CAP or POST MILL body into the EYE OF THE WIND. (FANTAIL.) (2) A bladed WHEEL for producing a draught of air. |
| FAN BLADE | see BLADE (1) |
| FAN BRACES | Supports to the FAN SPARS. See FAN(1). |
| FAN FRAME | The vertical, horizontal and diagonal timbers supporting the FAN (1). |
| FANGLE | A marking tool with an adjustable, sharp scribe, which may be set up on a fixed point to scribe construction lines on to "blank" wooden teeth as the wheel is turned. In this way, the teeth may be marked to a perfect circle irrespective of the truth of the wheel itself. |
| FANG STAFF | see brake lever - from the Dutch 'vang stock' (East Anglian term for BRAKE LEVER). |
| FANNERS | see WINNOWER |
| FAN SPARS | The wooden uprights supporting the FAN(1). |
| FAN SPINDLE | The iron shaft carrying the FAN assembly and the pinion. |
| FAN STAFF | see FAN SPINDLE. |
| FAN STAGE | The platform at the back of the CAP giving support & access to the FANTAIL of a tower or smock mill. |
| FAN STAGING | The wooden supports and platform of the FAN mechanism at the top of a tower or smock mill. |
| FAN STAR | The iron hub of a FAN(1). |
| FAN STOCKS | Spars attached to the HUB of a FAN on to which the FAN BLADES are secured. |
| FAN TACKLE | The FAN driving gear, especially the TAILPOLE mounted assembly on a post mill. |
| FANTAIL | A small set of sails having typically from 6 to 8 wooden boarded BLADES, set at right angles to the main windmill SAILS, and connected to the winding gear to allow the mill to move automatically into the wind. Located to the rear of the POST MILL or the CAP of a TOWER or SMOCK MILL. The "Fan" is connected by SHAFTS & GEARS to the rack on the curb or to TRAM WHEELS as appropriate, to keep the sails facing the EYE OF THE WIND. There many variants of design. Patented by Edmund Lee in 1745. Also known as FLY TACKLE. See FAN, FLY, FAN SPARS etc. See WINDING GEAR. |
| FANTAIL CARRIAGE | Carriage running on wheels on the ground carrying a FANTAIL, & attached to the TAILPOLE or LADDER of POST MILL. |
| FANWHEEL | see Fan |
| FAST and LOOSE PULLEYS | Two adjacent belt pulleys of the same diameter on a driven shaft, one FAST (fixed) to the shaft the other LOOSE. The belt is guided onto the FAST pulley by a STRIKER to engage the drive, or to the LOOSE pulley to disengage the drive. |
| FATTS | The wooden casing around the millstones. Same as TUNS. |
| FEATHER | (1) Longitudinal rib cast on a shaft, or key fitted thereto, over which a gear such as a stone nut may be slid axially to engage or disengage with another gear. SPLINE. KEY. (2) The sloping edge of the FURROW where it meets the LAND. |
| FEATHERING | An American term for STITCHING. See CRACKING (2). |
| FEATHERS | The blades of a horizontal waterwheel (Shetland). |
| FEATHER EDGE | The grinding edge at the top of the gradually sloping edge of the FURROW where it meets the LAND. |
| FEATHER EDGE BOARDS | see WEATHER-BOARDS. |
| FEED | A general term for grist or animal fodder produced in a mill. |
| FEED ALARM | see BELL ALARM. |
| FEED BOX | A metal or wooden box containing a gate, which feeds water to an OVERSHOT or PITCH-BACK waterwheel, or a TURBINE. |
| FEEDER | (old term) see DAMSEL. |
| FEEDING JACKS | Definition required. |
| FEED LINE | see CROOK STRING. |
| FEED SHOE | see SHOE. |
| FEED-WATER HEATER | see ECONOMISER. |
| FELLOE | Sometimes pronounced 'felly'; One of the sections forming the rim of a wooden wheel, including the rim of a wooden waterwheel. Where the wheel rim has CANTS for attachment to the spokes, the felloes are the additional parts of the rim through which the COGS are morticed. |
| FELLY | see FELLOE. |
| FELT WASHER | A machine for washing the woollen felts used in paper making. |
| FENCE | see DEBRIS GRILL. |
| FEN MILL | see MARSH MILL. |
| FER-DE-MOLINE | Heraldic term for the mill rhynd (in the shape of an "X"). |
| FILLER | A flour added to a blend to provide bulk rather than strength. |
| FILLET | Small curved internal corner of a CASTING. |
| FINERY | A FORGE or hearth in which iron PIGS (CAST IRON) were heated to a semi-molten condition (to burn out excess carbon etc.) before hammering to remove impurities, to produce BLOOMS. |

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| FINEST | (of Flour) Best Grade. |
| FINIAL | A ball or pinnacle on top of an OGEE, DOME or CONICAL-SHAPED CAP. |
| FINTAIL CANISTER | see CROSSTAIL GUDGEON |
| FIRLOT | Unit of volume equals 4 PECKS or a quarter BOLL (early term). 12 gallons (Scot.). |
| FIRST REEF | see COMMON SAIL |
| FIRSTS, SECONDS & THIRDS | Grades of meal delivered from a flour dresser. See FLOUR. |
| FISH BELLIED | Term used to describe a wheel shaft which is thicker in the middle than at the ends. Such SHAFTS are commonly cruciform in section. |
| FIXED RYND | see RYND. |
| FLAIL | A hand-threshing implement, with a wooden staff at one end and from which a stouter shorter pole (swingle or swipple) is hung to swing freely. |
| FLAKE | One of the particles composing feed bran. Also a particle of middlings material that has flattened out during grinding. |
| FLAKE-BUSTER | A machine to break up middling flakes. |
| FLANCH | see FLAUNCH. |
| FLANGE | A projecting flat rim or collar. |
| FLASHES | Wooden boards, equipped with handles, which may be slid into slots above the main gate of a sluice to raise the level of water in the head pond. |
| FLASH LOCK | A primitive forerunner of the pound lock; adjustment of a removable staunch or sluice released a flash of water on which boats could be hauled upstream. Its use could seriously interfere with the running of a watermill and their use on many rivers led to disputes between millers and boat owners. |
| FLAT GRINDING | A set of stones set together as close as possible, to produce the maximum amount of flour. |
| FLAT RODS | Wooden or iron rods employed with CRANKS for the horizontal transmission of power to distant machinery, commonly used to connect a waterwheel to mine drainage pumps. |
| FLATS | THIMBLES, mounted on a flat plate, in which the sail SHUTTERS are pivoted. |
| FLAUNCH | Circular plate of metal on the hub or rim of a waterwheel to which the arms are bolted. Also called FLANCH. |
| FLAWING | Levelling the face of a MILLSTONE with a MILL Bill and rubbing burr, same as FACING. |
| FLAX | Linum Catharticum (Linaceae). A plant which produces seeds from which linseed oil may be extracted and stems from which the flax fibre is obtained, from which linen is made. |
| FLAX BREAK | A machine for removing the woody from the fibrous portion of flax. |
| FLAX COMB | see HECKLE. |
| FLAX MILL | A TEXTILE MILL in which FLAX (the fibrous stem of the linseed plant) is processed. |
| FLEET | (1) Shallow (of furrows). (2) A small waterway or channel. |
| FLEME | see FLUME. |
| FLEUME, (FLEAM) | see FLUME. |
| FLIGHTS | Small paddle-shaped wooden parts of the CONVEYOR. |
| FLINT MILL | For grinding flint for use in ceramic industries. see also POTTERS MILL. |
| FLOATING MILL | A vessel containing milling machinery and powered by undershot wheels, moored where the current is strongest (e.g. midstream or beneath the arch of a bridge) or where access is easiest (e.g. near the river bank) also known as a BOAT MILL. |
| FLOATS | (1) The wood or metal blades, or paddles, of an undershot waterwheel. Often made of Elm, Oak or Pitch-pine. Fixed by the STARTS to the rim of the wheel. The boards are pushed by the water to turn the wheel by absorbing kinetic energy from the water. (2)The BLADES on a SCOOP WHEEL. |
| FLOAT BOARDS | see FLOATS (1). |
| FLOAT WHEEL | An undershot wheel used in a FLOATING or BOAT MILL. |
| FLOCK MILL | A mill for shredding cloth to make flock for stuffing mattresses etc. |
| FLOOD CILL | see SPILLWAY. |
| FLOOD GATE | see FLOOD HATCH. |
| FLOOD HATCH | A sluice diverting water through the bypass or spillway, clear of the waterwheel. |
| FLOOR COLLAR | A wooden collar fixed round a hole in the floor through which a shaft etc. passes. |
| FLOP JACK | A primitive pumping device, with a rocking beam. |
| FLOUR | Finely ground MEAL, usually intended for human consumption. WHOLEMEAL FLOUR consists of the undressed milled wheat grain. WHEATMEAL A disused term for wholemeal flour. WHITE FLOUR is wheatmeal which has been DRESSED to remove BRAN and other non-white constituents. There have been many types of flour depending on the degree to which unwanted materials have been dressed out and also on the initial quality of the grain. See MIDDLINGS, POLLARDS. BRAN. POLLARDS & MIDDLINGS, intermediate product or middle grade of FLOUR when passed through a DRESSER. May contain particles of BRAN with attached pieces of ENDOSPERM. Mediocre flour. THIRDS & FINE MIDDLINGS a low grade product of flour dressing. SECONDS or HOUSEHOLDS Second best grade of flour (Number 2) STANDARD WHEATEN, WHOLEMEAL FLOUR. SUPERIOR The top grade of flour (Patents). STRONG FLOUR Flour with a high GLUTEN content. Produces an elastic dough which results in good quality bread. BEST or PASTRY WHITE. |
| FLOUR CLOTH | Cloth having various finenesses of weave to DRESS(1) flour in a BOLTER. |
| FLOUR DRESSER | see DRESSER. |
| FLOUR DRESSING MACHINE | see DRESSER. |
| FLOUR MACHINE | A generic term for any type of flour-sieving machine |
| FLOUR MILL | (1) A flour-sieving machine. (2) A factory for milling FLOUR. |
| FLOUR MIDLINS | see STANDARD MIDDLINGS. |
| FLOUR REEL | see REEL. |
| FLOW CHART | A diagram of the equipment layout in a large mill (usually a roller mill) showing the progress of grain from the time it is received until ground into flour. |
| FLOWER | An early name for FLOUR. |
| FLUDE SHUTTERS | see SLUICE GATES (Scot.). |
| FLUME | An artificial water channel. Also known as a LADE, LEAT or GOIT. |
| FLUSH GATES | see FLOODGATES. |

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| FLY | (1) The FAN on a FANTAIL. See FANTAIL. (2) The triangular areas of LAND between the FLY FURROW and the outer edge of a MILLSTONE which has a HARP DRESSING. |
| FLYER | E Anglian term. See FLY(1). |
| FLY FRAME | Frame consisting of FLYPOSTS & FLYSTRINGS, being part of the FANTAIL of a POST MILL. See FAN FRAME. |
| FLY FURROW | Smallest of quarter dress furrows of millstones (BUTTERFLY FURROW). See DRESS(2) QUARTER DRESS. |
| FLY STAGE | see FANSTAGE. |
| FLY STOCKS | The arms of a fantail. |
| FLY STRINGS | Near-horizontal timbers attaching tops of FLY POSTS to STEP STRINGS. |
| FLY TACKLE | see FANTAIL. |
| FLYPOSTS | see FANSPARS. |
| FLY SPINDLE | see FAN SPINDLE. |
| FLYWHEEL | (1) Heavy-rimmed wheel on a rotating shaft to enable a steady speed to be maintained or to accumulate energy. (2) see FANTAIL. |
| FOLDING WEDGES | A pair of identical wedges driven in opposite directions, used to tighten up and keep level. |
| FOOTBRASS | The bearing supporting the bottom of an upright shaft or spindle revolves. Also known as FOOTSTEP BEARING. |
| FOOTSTEP BEARING | see FOOTBRASS. |
| FOREBAY | Reservoir or extension of LAUNDER or millrace. Water is passed to waterwheel. |
| FORGE | An open hearth furnace with bellows, for heating wrought iron to make it malleable. See FINERY. |
| FORGE MILL | A mill in which water power is used to drive the machinery, or bellows, for forging iron. |
| FORK IRON | Part of the STRIKING GEAR mechanism for PATENT SAILS which joins the TRIANGLES to the SHUTTER BARS. |
| FORKED LEVER | A lever with a forked end; may be used to disengage STONE NUTS. |
| FORE EDGE | The leading edge of the LAND of a MILLSTONE. |
| FORELOCK BOLT | An early form of iron bolt, which has a mortise and a wedge to tighten it, instead of a thread and nut. |
| FORWARD SILL (CILL) | see SILL (3). |
| FOUNTAIN MIXER | A mixing machine for mixing animal foodstuffs. |
| FOUR-BEAT DAMSEL | see DAMSEL. |
| FOUR-O'CLOCK WATERWHEEL | A low BREAST-SHOT waterwheel - the water entering at 4 o'clock by a clock face and leaves at 6 or 7 o'clock. |
| FOUR-POST MILL | see POST MILL (19c Suffolk & Essex term). |
| FRAME FLOOR | The floor in a saw mill which carries the saw frame. |
| FRAMES | In stamp mills, the timber structure enclosing the stamps. |
| FRENCH BURR | see MILLSTONE(1) BURR. |
| FRENCH STONE | see MILLSTONE(1) BURR. |
| FRICTION CLUTCH | Means of transmitting power from one shaft to another in the same axis. |
| FRICTION DRIVE | (1) Where power is transferred from one smooth-rimmed wheel to another by the friction caused by bringing them forcibly together. They may have flat or bevelled faces and may be faced with end-grain wood or with iron against wood. A form of clutch used on sack hoists and other devices. (2) Typically the friction drive for a sack hoist from a wheel on the upright shaft. See SLACK BELT. |
| FRICTION RING | (1) hardwood ring drive added to the wallower to drive the sack hoist via a friction wheel. See FRICTION DRIVE. |
| FRICTION RING | (2) iron ring on the cap or dust floor that engages with a similar ring on the bottom of the centring frame. |
| FROCK MILL | see SMOCK MILL. |
| FROGS FOOT | see BIRDS BEAK JOINT (Suffolk term). |
| FROGS FOOT JOINT | see BIRDS BEAK JOINT (Suffolk term). |
| FROG SPARS | see QUARTERBARS (old Lincolnshire name). |
| FRONT | Of a mill or cap: the side that faces into the wind and has the sails attached. |
| FRONT BEARING | The bearing which supports the weight of the windshaft at the front of the mill. |
| FRONT FRAME | Supports the weather-boarding at the front of a mill. |
| FRONT TO FRONT | The method of operating rollers so that they are run with the shorter face of the corrugated cutting edge on the faster rotating roller meeting the longer face of the corrugations on the slower rotating roller. Called 'SHARP TO SHARP' in USA. |
| FULCRUM | The pivot point of a lever. |
| FULL SAIL | see COMMON SAIL. |
| FULLING | Action of thickening & scouring cloth in a mill to make it compact & firm, by pounding it under FULLING STOCKS in a mixture of water and additives which may include Fullers Earth. |
| FULLING MILL | A mill in which the FULLING of cloth is carried out. First referred to in the C12th. |
| FULLING STOCKS | Water-powered mallets or stamps employed for FULLING cloth, driven by a camshaft. |
| FUNGUS | see SMUT. |
| FUNNEL BINS | Bins with conical bottoms to be self-clearing. |
| FURL | see REEF. |
| FURNACE POND | Mill pond associated with supplying power for the bellows of furnace; associated with the Wealden iron industry (c.f. HAMMER POND). |
| FURROWS | The main grooves or channels cut into the grinding face of a MILLSTONE, producing a sharp edge to assist in the grinding, to allow an admixture of air to cool the meal and to move grain from the EYE to the edge of the stone as it is ground. See also MASTER FURROW. 2nd, 3rd 4th FURROW |
| FURROWING | The process of cutting furrows in a millstone face. A feather quill and RADDLE together with FURROWING STRIPS are used to mark the stone. |
| FURROW SPLINES | see FURROWING STRIPS. |
| FURROWING STRIPS | Two strips of wood having a length of the longest furrow on a millstone and a width of the furrow & land respectively. Used to lay out & maintain the correct dimensions for HARP dressing. Also known as SPLINES. |
| FUSIL | Heraldic term (an elongated lozenge) for the MILL BILL. |
| GABLE | (1) Triangular or "A" frame with a plumb-line used to check that a stone is level. (2) The triangular upper part of a wall at the end of a ridged roof. |
| GABLE ROPE | (1) a rope to the gable sack hoist barrel on a medieval post mill. (2) a wire rope from the gable plate of a post mill to support the tail pole. |
| GALLERY | Guarded platform around the cap of a smock or tower mill. |
| GAMBREL ROOF | see MANSARD ROOF. |
| GANG WATER | Water collected from a stream but not collected in a GATHER DAM for driving a waterwheel (Scot.). |
| GARNER | A storehouse for grain etc. |
| GARNER FLOOR | see BIN FLOOR. |
| GARNERS | see GRAIN BINS. |

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| GAS ENGINE | An internal combustion engine, used for powering a mill in the absence of natural power, using gas as a fuel. May use town gas or PRODUCER GAS. |
| GATE | (1) GRAIN: A slide sometimes used to control the flow of grain, from the SHOE to the stones or meal from a CHUTE, HOPPER to a bin or sack. (2) WATER: A term used loosely for a SLUICE or PENSTOCK. See SLUICE. |
| GATHER DAM | A dam which collects water from subsoil drainage, from rain and from minor streams. |
| GAVELOCK | see CROWBAR. |
| GEAR | see GEAR WHEEL. |
| GEAR FLOOR | see DUST FLOOR. |
| GEAR RATIO | Contrast between speeds of two shafts when connected by gear or belt drive. e.g. driver wheel with 56 cogs and driver pinion with 12 rungs equal ratio of 14:3. |
| GEAR WHEEL | A WHEEL from which project a number of COGS or TEETH for engagement with another gear wheel for transmitting motion or power from one SHAFT to another. see also SPUR WHEEL, WALLOWER, STONE NUT, BEVEL GEARS, MITRE WHEELS, TRAM WHEELS, TEETH and WHEEL. |
| GEARED RING | See RING GEAR. |
| GETTING UP | The wearing away of the harder BURRS in the EYE of a French stone. |
| GIG MILL | A machine with a rotary drum covered with teasel heads, used for raising the nap on woollen cloth. |
| GIMBAL | A device for mounting a RUNNER STONE on its spindle allowing the stone to turn with its face parallel to that of the bedstone; it replaced the STIFF RHYND for most purposes, but was less popular than the BALANCE RHYND (prone to wear at the pivot points). |
| GIMBAL BAR | (1) see RHYND. (2) see BRIDGE. |
| GIMMER | A hinge (C17 Hants) |
| GIN | (1) A machine by which gears may operate machinery, operated by animals walking round in a circle. (2) An abbreviations for 'engine'. |
| GIRDER | Term for a heavy horizontal floor beam, noteworthy in a smock mill. |
| GIRDLE | see COLLAR (1). |
| GIRNAL | a granary (Scot.). |
| GIRTS | Small GIRDER See SIDE GIRTS. |
| GLEANING | (1) Gathering ears of corn from the field, left by the reapers. (2) The trade of grinding same. |
| GLUMES | The shells of the oat grain, removed by SHELLING (Scot.). |
| GLUTBOX | Top bearing of the QUANT, which can be opened to disengage the stone nut. |
| GLUTEN | A nitrogenous part of the flour remaining as a sticky substance if the starch is washed out. |
| GLUTS | Wooden wedges used as a bearing for the stone spindle where it passes through the bedstone (N.Yks.). |
| GOIT | Leat (West Riding and Derbyshire term. - a large leat to an industrial mill). See MILL RACE. |
| GORGING | Excessive supply of Grain to the STONES, causing production of course meal or even the stopping of the mill. |
| GOVERNOR | (1) A regulator, generally of the centrifugal type, which detects the speed of the machinery and, in corn mills, is commonly used to apply its output to automatically adjust the centering of millstones for the purpose of maintaining a constant quality of product despite the changes of speed that might occur. A development of the CONICAL PENDULUM. (2) Governors have been used to control the shutters and therefore the speed of the windmill sails, and similarly to control the water flow to and hence the speed of a waterwheel. They have also been applied to American windmills to control the angle of the blades, or power from steam engines. |
| GOYT | LEAT (north of England term). |
| GRADING | The separation of products into fractions of different-sized particles. |
| GRADUAL REDUCTION | The production of flour by multiple grinding See HIGH MILLING. |
| GRAFFELS | see GRAPPLING IRONS (East Anglian term). |
| GRAFT SHAFT | An upright shaft which comprises both iron & wood. |
| GRAIN | The small hard seed, especially the seed on one of the food plants wheat, corn, rye, oats, rice and millet etc. (1) WHEAT Triticum Sp. (Gramineae). Most widely cultivated cereal in temperate zones; high yield & disease resistant; American wheats tend to be 'hard' & English 'soft'. (2) OATS Avena Sp. (Gramineae). Grows well on poor soils with heavy rainfalls. used for oatmeal, porridge and animal feed. (3) BARLEY Hordeum Sp. (Gramineae). The most abundant cereal crop in Britain lacks high gluten content & is thus unsuitable for bread-making; used as animal food & in brewing. (4) RYE Secale cereale (Gramineae). will grow on poor soils. Was used for bead making until the C17th when its popularity declined. Susceptible to ergot infestation. (5) MAIZE Zea mays. (Gramineae). The grain of Indian Corn. (6) RICE Oryza Ssp. (Gramineae) A staple food in many Eastern countries, grown in marshy conditions. Used for cakes and puddings. (7) BUCKWHEAT Polygonum fagopyrum A three-cornered seed, used for horse and poultry feeds, for Galettes in France and the Netherlands and for breakfast cakes. in the U.S. (8) MILLET Panicum miliaceum; Panicum italicum (Gramineae). Native of India, bearing a large crop of small nutritious seeds. |
| GRAIN BINS | see BINS. |
| GRAIN CLEANER | A machine for removing foreign material seeds etc. from grain before grinding it. See WINNOWER. See SMUTTER. |
| GRAIN FLOOR | Sometimes, an additional floor in tower and smock mills below the meal floor where sacks of unground grain are stored |
| GRAIN HOPPER | see HOPPER. |
| GRAITH | The buildings (LYING GRAITH) & machinery (GOING or RUNNING GRAITH) of a mill (Scot.). |
| GRANARY | The outbuilding or storehouse for unground grain; usually stored in sacks. |
| GRANARY FLOOR | see BIN FLOOR. |
| GRAPPLES | see GRAPPLING IRONS. |
| GRAPPLING IRONS | A set of four 'follow round' eye bolts designed to grip a large-section timber which is under strain (e.g. around the mortises at the front of a wooden windshaft). |
| GREASE WEDGE | The removable portion of the bearing round the neck of a stone spindle; so that grease lubricants may be applied. |
| GREAT SPUR WHEEL | Main driving wheel mounted on the upright shaft, transmitting drive to the stones via STONE NUTS. May also provide drive for ancillary machinery. See OVERDRIFT, UNDERDRIFT & |
| GEAR WHEEL | A cog-wheel that transmits motion, to or from, a shaft. |

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| GREEK MILL | see HORIZONTAL MILL. |
| GREY STONES | see MILLSTONES(3) PEAK. |
| GREYS | A class of flour containing impurities. |
| GRINDING FLOOR | SPOUT or MEAL FLOOR. |
| GRINDING HULL | see HULL. |
| GRINDING PAN | A cast-iron housing for EDGE RUNNER (found in some flint and gunpowder mills). |
| GRINDINGS | A general term used to describe the product of a millstone. |
| GRINDSTONE | A thick revolving stone disc for grinding, sharpening and polishing. |
| GRIPE | see BRAKE (E. Anglian). |
| GRIPE DRIVEN | see OVERDRIFT. |
| GRIPE IRONS | Large U-bolts with nuts and plates which encircle the STOCK, WHIPS and specially-made flanges on the CANISTER. This system is used instead of wedges to secure stocks in East Kent. |
| GRIPE STAFF | see BRAKE LEVER. |
| GRIPED ARM | Norfolk term for a CLASP ARM. |
| GRIST | To dress millstones (Scot.). |
| GRIST | (1) Material ground in the mill; latterly applied principally to animal feeding stuffs. |
| GRIST MILL | (2) Term applied in roller flour milling for a mixture of same or different GRAINS. See BLENDING. A MILL to grind animal foods. (modern use). One in which the grain is crushed but not finely ground to flour (older term for a flour mill). |
| GRIT | The kernels of oats when the shells are removed. |
| GRITS | see MILLSTONES(3) PEAK. |
| GROAT MACHINE | A form of Winnower designed to separate OAT HUSKS from the KERNELS after SHELLING. See GROATS. |
| GROATS | Husked oats. The groat is the KERNEL of the OAT grain. See GRAIN(2). |
| GROP | Coarse grinding of corn (Scot.). |
| GROT/GROOT/GRUD | Stone suitable for making MILLSTONES. |
| GROTTI | A wooden bush inserted in the bedstone of the Horizontal mill to receive the upper end of the vertical spindle. (Scot.). |
| GROUND SILLS | Foundation timbers which carry the water-mill superstructure (C17 Hants). |
| GROUND SILE | The bearing which supports the spindle of a horizontal waterwheel (Scot.). |
| GRUBBE | European-style pearl barley stones, set horizontally, usually below a floor. |
| GRUTTE | The NECK BEARING of the bedstone (Scot.). |
| GRYST | A weeks' allowance of flour for the family. Anglo-Saxon term for grinding (old Sussex term). |
| GUDGEON | An iron assembly forming the BEARING for a wooden shaft and connecting the pintle to the shaft. The JOURNAL is often provided with wings to secure it to the end of a wooden SHAFT. See CROSS TAILED GUDGEON. Metal pivot let into end of a beam on which a wheel turns |
| GUIDE BLADES | (1) A series of blades arranged to direct water onto the runner of a turbine, they are curved in the opposite direction to the runner blades. (2) May be used for directing water onto a WATERWHEEL. |
| GUILLOTINE HATCH | see HATCH. |
| GUNPOWDER MILL | One at which blackpowder is prepared, using edge-runner stones for crushing and incorporating. |
| GUSSETS | Triangular webs to strengthen a structure. |
| GUY TREE | see CROSS TREE (2) above. |
| GYMBAL | see GIMBAL. |
| HACKLE | An instrument or machine set with parallel iron or steel pins for splitting or combing out the fibres of flax or hemp. See HECKLE. |
| HACKLE PLATE | A square or round cover plate over the NECK-BOX in a bedstone, sometimes with a leather washer to prevent dirt from entering the bearing of the stone spindle. |
| HACKLE SCREWS | Screws used to secure HACKLE PLATE to the BEDSTONE BOX. |
| HALF BRASS | A BEARING BRASS fitted only under a JOURNAL bearing - as in windshaft NECK BEARINGS or WHEEL SHAFT bearings. |
| HALF ELLIPTIC SPRINGS | see SPRINGS (3) HALF ELLIPTIC. |
| HALF HIGH GRINDING | see NEW PROCESS. |
| HALF HIPPED | A small triangular piece of roof sloping between the ridge of a roof and the top of a gable wall which projects to above eaves level. |
| HALF HOUSED | see CROSS-HALVED. |
| HAMMER MILL | A form of grinding machine which uses rotating hammers to break up the grain. |
| HAMMER POND | Mill pond associated with a forge, supplying power for the bellows of furnaces or tilt hammers; associated with the Wealden iron industry. |
| HAND HOIST | see SACK HOIST. |
| HAND MILL | see QUERN. |
| HAND SPEKE | The capstan bar or handle used on a design of manual internal cap winding gear in which the drive shaft is brought down to an operating point at ground level. |
| HAND ROPE | The rope controlling the sackhoist gear. See also SNAP ROPE. |
| HAND WINDING | The act of turning a post, smock or tower mill into the wind by hand. |
| HANDRAIL | Safety rail around the stage of a smock or tower mill or a rail running up a ladder or stairway. |
| HANDSPIKE | (1) The wooden or metal lever attached like a handle to the wedge used for prising up the runner, prior to removing it for dressing. See also CROWBAR. (2) A straight bar of iron or wood, used for turning a windlass bollard to raise a MILLSTONE or sluice. |
| HANGER | (1) A relatively short and vertical pendant timber used to hold up heavy components such as bridge trees and brays or as used in a cap-centring frame. (2) A timber or metal frame used to support a bearing/plumber- block. |
| HARP | (1) A hand sieve (2) A segment (usually ten) of the grinding face of a millstone, containing a parallel series of LANDS & FURROWS. A template for marking out such a segment on the face of a stone. see MASTER, JOURNEYMAN, PRENTICE, FLY and FURROWS. |
| HARP IRONS | Iron castings in the form of a triangle, part of patent sail front striking gear. Same as TRIANGLES (Kent). |
| HARP SECTOR | see a HARP. |
| HARP STRINGS | see STITCHING. |
| HATCH | The movable gate in a sluice or penstock to control the water supply. See also STORM HATCH, SACK TRAP. |
| HEAD | (1) Upper front part of post mill. |

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| | (2) Somerset term for CAP. |
| | (3) see HEAD OF WATER. |
| HEADS | The projecting parts of a millstone face which have not been worn as much as the rest. |
| HEAD & TAIL | Common arrangement of stones in the post mill, permitting two pairs to be driven from opposite ends of the windshaft, without the interposition of a vertical shaft. |
| HEAD & TAIL MILL | Post mill with millstones fore & aft. |
| HEAD GATE | A water gate near a dam or at a millpond to control the flow of water through a race or FLUME to a mill. |
| HEAD GOIT | see HEADRACE. |
| HEAD OF WATER | The difference between the level of water available to the WATERWHEEL or TURBINE and the level at which it is discharged. |
| HEADRACE | That section of the mill stream above the wheel; usually an artificial channel. also known as MILL RACE, LEAT or GOIT. |
| HEAD RAIL | The top rail of a post mill wall at the eaves. |
| HEAD SICK | An expression describing a post mill whose body has tilted forwards due to a defect. See also TAILSICK. |
| HEADSILL | see SILL. |
| HEAD STONES | The pair of stones in the head of a post mill driven from the brake wheel. See also HEAD & TAIL. See also TAILSTONES |
| HEAD WHEEL | see BRAKE WHEEL. |
| HEADSTOCK | (1) The transverse beam in mill caps between weather beam & brake wheel, acting as a tie between sheers and as a seating for stub members passing forwards under the weather beam for support. (2) The support for the ends of the axle tree (also INNER & OUTER or WATER HEADSTOCK) (Scot.). |
| HEADING TO WIND | The act of the fantail turning a mill into the wind (Kent). |
| HECKLE | The dressing of FLAX. |
| HECKLING MILL | A mill where FLAX and HEMP are dressed with a HACKLE. |
| HEEL OF A SAIL | The inner end against the canister. |
| HEFT | see THRIFT. |
| HELVE | The SHAFT(2) of a TILT HAMMER. |
| HEM | see SKIRT(5). |
| HEMLATH | Piece of wood running longitudinally along the outer and inner edges of sails joining the SAIL BARS and holding them firm. |
| HEMP MILL | A TEXTILE MILL in which hemp is prepared and spun into rope or yarn for stout fabrics. |
| HERRIOT, HERIOT | A tax due to the Lord of the manor on the death of a tenant. |
| HEXAGON FRAME | A hexagonal timber frame set into the brickwork at the top of a windmill tower, carrying the CURB. Found mostly in the North East. See also OCTAGON FRAME. |
| HIGH BREAST WHEEL | A WATERWHEEL receiving water into BUCKETS above the wheel-shaft level. Developed in the C18th & C19th, but in use much earlier. |
| HIGH GRINDING | see HIGH MILLING. |
| HIGH MILLING | The process of milling by gradual reduction. Grinding and sieving grain several times using stones or rollers set progressively closer, so that the BRAN is more completely sieved out from the coarsely ground meal (popular on the Continent from the 16th Century). |
| HIPPED GABLE | A triangular area of roof that extends from the eaves of a gable wall up to the ridge of a roof. |
| HIPPED ROOF | see HIPPED GABLE. |
| HOG-BACKED COGS | Cogs in a face wheel, which are made slightly barrel-shaped in order to mesh correctly, not being truly bevelled. |
| HOG CORN | Corn for grist milling. |
| HOG FEED | Animal food that has been ground. |
| HOGGING | Distortion of timber under stress (such as a side girt 'bowing down' at the end). |
| HOG MEAT | Feed for swine (C17 Hants). |
| HOIST | see SACK HOIST. |
| HOOKS | Specially-shaped pieces of wood used to pack the leading side of a sail up to a constant weather, equal to that at the heel of the SAIL (Sussex). |
| HOOKE'S COUPLING | A type of C19th universal joint. Named after the inventor, Robert Hooke (1635-1703). |
| HOOPERS PATENT SAILS | see ROLLER REEFING SAILS A type patented (no.1706) by Captain Stephen Hooper in 1789. |
| HOLDING ROLL | The less-rapidly rotating of a pair of rollers. See ROLLER MILL(2). |
| HOLLANDER | A device employed for pulping (macerate) rags by means of a revolving drum equipped with blades. Superseded stampers in paper mills. Also called a BEATING MACHINE or ENGINE. |
| HOLLAND STONES | see MILLSTONES(5) CULLIN. |
| HOLLOW POST MILL | A windmill in which power is transmitted by an upright shaft, through the hollow central post, to machinery housed in the base, as in some WIP, OIL, CORN or DRAINAGE MILLS for example. |
| HOODWAY | Wooden casing enclosing the scoopwheel of a drainage mill. |
| HOOP | (1) see TUN. (2) An iron ring shrunk onto a millstone to prevent it from bursting. Some, such as built up French Burr stones, may have several hoops fitted. |
| HOPPER | An open wooden funnel-like container holding grain prior to its discharge to the stones via the shoe. See also SPATTLE. |
| HOPPER-BOTTOMED | A bin which has its bottom shaped like the inside of a hopper so that it will empty fully. |
| HOPPER LADDER | see HORSE. |
| HORIZONTAL AIR MILL | see HORIZONTAL WINDMILL. |
| HORIZONTAL SHAFT | see LINESHAFT. |
| HORIZONTAL WATERMILL | A mill driven by a horizontal waterwheel in which paddles are secured to the lower end of an upright shaft and which drives a runner stone directly above it without any gearing. It is usually driven by a jet of water from an orifice or steeply-sloping trough. There is a considerable variation of detailed design. It can have a number of features, among which are See TIRL. See TUB WHEEL. See also NORSE MILL, GREEK MILL, CLICK MILL and SALTQVARN (Scandinavian). |
| HORIZONTAL WINDMILL | A windmill powered by vanes or sails mounted on a vertical shaft which may be within a cylindrical tower or a louvred body. |
| HORN END | The forward end of the WINDSHAFT, to which the cross will be attached by keys (Lincs.). |
| HORNS OF A POST | The tongues fitting down between the cross trees. Projections on the bottom of the POST which sit over the centre of the CROSS TREES. |
| HORNS (2) | The short, horizontal large section timbers radiating from the cap sheers in tower and smock mills and forming part of the cap construction. |
| HORSE | The frame supporting the HOPPER & SHOE resting on the TUN, above the millstones. Usually of wood, sometimes of iron |
| HORSE ENGINE | see HORSE GIN. |

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| HORSE GIN | A method of harnessing the power of a horse for milling or driving other machinery. One or more horses or donkeys walking round a circular track and harnessed so as to turn a large toothed wheel, either in the same plane or above, which turns smaller wheels to operate machinery. |
| HORSE LOAD | A ton = 2240 lbs. (20 cwt) (approximately one tonne). |
| HORSE MILL | Rotary motion mill powered by horses walking around a tumpost in a circle; (or on an inclined continuous slatted belt). |
| HORSE WHEEL | see HORSE GIN. |
| HOUR-GLASS MILL | see DONKEY MILL. |
| HOUSEHOLDS | A type of flour for family use. |
| HOWETREE | see CROWNTREE (old Lancs.). |
| HUB | The central piece or boss of a wheel. See also NAVE. |
| HULL | A mill specialising in the grinding of EDGE TOOLS. |
| HULLING | The removal of husks of cereals. See SHELLING. |
| HULLING MILL | A mill equipped for the husking of cereal grains such as barley & rice. |
| HULLING STONES | Millstones which remove the outer husks including the bran, of cereal grains. |
| HULLS | The outer covering of seeds such as peas and beans etc. |
| HUNGARIAN PROCESS | The process of gradual reduction in ROLLER MILLING which was developed in Hungary. See ROLLER MILLING. |
| HUNTING COG | An additional COG on one of the two meshing GEAR WHEELS. A simple but highly effective device to counter uneven wear on cogs by ensuring that wheels mesh differently on each revolution. |
| HUPER | see HOPPER (medieval term). |
| HUPERLATHER | The leather stop inside the hopper for activating the warning bell (medieval term). |
| HURST FRAME | see HURST. |
| HURST | Heavy timber or iron framework supporting MILLSTONES at floor or shoulder level, & enclosing the main gearing in the water or windmill. Sometimes independent of the main structure of the mill especially in America. |
| HURSTING | see HURST. |
| HURSTLE | see TUN. |
| HUSK | (1) The fibrous outer casing of the grain. (2) see TUN. (3) see HURST (archaic term). |
| HUSK CUPBOARD | A settling chamber for containing the HUSKS winnowed from oats by a GROAT MACHINE or similar separator. |
| HUSK FRAME | syn. with HURST FRAME. |
| HUTCH | see BIN. |
| HYBRID WHEEL | A WATERWHEEL constructed both in wood and iron. |
| HYDRAULIC RAM | (1) A device which utilises the ram effect of water flowing down an inclined pipe, to deliver a smaller quantity of water to a much greater height than the source water. (2) Powering machinery (Hydraulic Crane, Hydraulic Winch, etc) by water supplied at high pressure, often from commercial mains. |
| IDLER GEAR | A GEAR WHEEL intermediate between a DRIVING and a DRIVEN wheel. |
| IMPROVER | A time-server apprentice seeking experience at a lower wage than a journeyman. |
| IMPULSE | The principle whereby energy may be obtained from water by an UNDERSHOT waterwheel HORIZONTAL wheel or PELTON WHEEL turbine, whereby rapidly flowing water is directed towards more slowly-moving FLOATS or BUCKETS, to convert some of the energy of motion (kinetic energy) into mechanical power. |
| INCORPORATE | The process of intimate mixing and grinding in an EDGERUNNER MILL. See GUNPOWDER MILL. |
| INERTIA GOVERNOR | see LAG GOVERNOR. |
| INDIAN MEAL | Cornmeal from grinding Indian maize or corn. |
| INDUSTRIAL MILL | A wind or watermill (or other energy source) which provides the power used to carry out numerous industrial processes. |
| INKE | A fitting in the middle of a lower millstone which, by a spindle, supports and revolves the upper stone (C17th mill account - Hants.). See Mace. |
| INLAY | To divert water to a mill (Scot.). |
| INLAYER | see LAUNDER (Scot.). |
| INLAYER / INLAIR | Channel carrying water to a mill wheel; a small dam leading to such a channel (Scot.). |
| INNER HEADSTOCK | see HEADSTOCK. |
| INNER WHEEL | see PIT WHEEL. |
| INSIDE WINDER | A tower or smock mill with winding gear consisting of a windlass mounted inside the cap. |
| INSUCKEN | SUCKEN (Scot.). |
| INTER-TIE | Intermediate rail between the side girt & bottom rail in Midland post mills. |
| INTERMEDIATE GEARING | An additional GEAR WHEEL(s) inserted between DRIVER(2) and DRIVEN wheels, perhaps to reverse the direction of rotation. See IDLER. |
| INTERMEDIATE UPRIGHTS | (1) In Essex mills, an additional upright in framework, often each side of a window, hence WINDOW POSTS. (2) In smock mills, an upright member between cant posts (known in Essex as KINGPOSTS or KINGS). |
| INTO HOUSE | The operation of pulling the sails closer to the body of the mill. See also OUT OF HOUSE. |
| INTOWN MOLTURE | The rate of multure payable by those within the thirl of a certain mill THIRLAGE)(Scot.). |
| INTOWN SUCKENER | see SUCKENER (Scot.). |
| IRON CROSS | 4, 5, 6 or 8-armed cast-iron cross fitted to the outer end of a windshaft to which the SAIL BACKS are strapped and bolted. Used as an alternative to the POLL END. Mostly found in Lincolnshire and more northern counties. (often replacing a wooden poll end which had broken off at the mortices for wooden sail backs) |
| IRON GUDGEONS | Part of the bearing at the junction of the POST and CROWN TREES See CROSS TAILED GUDGEON, GUDGEON. |
| IRON MORTISE WHEEL | see MORTISE WHEEL. |
| IRON PROOF | An iron PROOFSTAFF. |
| IRONS | Metal items used in early mills - gudgeons, bands, hoops, spindles, balance rhynds, drivers, damsels, etc. |
| IRON SCREW GRAFFIL | see GRAPPLING IRONS. |
| IRON SEGMENT TEETH | Accurate iron castings of teeth for bolting in a ring on a wooden wheel often to replace wooden cogs. |
| IRON SPIDER | see SPIDER. |
| IRRIGATION WHEEL | see NORIA. |
| JACK | see JACKSTAFF. |
| JACK BLOCK | A block which supports a crowbar when lifting a millstone. |
| JACKING | Checking the stones with the JACKSTAFF & QUILL. |
| JACKING THE STONES | see JACKING. |
| JACK RING | Iron frame for lifting the STONE NUT out of gear. |
| JACK SHAFT | A layshaft. |

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| JACKSTAFF | A tool used to check the vertical alignment of the stone spindle relative to the grinding face of the levelled BEDSTONE. It incorporates a QUILL for detecting faulty adjustment. |
| JACK STICK | see JACK STAFF. |
| JACK WHEEL | A PINION driven from a RING GEAR on a waterwheel. |
| JENNY | see SPINNING JENNY. |
| JET | A rapidly moving body of water produced by forcing it to flow through a restraining hole or orifice, or by causing it to run down a steeply sloping, sometimes tapering trough. |
| JIB SAILS | (1) Triangular windmill SAILS of cloth, wound round radial sail arms with the tip of the sail corded to the next arm, on Mediterranean-type mills. (2) Sails with leader boards which pass air behind main section of sail to provide 'lift' or suction, as on aircraft wings or dinghy sails. |
| JIGGER | (1) see NEB. (2) see also JOG SCRY. (3) see SACK JOGGER. |
| JIM CROW | STONE CRANE (1847 Inventory). |
| JOCKEY | see JOCKEY PULLEY. |
| JOCKEY PULLEY | A small pulley used to press against a driving belt to tension it. |
| JOG | A change of section in a sail stock, forming a step, which will locate against the canister to centre it Same as SHOULDER. (Kent). |
| JOGGIN(S) | A term found in some Essex mill inventories May denote a JUMPER or POSSER. |
| JOGGER | see JOG SCRY. |
| JOGGLE SCREENS | (early C19th term.) See JOGSCRY. |
| JOGGLING SCREEN | see JOG SCRY |
| JOG SCRY | An inclined oscillating SIEVE sometimes with several layers of mesh to separate various constituents such as MIDDINGS, POLLARDS, BRAN etc. see also BRAN JUMPER, VIBRATING MACHINE. |
| JOIST | A support beam for intermediate flooring. |
| JOURNAL | The neck or bearing portion of a SHAFT in machinery. |
| JOURNEYMAN | A served apprentice qualified to practice his trade as an employee of a Master; a qualified tradesman who works for another. |
| JOURNEYMAN | A tapered piece of timber inserted between the STOCK and WHIP near the stock's end to force the sails to describe a dished plane when turning. (Suffolk). |
| JOURNEYMAN FURROW | Second largest FURROW in the quarter dressing of a MILLSTONE. Adjacent to the MASTER FURROW on one side and the PRENTICE FURROW on the other side. See DRESS(2) QUARTER DRESS. |
| JOURNEYMAN MILLWRIGHT | A MILLWRIGHT hiring out his services by the day. |
| JOWLED TIMBER | A timber, such as a post mill corner post thickened at the top to give adequate support to the framing. (the 'gunstock head' effect). |
| JUMPER | see JOG SCRY (E. Anglian). |
| JUTE MILL | A TEXTILE MILL in which jute is prepared from certain tree barks, and spun into yarn for making hessian and cordage. |
| KAPPERY | A set of stamps with blades, used for wood in production of wood-dyes. |
| KEEP | An iron or wooden block holding down the tail of a WINDSHAFT or other JOURNAL. |
| KEEP FLANGE | A horizontal projection beneath which run centring wheels or wooden rubbing blocks to resist overturning the cap. |
| KEEP IRONS | (1) Iron bars so fitted to the cap so as to hold it down to the tower should the mill be backwinded. (2) see KEEP. |
| KENTISH CAP | see CAP (SHAPES) WAGGON. |
| KENTISH HOOD | see CAP (SHAPES) WAGGON. |
| KENTISH LEVER | The lever mechanism used in some Kent mills to operate the striking gear instead of a chain and Y-WHEEL. |
| KERNAL | The starchy part of grain excluding the bran and germ. |
| KEST | A TOLL CUPBOARD (Anglesey). |
| KEY | Iron wedge driven home in a keyway, to secure a wheel or other item on an iron shaft.. |
| KEYWAY | A slot in an iron shaft into which a KEY is driven to secure a wheel or pulley. |
| KIBBLE | To grind coarsely. |
| KIBBLER | A grinding machine with grooved plates for breaking or coarse grinding various seed foods, such as beans for animal food. |
| KIL (KILL) | see KILN. (Scot.). |
| KILN (mill) | A structure with a drying floor of perforated clay tiles or metal plates, below which heat is provided by a fire. Used to dry seed crops for storage, or to roast oats prior to SHELLING. Mostly found in the wetter parts of the UK. May be separate or part of the mill building. |
| KILN (malt) | Found on the end of malthouses for heat treatment to arrest the growth of sprouting barley. |
| KING POST | (1) Main central post of a patrol sawmill. (2) see INTERMEDIATE UPRIGHTS. |
| KINGS | see INTERMEDIATE UPRIGHTS. |
| KLUSE | see PENSTOCK (Shetland). |
| KNAVESHIP | The small part of the grain-ground at the mill which was the perk of the miller or his servant (Scot.). |
| KNEES | Wooden braces of sharply-curved timber which are usually secured between wall posts and the under-sides of floor beams. |
| KNOCKER | see DAMSEL (County Durham term). |
| KRUB | see TUN (Scot.). |
| KUTCHEL | The small amount in a sack of corn or meal which is left over. |
| LADDER | see STEPS. |
| LADDER FANTAIL | A post mill fantail which is mounted on the ladder. |
| LADDLE MILL | A horizontal Watermill (Scot.). |
| LADE | see LAUNDER. |
| LAG | The setting of the millstones so they are spaced out correctly for a particular type of work. |
| LAG GOVERNOR | An early form of GOVERNOR. |
| LAIR | To settle a millstone into position (Scot.). |
| LAMINATED SPRINGS | see SPRINGS (6) LAMINATED. |
| LANDS | The flat raised surfaces between the furrows forming the grinding face of a millstone. See also FORE EDGE and BACK EDGE. |
| LANDFASTS | ? |
| LANDSIDE BEARING | A waterwheel shaft bearing which is located on the outer or land-side of the waterwheel. |

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| LANTERN FLOOR | The floor in a windmill where the lantern pinion wallower is located (now known as the dust floor). |
| LANTERN GEAR | see LANTERN PINION. |
| LANTERN PINION | An early form of gear wheel consisting of STAVES mortised between two wooden discs or flanges (TRINLEBOARDS) the STAVES serving as COGS, and engaging a SPUR or FACE GEAR. |
| LANTERN WHEEL | see LANTERN PINION. |
| LASTS | |
| LATEEN SAIL | A triangular sail used in Mediterranean windmills. |
| LATHS | On common sails, the intermediate longitudinal bars of light section on the sail frame, to resist the wind pressure on the canvas. |
| LAUNDER | Head race in the form of a trough or channel carrying water to the wheel. Also called a FLUME or LADE. |
| LAYSHAFT | see LINESHAFT. |
| LAYING OUT | Setting out the LANDS and FURROWS on a MILLSTONE. |
| LAZT-BACK CATCH | see CLICK. |
| LEAD | see DRAFT. |
| LEAD MILL | see COLOUR MILL. |
| LEADER BOARD | see LEADING BOARD. |
| LEADING BOARD | A board fixed to the leading edge of a SAIL, directing the flow of air onto the CLOTH or SHUTTERS. |
| LEDGER | The bottom side rail of a POST MILL (lower side girt) (Suffolk). |
| LEAT | see HEADRACE, LADE, LEAT or GOIT. |
| LEFT HAND DRESS | The furrow pattern of a millstone in which the master furrow runs to the left of centre when viewed across the stone. See LEFT-HANDED MILLSTONES. Such a stone rotates anti-clockwise as seen from above. |
| LEFT-HANDED FANTAIL | A fantail, the fan of which when seen by a viewer having his back to the wind, turns anti-clockwise. The wind usually operates the fantail when blowing obliquely on to it. The fan will reverse direction when the wind blows on to its opposite face, but will still be seen to turn anti-clockwise by a viewer with his back to the wind. |
| LEFT-HANDED MILLSTONES | Millstones, the runner stone of which is seen (in a conventional windmill or watermill layout) to rotate anti-clockwise when seen from above. With millstones DRESSED with HARP pattern furrows, a MASTER FURROW, when viewed from one edge of the stone, passes from the left-hand side of the EYE (DRAFT CIRCLE) to the edge of the stone towards the viewer. The minor furrows lie parallel to it on its left-hand side. With SICKLE DRESS and other variants of curved furrows, the furrows similarly pass generally from the left hand side of the draft circle towards the viewer. Both stones of the pair usually carry an identical Dress. |
| LEFT-HANDED WINDMILL | A windmill, the sails of which when seen by a viewer having his back to the wind, turn clockwise. |
| LEVEL | An area of marshland to be drained by a windmill. |
| LEVER | A means of gaining a mechanical advantage especially used in the brake and tentering systems. |
| LEVER AND FORK | see FORKED LEVER. |
| LEVERS | Pivoted control arms (e.g. on sail shutters). |
| LEWDER | The floor supporting the nether millstone (Scot.). |
| LEWISES (SET OF) | see CLAM. |
| LICHENS | (1) The levers in the pit of the mill which operate the millstones (Scot.). (2) The entry into the space where the pit wheel turns (Scot.). |
| LICHTEN | To operate the lighter staff (Scot.). |
| LICK OF GOODWILL | Toll abstracted by a wily miller! |
| LIEUVAIN's LUBRICATOR | An inverted bottle containing oil, with a centre loose rod through the cap, for lubricating bearings on shafts. |
| LIFT | A small cast-iron lever and pivot combined, fixed to one end of a SHUTTER. Same as CRANK (Kent). |
| LIFT TENTER | Lever for TENTERING the stones by hand, now quite outmoded but still existing. |
| LIFTERS | CAMS driven onto a shaft or stamps barrel to raise the STAMPS, which then fall by gravity. |
| LIFTING TREE | see LIFT TENTER. |
| LIFTING WEDGE | A wedge used when the runner stone is being lifted. |
| LIGGER | see BEDSTONE. |
| LIGHTEN | see TENTERING. |
| LIGHTENING GEAR | STEELYARD and linkages between BRIDGE TREE and GOVERNOR. |
| LIGHTENING TREE | An adjustable wooden rod supporting the end of the sole tree in the Horizontal mill. |
| LIGHTERING | see TENTERING. |
| LIGHTER BAR | A hand worked lever for operating the BRIDGE TREE which raises and lowers the stone spindle. |
| LIGHTER IRONS | see STEELYARD. |
| LIGHTER SCREW | An adjustable screw connecting the BRAYER or BRIDGETREE to the STEELYARD and is used to adjust it by raising or lowering it. Part of the LIGHTENING GEAR. |
| LIGHTER STAFF | A lever connected to the BRIDGE TREE or BRAYER which lifts the stone spindle. |
| LIGNUM VITAE | The green, hard & heavy wood of the Guaiacum, a West Indian tree. Used as a bearing in many water turbines, thus lubricated by the water. |
| LIME STONE MILL | A mill that grinds stone consisting wholly of calcium carbonate. See also WHITENING MILL. |
| LINE SHAFT | (1) A horizontal DRIVING SHAFT taking power from the prime mover to the DRIVEN machinery. Usually provided with BELT PULLEYS to drive the machines, otherwise with gears. (2) A horizontal SHAFT for transmitting power to additional equipment by BELTS or GEARS. |
| LINEN MILL | A TEXTILE MILL in which linen cloth is manufactured from FLAX fibres. |
| LINK CHAIN | Chain supporting the tail pole of a post mill. |
| LIPIE | Half a gallon or 4 pints (Scot.). |
| LIPPIE | see LIPIE (Scot.). |
| LISTINGS | The webbing straps which connect the blinds of roller reefing sails. |
| LITH | A notch on the underside of the upper millstone into which the SILE is fitted to transmit the motion from the waterwheel. |
| LITTLE FACE WHEEL | A FACE WHEEL on a LAYSHAFT, driving a STONE SPINDLE. |
| LIVE COLLAR | see COLLAR (1) which incorporates small wheels. |
| LIVE CURB | see CURB, LIVE. |
| LOADING FLOOR | A floor raised to cart-level so that the cart can be loaded and unloaded without having to lift the sacks to a different level. (Such a floor is in a granary at Wye Watermill in Kent). |
| LOCUM | see LUCAM. |
| LODE | A cut for water, or an aqueduct (old Sussex). |
| LOGARITHMIC DRESS | see DRESS(2). |
| LODGE | MILL POND (northern terms). |
| LOGWOOD | The heartwood of Haematoxylon Campechianum (Leguminosae). See LOGWOOD MILL. |

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| LOGWOOD MILL LOOP | A mill equipped for rasping logwood, used to produce a dark red dye. A small shuttered porthole usually in the BREAST of a POST MILL on the MEAL FLOOR, through which the miller could keep a 'weather eye'. |
| LOOSE TACKLE | Machinery largely driven by belts. see STIFF TACKLE. |
| LONG SYSTEM | Milling process involving a large number of stages resulting in several different grades of products. |
| LOOM | A machine on which yarn is woven into fabric. |
| LOPER | see RUNNER STONE. |
| LOUTHER TREE | see LIFT TENTER. |
| LOW-BREAST WHEEL | Waterwheel receiving water below axle height; developed in the C18th & C19th. See BREAST-SHOT WHEEL See FOUR O'CLOCK WATERWHEEL. |
| LOW MILLING | The traditional method of grinding, reducing grain to flour in a single passage through the stones. See HIGH MILLING & ROLLER MILLING. |
| LOWDER | HURST. An invented term for a type of platform, supporting MILLSTONES above floor level. A table hurst. |
| LOWER MILLSTONE | The BEDSTONE. |
| LOWER SIDE GIRTS | see BOTTOM SIDE RAILS. |
| LUBRICATION | Oiling and greasing bearings and cogs. Tallow is good for lubricating wooden parts. Olive oil and Sperm oil is good between metals. Lard is recommended between metal and wood cogs. For wooden WHEELSHAFT BEARINGS, water can be used or a lard / black-lead mixture. See also RING-OILED BEARING, STAUFFER and LIEUVAIN'S LUBRICATOR. |
| LUCAM | A projecting gable or dormer for external hoisting on a watermill or other building. Also known as BIRDSNEST, LUCARNE, LUCCAM, LUCOMBE, LUCOMB (derived from the French LUCARNE meaning DORMER) |
| LUCCAM | see LUCAM. |
| LUCARNE | see LUCAM. |
| LUCCOMBE | see LUCAM. |
| LUCOMB | see LUCAM. |
| LUCCUMB | see LUCAM. |
| LUFF | The manual turning of the movable part of the mill so that the SAILS face the wind. See WINDING. See WINDING GEAR. |
| LUFFING | The act of LUFFING See LUFF. |
| LUFFING GEAR | see WINDING GEAR. |
| LUG | An L-shaped iron fitting bolted to a shutter bar to accept a threaded end of the fork iron, then locked in place with nuts. Part of patent sail linkage. (Suffolk). |
| LYER | see BEDSTONE. |
| LYING GRAITH | see GRAITH (Scot.). |
| LYING STONE | see BEDSTONE (Scot.). |
| MACE | The head mounted on the upper end of a STONE SPINDLE, driving the GIMBAL BAR or RHYND of the RUNNER STONE. |
| MACE HEAD | see MACE. |
| MACHINE DRIVE | Any means whereby auxiliary machines are activated. |
| MACHINERY FLOOR | see DRESSER FLOOR. |
| MAGNETIC SEPARATOR | A device introduced during the latter half of the C19th to remove stray ferrous metal (binding wire etc) from the grain prior to grinding. see PAINTSTAFF. |
| MAHOGANY STAFF | see POST. |
| MAIN POST | see (1) UPRIGHT SHAFT (2) WINDSHAFT. |
| MAIN SHAFT | BRAKE WHEEL. |
| MAIN WHEEL | Pin in the hopper which regulates the supply of grain to the millstones. |
| MAITIN PIN | The sprouted GRAINS which have been dried in a KILN and coarsely ground in preparation for making beer, whisky etc. |
| MALT | (1) A machine for breaking the MALT, using rollers. |
| MALT MILL | (2) Millstones used for grinding MALT. |
| MAN LOAD | 300 lbs. |
| MANSARD ROOF | Roof with a double slope, the lower slope being steeper & larger than the upper. The whole supported by a frame above the tie beam. The trussed construction allows more flexibility of use. |
| MANY HEIGHT | Stepped wedge, used as an adjustable fulcrum, for use when raising or lowering millstones. also known as a NOTCH BLOCK or SNOTCH BLOCK. |
| MAROUFLAGE | A covering of stout cloth, usually canvas, stuck to the boarded roof of a windmill CAP or the SMOCK of a SMOCK MILL, to seal against the weather. The cloth being stuck on with size paint, and then painted over to complete the finish. |
| MARSH MILL | A small, untended DRAINAGE MILL. A windmill for draining marshes with a SCOOP WHEEL, ARCHIMEDIAN SCREW or PUMP, also called a POLDER or PUMPING MILL. |
| MASLIN | A mixture of WHEAT & RYE (Medieval English term). |
| MASTER FACE WHEEL | A FACE WHEEL used as a PIT WHEEL when driving a LAYSHAFT. |
| MASTER FURROW | The longest furrow in the quarter dressing of a millstone. See DRESS(2) QUARTER DRESS, 2nd, 3rd 4th FURROW. see DRESS(2) QUARTER DRESS. |
| MEADOW MILL | see MARSH MILL. |
| MEAL | Ground corn as it leaves the MILLSTONES, still containing bran etc. See also WHOLEMEAL. |
| MEAL ARK | see MEAL BIN. |
| MEAL BEAM | A horizontal, usually curved, timber in the breast framing of a post mill, tenoned into the front corner posts, and supporting the millstone bearers (Suffolk). |
| MEAL BIN | Bins to receive the meal from the stones. |
| MEAL EYE | see MILL EYE. |
| MEAL FLOOR | The floor below the STONE FLOOR, to which the freshly ground MEAL is discharged through MEAL SPOUTS into SACKS, MEAL BINS or CONVEYOR. Also known as the SPOUT FLOOR. |
| MEAL FOR CORN | The standard output to be expected from a quantity of grain (e.g. 140 lb of oatmeal from 240 lb of grain). |
| MEAL MAN | (1) Man employed to separate the flour from the bran before bolters were used. (2) Trader specialising in the sale of FLOUR & MEAL, not grain. (3) Entrepreneur or employee concerned with flour DRESSING and distribution of the product (particularly before 1820 when flour dressing was frequently carried out in premises away from the mill). |
| MEAL SPOUT | A chute which conveys the MEAL from the STONES to the MEAL BIN or SACKS. |
| MEASURE, FULL | A heaped measure full (old Sussex). |
| MEASURE, RACE | A level measure (old Sussex). |

MEASUREMENTS

CAPACITY English.

4 gills = 1 pint
2 pints = 1 quart
4 quarts = 1 gallon
2 gallons = 1 peck
4 pecks = 1 bushel
4 bushels = 1 coombe See COOMBE (COOMB)
8 bushels = 1 quarter
280 lbs = 1 SACK

WEIGHT English.

16 drams = 1 oz
16 ozs = 1 lb
14 lbs = 1 stone
2 stones = 1 quarter (28 lbs)
4 quarters = 1 hundred weight (112 lbs)
20 hundred weights = 1 ton (2240 lbs)

OF FLOUR

14 lbs = 1 peck of flour
56 lbs = 1 bushel of flour (4 pecks.)
280 lbs = 1 sack of flour (5 bushels)

MELDER

(1). The corn put through the mill at one time (Scot.).
(2). Oatmeal ground for hinds and shepherds to last for the winter (Scot.).

MELL

A mallet shaped block of wood used to prop the millstones while they are being dressed.

MERCHANT MILL

Mill grinding and shipping grain products commercially.

MERK

13shillings & 4 pence (Scots.). 13s/3d (English) = 76p.

METTS

Measures of weight

METTLE

see SHOW your METTLE

MEZZANINE

An intermediate level floor, stage or platform, between two main floors

MIDLING

see STOCK (Kent).

MIDLINGS

see FLOUR.

MIDLING

see STOCK (Suffolk).

MIDLING ROLLS

see REDUCTION ROLLS.

MIDEND

The end of a middling or stock. The point on a whip where the middling ends, and the whip continues unsupported (Kent).

MILL (type)

From late Latin MOLINUM with many derivatives relating to grinding. It appears to have been originally used to describe a single pair of MILLSTONES or QUERN, powered manually or by water. This developed into naming the buildings, in which the stones worked. As other processes using both wind and water power evolved, the term MILL continued to be used, hence the many varieties of MILLS known today.

BALL MILL q.v.
BARK MILL q.v.
BATTER or PLATE MILL
BLADE MILL
BOBBIN MILL q.v.
BONE MILL q.v.
BONEMEAL MILL
BORING MILL
BUCKWHEAT MILL
BUCKET MILL q.v.
BUTTON MILL q.v.
CANON BORING MILL q.v.
CARDING MILL q.v.
CIDER MILL q.v.
CLOG MILL q.v.
CLOTH MILL
COLOUR MILL
COPPER MILL
CORN MILL q.v.
COTTON MILL q.v.
CRAZING MILL
CRUSHING MILL
CUSTOM MILL q.v.
DRAINAGE MILL q.v.
DRESSING MILL See SEED MILL
DYE MILL
EDGE-RUNNER MILL q.v.
FLAX MILL q.v.
FLINT MILL q.v.
FLOCK MILL q.v.
FLOUR MILL See FLOUR MILL (factory).
FULLING MILL q.v.
GRAIN MILL See CORN MILL.
GUNPOWDER MILL q.v.
HECKLING MILL q.v.
HEMP MILL q.v.
HORIZONTAL AIR MILL q.v.
HORIZONTAL WINDMILL q.v.
HORSE MILL q.v.

HULLING MILL q.v.
 INDUSTRIAL MILL q.v.
 JUTE MILL q.v.
 KNOCKING MILL See STAMPING MILL.
 LADDLE MILL q.v.
 LEATHER MILL
 LINEN MILL q.v.
 LOGWOOD MILL q.v.
 MALT MILL
 MERCHANT MILL q.v.
 MORTAR MILL
 NEEDLE MILL q.v.
 OIL MILL q.v.
 OAT-SHELLING MILL
 PACKING MILL See FULLING MILL.
 PAINT MILL
 PAN MILL q.v.
 PAPER MILL q.v.
 PEARL BARLEY MILL
 PLANING MILL q.v.
 PLASTER MILL q.v.
 PLUMPING MILL q.v.
 POWDER MILL q.v.
 PROVENDER MILL. q.v.
 PUG MILL q.v.
 PULP MILL q.v.
 ROLLING MILL q.v.
 ROMAN CEMENT MILL q.v.
 SASH MILL q.v.
 SAW MILL q.v.
 SCRIBBLING MILL q.v.
 SCUTCHING MILL q.v.
 SEED MILL q.v.
 SILK MILL q.v.
 SLITTING MILL q.v.
 SLUBBING MILL See SCRIBBLING MILL.
 SMELTING MILL q.v.
 SNUFF MILL q.v.
 SPINNING MILL
 STAMPING MILL q.v.
 STEAM MILL q.v.
 TAPESTRY MILL q.v.
 TEXTILE MILL q.v.
 THRESHING MILL q.v.
 TREADMILL q.v.
 WALK MILL See FULLING MILL.
 WATER MILL q.v.
 WAULK MILL See FULLING MILL.
 WEAVING MILL q.v.
 WHITING MILL q.v.
 WIND MILL q.v.
 WIRE MILL q.v.
 WOOLLEN MILL q.v.
 WORSTED MILL q.v.

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MILL

BAY see BAY(2).
 BILL see BILL.
 CAPACITY Measured in SACKS per hour.
 CHISEL see BILL.
 CLAPPER or CLACK see DAMSEL (Somerset/Scot.).
 DAM (1) The dam of a mill pond (southern England).
 (2) Scots and northern term for a MILL POND, MILL RACE or TAIL RACE.
 DOZEN The thirteenth peck of grain milled, payable as a toll to the mill owner (? or miller).
 DRESSER see STONE DRESSER.
 DUST A light, fibrous, dark brown dust which separates from oats during the milling process
 EYE The hole and chute through which the meal passes down from the skirting of the stones.
 FLUME see HEADRACE.
 HAND A lever attached to cross supports at either end of the BRIDGE TREE by which the stones can be adjusted.
 HEAD see MILL POND (Somerset).
 HEAVE Vessel for measuring the shelled grain.
 HILL see MILL MOUND.
 HOLME see WATERMEADOW.
 HOUSE (1) Mill building, wind or water. (Old term used in Insurance Records and elsewhere.)
 (2) House where MILLER or mill owner lives.
 (3) The room in a tucking mill containing the STOCKS (Somerset term).
 -IN-A-MOUND A tower mill with a mound built up around the base to serve in place of a reefing stage. Known in Holland as
 BERGMOLEN or BELTMOLEN.
 LICHENS see LICHENS. (Scot.).

- MAN The person who operates and looks after a drainage mill (Norfolk).
- MOOTER The miller's share of the meal, collected in a BITCH (Scot.).
- MOUND see WINDMILL MOUND.
- PECK see PICK.
- PICK see PICK.
- PIVOT see STONE SPINDLE.
- POINT SAIL FRAME & WHIP.
- POND An area of stored water held back by a DAM or embankment, to ensure sufficient water is held for the running of the mill
- POST see MAIN POST.
- POT The section of the LADE which lies below the waterwheel.
- POUND Mill dam.
- RACE see HEAD RACE.
- RIND see RHYND.
- SCALES A weighing machine designed for weighing sacks of flour or grain. See also SCALEBEAM.
- SOKE see SOKE.
- SPINDLE see STONE SPINDLE.
- SPOUT The fall of water which drives the mill. (Scot.).
- STAFF see PAINT-STAFF.
- STEEP see LIGHTER STAFF (Scot.).
- SUIT see SOKE.
- TAIL see TAIL RACE.
- TIMMER A stout beam used in the mill as a support (Scot.).
- WAND The spindle put through the eye of a millstone to enable it to be rolled to the mill. (?)
- WHEEL poetic name for WATERWHEEL
- MILLED
MILLER
MILLER'S Treated by machinery. (esp.: smoothed by calendering rollers in a paper mill).
Person who operates a mill (Especially a grain mill).
- ARK see ARK.
- GLORY see SAIL POSITIONS(2).
- PRIDE see SAIL POSITIONS.
- SCALES see SCALEBEAM. See MILL SCALES.
- SPATULA An instrument with a broad steel blade, used for testing the quality of the grist or flour.
- THUMB A flattened thumb, said to be, associated with the miller testing the meal with his thumb.
- TOLL see TOLL.
- WAND see MILLER'S WILLOW.
- WILLOW A wooden spring used to tension the wooden shoe against the damsel or quant, usually made of Ash or Hazel.
see SOKE
- MILLING SOKE
MILLSTONE
MILLSTONE One of a pair of circular stones for grinding corn.
- CRANE A crane, pivoted between the stone floor & ceiling, used in conjunction with CALLIPERS & pins set into sockets in
RUNNER STONE, for lifting & turning stone over for DRESSING
- DRESSER see STONE DRESSER.
- FLOOR see STONE FLOOR.
- GRIT see MILLSTONE(3) PEAK.
- BRIDGE see BALANCE RHYND.
- CURBING Wooden segments screwed or nailed to the floor, fitting tightly to the skirt of a bedstone. May be finished outside as
a circle or octagon according to the shape of the tun casing.
- PINION see STONE NUT.
- MILLSTONES The stones in a mill used to break up and grind the GRAIN or other material A pair of millstones comprises the
BEDSTONE and upper or RUNNER STONE.
- (1) BURR Imported millstones, usually built up of shaped blocks of freshwater quartz (siliceo calcareous stone) quarried
in the Paris basin mainly near La Ferte sous Jouarre along the River Marne and at Epernon; set in cement or Plaster of
Paris and bound with metal bands, for grinding wheat to produce flour. Introduced to England in the C15th. Generally
about 4ft diameter and 1ft thick, weighing up to 18cwt. Very occasionally stones made from a single block of stone.
Valued as the stone for producing white flour. Made up into millstones in numerous places in Britain.
- (2) FRENCH BURR See MILLSTONE(1) BURR.
- (3) PEAK A one piece millstone quarried in the Peak district of Derbyshire and Yorkshire; geologically "millstone grit, a
coarse quartz-like sandstone". Cheaper than a BURR STONE. Usually used for animal feed. Loosely used to describe
similar stones. Also known as 'GREY STONES'.
- (4) COMPOSITION An artificial millstone with CARBORUNDUM, EMERY, crushed BURR or similar abrasive material
applied as a grinding face with a cement backing.
- (5) CULLIN Basalt stones (a blue/black lava) from the Eifel region of Germany exported via Cologne (from MAYEN in the
Rhineland) also known as COLOGNE, BLUE or DUTCH STONES.
- (6) CHERT A stone with a high silica content, used for grinding CALCINED FLINT. Hard varieties, used as pavers, are
obtained from N. Wales near Gronant & at Richmond Yorks. Softer varieties veined with limestone, used as RUNNERS,
from Derbyshire.
- There are other variations of millstones used for specific processes.
- (7) OPEN STONES course grained stones with a 'bubble' texture.
- (8) CLOSE STONES dense stones with few 'bubbles'
- MILLWRIGHT A craftsman with an intimate knowledge of mill equipment, its construction and installation. (Engineer, builder & repairer of
wind, water and other mills.)
- MILN, MILNE, MYLNE MILL (Scot.).
- MITRE WHEEL One of a pair of gear wheels of equal size, with 45 degree bevel, usually driven at right angles.
- MIXER A machine for mixing MEAL, GRAIN or other stock.
- MOLINOLOGIST One who studies mills.
- MOOD A billet of laminated steel for forging into blades
- MORTAR & PESTLE Simple grinding apparatus in which a receptacle (mortar) is used to hold grain, or other material, while it is crushed, or
powdered, by a club-shaped implement (pestle).
- MORTISE A hole, usually oblong or square, cut through a piece of wood into which a TENON is secured.
- MORTISE GEAR see MORTISE WHEEL.
- MORTISE WHEEL A GEAR, the rim of which is formed with, usually, oblong holes into which wooden COGS are fixed.

MORTISED WINDSHAFT Wooden windshaft with sail stocks mortised through it, also the brakewheel arms.

MOULCTURE-CORNE Fee taken in kind by the miller for grinding corn sent to his mill (term in 1633 doc.).

MOULIN PENDANT A mill with a waterwheel which is hung from a platform on which the hursting stands. The whole adjustable vertically according to the height of the river.

MOUND see MILL MOUND.

MOVING STAGE A mobile platform on wheels to give access to the sails from ground level. Also known as a CLOTHING TROLLEY.

MULE A spinning machine capable of producing a variety of weights and strengths of high quality yarn.

MULLIONS Timbers in the construction of a cap frame, usually tenoned into the headstock, and projecting forwards to carry the weather beam. Same as HORNS (Lincolnshire).

MULTIPLYING GEAR A set of pulley blocks or sheaves for a rope tackle.

MULTI-SAILED MILL A windmill having more than 4 sails.

MULTURE see TOLL.

MULTURE BOWL The receptacle used by the miller for measuring the TOLL; also known as a TOLL DISH.

MULTURE CAP wooden measure used by the miller to take his MULTURE (Scot.).

MULTURE CHEST A large box for storing grain or meal collected as a MULTURE.

MULTURE MEASURE see MULTURE BOWL.

MULTURE POCK A sack into which the MULTURE (TOLL) is put.

MULTURE RENT The amount of MULTURE payable to an estate mill. See TOLL.

MULTURE SHILLING The proportion of oat husks (or shilling) taken by the miller as his due.

NAFF see NAVE.

NAILBOURNE see WINTERBOURNE.

NAVE The central casting of a wheel holding axle and spokes. See also HUB.

NEB A two-wheeled timber bob for carting timber. Also known as a JIGGER.

NECK see NECK of WINDSHAFT.

NECK BEARING (1) The front main BEARING of a WINDSHAFT, resting on a BREAST BEAM.
(2) BEARING in the centre of a BEDSTONE.

NECK BOSS see NECK BRASS.

NECK BOX see NECK BEARING(2).

NECK BRASS The brass BEARING carrying the WINDSHAFT neck JOURNAL.
A brass NECK BEARING(1).

NECK JOURNAL see NECK BEARING.

NECK of STONE SPINDLE The upper JOURNAL of the STONE SPINDLE, where it passes through the EYE of the BEDSTONE.

NECK of WINDSHAFT The front JOURNAL bearing of the WINDSHAFT revolving in the NECK BEARING.

NECK STUDS Upright bars on the BREAST BEAM which hold the neck bearing in position. Also called WEATHER STUDS.

NEEDLE MILL A water-powered manufactory in which wire is used to make, polish and sharpen sewing needles and like items.

NETHER STONE see BED STONE.

NIB The domed protrusion (or extension) on the top of a STONE SPINDLE which engages with a dimple on the underside of the BRIDGE to locate and support a RUNNER STONE.

NICK-POINT Where a stream is constricted and the water velocity is increased.

NIP (1) The constricted space between the millstones.
(2) The point at which a driving belt meets a pulley.
(3) Smallest distance between rotating rollers.

NIPPLE The domed top of a stone spindle designed to locate in the dimple of the BRIDGE-BAR. Same as COCKHEAD (Kent).

NOGGIN Horizontal piece set between studding or roof rafters, to stiffen the framework.

NORIA WHEEL UNDERSHOT WATERWHEEL, for lifting water for irrigation by means of containers attached to periphery of the wheel.
Also known as PERSIAN WHEEL, WHEEL OF POTS or IRRIGATION WHEEL.

NORSE MILL see HORIZONTAL MILL.

NORWAY ENGINE An early term for the water-powered frame saw.

NOSE HELVE A TILT HAMMER in which the cams lift the HELVE at a point beyond the hammer head (c.f.: BELLY HELVE).

NOTCH BLOCK see MANY HEIGHT.

NUT A small driven COGWHEEL or GEAR WHEEL such as a STONE NUT.

NUT HEAD SCREW A coach screw.

OAT CRUSHER see OAT ROLLER.

OAT DUST The fine (by-product) dust resulting from milling oat kernels. See also SCREE DUST.

OAT ROLLER A machine with CAST IRON or STEEL rollers for crushing oats, but not grinding it.

OATS see GRAIN(2).

OAT SCREENINGS The rejects when cleaning oats before grinding. (Applies to oats before they are SHELLED.)

OCTAGON FRAME Octagonal frame under a curb. Same purpose as Hexagon frame.

OFFAL Inferior product of flour milling fed to livestock.

OGEE CAP see CAP.

OIL ENGINE An internal combustion engine, in which heat evaporates the (paraffin) oil before ignition.

OIL MILL A mill equipped with edge-runner stones and/or stamps for the extraction of vegetable oils.

OIL RING In a BEARING having an oil reservoir, a loose ring dipping into the oil rotates on the JOURNAL, lifting up oil to lubricate the bearing

ONION HEAD see COCK HEAD.

ONION JOINT Universal joint in a push rod, allowing rotation, perhaps lateral and transverse movement (e.g. STRIKING ROD in a windmill).

OPEN FRAMED SWEEPS A skeletal framed sail which is used where the mill is no longer used to give the appearance of authenticity.

OPEN POST MILL Post mill without a roundhouse to protect the trestle.

OPEN STONES see MILLSTONES.

OPEN TRESTLE POST MILL See OPEN POST MILL.

OUT OF HOUSE The operation of pushing the sails away from the body of the mill. See also INTO HOUSE.

OUT OF JACK The millstone is not running true - out of balance.

OUTER HEAD see HEADSTOCK.

OUTER WHEEL see WATERWHEEL.

OUTRIGGERS (1) Braces supporting the tail pole of a smock or tower mill.
(2) The joists beneath a cap stage.

OUTSHUT PANNIERS (old Lancs. term).

OUTSIDE RULE see HEMPLATH.

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| OUTSIDE WINDER | A tower or smock mill with the cap turned by a tail pole; known in Holland as BUITENKRUIER. |
| OUTSUCKEN | see SUCKEN (Scot.). |
| OVERDRIFT | RUNNER STONES driven from above by QUANTS. |
| OVERDRIFT MILLSTONES | see OVERDRIFT. |
| OVERDRIVEN | see OVERDRIFT. |
| OVERHUNG | A WHEEL, PULLEY etc., which is mounted towards the end of a SHAFT, which does not have a BEARING between it and the end of the shaft. |
| OVERSHOT | Where water is carried to the top of the WHEEL, discharging into BUCKETS on far side, turning it in the same direction as the flow along the TROUGH, utilising the weight of water to turn it. |
| OVERSPILL | see SPILLWAY. |
| OVERTAILS | Impurities removed from grain by sieving. They tail over the end of the sieve. Sometimes they will be the wanted and sometimes the unwanted product. |
| OX MILL | see GIN. |
| PACK THE NECK | Lubricating the neck bearing . |
| PACKING THE NECK | Setting, truing and greasing the three brasses forming the bearing or collar (in the centre of the bedstone) for the runner stone. |
| PADDLE | Metal or wooden plate, or bristle brush, fitted to edge of RUNNER STONE for sweeping the MEAL in the TUN to the MEAL EYE, and via the SPOUT to the bin below; also called a TAG or SWEEPER. |
| PADDLES | see FLOATS on a waterwheel. |
| PAINT STAFF | A wooden straight edge used for testing the faces of MILLSTONES & used with TIVER to mark the high spots when preparing the stone for DRESSING. Also known as WOOD PROOF or WHEAT STAFF. See also PROOF STAFF & RUDDING BAR. Often made of mahogany. |
| PAIR | Term used to describe capacity of a mill by reference to the number of pairs of MILLSTONES installed; for example, 'two pair mill', 'three pair mill' etc; See also RUN. |
| PALLET | Small piece of wood kept near the MEAL BIN for taking a sample of meal to check its texture. |
| PALTROK MILL | A wood-framed mill, found in the Netherlands, similar in outline to a SMOCK MILL, but often square in plan, where the whole mill is supported & wined near ground level on wheels or rollers, on a curb or low walls said to have been introduced in Holland at the end of the C16th. as a saw mill. |
| PAN | A cast iron housing for a BEDSTONE - late C19 th . |
| PAN MILL | A mill comprised of a metal, stone or wooden pan in which turns one or more EDGE RUNNERS to crush material. |
| PANDY MILL | A FULLING MILL (Welsh). |
| PANELS / PANES | Wrought iron strips let flush into a journal formed on a wooden shaft to take the wear. |
| PANNIERS | Extensions on NW. POSTMILL bodies. |
| PAPER MILL | A factory in which rags and other material are turned into pulp by processes including BEATERS, STAMPS or HOLLANDERS, and the subsequent making of the paper. The buildings may be characterised by the extensive drying lofts. |
| PARCELS | Iron or brass strips let into the surface of a wooden shaft to form a JOURNAL bearing to take the wear. |
| PARGET | To plaster up a wall or crevice with cement made of cow dung or lime (old Sussex/ E. Anglian). |
| PARISH MILL | A MILL owned and run by the Parish, especially before 1800, to benefit the poor. |
| PASTRY | A meal store, sometimes a boarded-off section in a mill (E. Anglian) (term also used by some millers referring to a flour dresser). |
| PATENT FLOUR | see FINEST FLOUR. |
| PATENT SAIL | A SHUTTERED self-regulating sail controlled by automatic STRIKING GEAR, patented in 1807 by William Cubitt of Norfolk, designed to achieve a fairly constant speed irrespective of the wind force. See STRIKING GEAR. |
| PATENTS | Finer parts of a straight flour made entirely from purified middlings (first produced by patented methods). |
| PATTERN | The full-sized wooden model used in a foundry to produce a CASTING. |
| PAWL | see CLICK. |
| PEAK STONE | see MILLSTONE(3). |
| PEARL BARLEY | Barley grains which have had their outer skin removed by attrition. Prepared by grinding barley between a single vertical grindstone moving fast and an outer slowly rotating perforated metal case, whereby the grains are rounded and polished. The whole of the husk is thus removed except that portion left in the furrow of the seed. See GRUBBE. |
| PECK | unit of volume = 2 gallons. |
| PECK | (1) see BILL. |
| PECKING | (2) a MEASURE of capacity for dry goods - (= 4 LIPPIES = 0.25 FIRLOT = 2 gallons (Scot.). |
| PECK LOAF | DRESSING (3). |
| PEGS | A loaf of bread weighing 17.5 lb. (A Peck of flour weighs 14 lb.) |
| PEG MILL | see COGS. |
| PELTON TURBINE | A POST MILL (Lancs). |
| PELTON WHEEL | see PELTON WHEEL. |
| PENSTOCK | A form of IMPULSE turbine developed in America in the second half of the C19th. Most suited to situations where a very high head of water can be used to produce a high velocity jet (or jets) which is directed on to cup-shaped buckets around the rim of the wheel. To efficiently convert the kinetic energy of the water to mechanical power, the rim of the wheel must move at approximately half the velocity of the water. |
| PENTHOUSE DOOR | A SLUICE gate controlling the flow of water onto the WHEEL or LAUNDER or the tube conveying water to the TURBINE. |
| PENTROUGH | The door in the cap of a TOWER or SMOCK MILL allowing access to the exterior. |
| PENT CAP | A tank, or channel of wood, metal or mineral, with a penstock, feeding water to an overshot, pitchback or high-breast wheel. |
| PENT HOUSE | see CAP (SHAPES) - PENT. |
| PERICARP | Pointed turret on a fan stage of a smock or tower mill, or a particular style of wheelhouse over a waterwheel. |
| PERPENDICULAR AXLE | The layer surrounding the inner grain. |
| PEPPER POT | see UPRIGHT SHAFT (old term). |
| PERSIAN WHEEL | see CAP (shapes). |
| PESTLE AND MORTAR | see NORIA. |
| PETTICOAT | see MORTAR AND PESTLE. |
| PICK | see SKIRT. |
| PIERS | A pointed mill bill used for dressing stones, particularly those for grinding animal feed. Used mounted in a thrift. See also PRITCHELL. |
| PIGS | Brick or stone supports for CROSSTREES of a POST MILL TRESTLE. |
| | (1) Blocks of cast iron set into the underside of a cap frame to bear on a DEAD-CURB. (Lincolnshire). |

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| | (2) Lumps of CAST IRON which have solidified, into grooves in the sand floor in front of the smelting furnace. The grooves are normally arranged in the form of a main channel from which branched numerous side channels for the pigs. The main channel produced the SOW. |
| PIG STONES | see MILLSTONES(3) PEAK. |
| PILLOW BLOCK | The block supporting a BEARING, more especially those supporting the NECK BEARING resting on the BREAST BEAM. |
| PIN GEAR | A TRUNDLE WHEEL. |
| PINCH BAR | see CROW BAR. |
| PINCHING SCREWS | Set screws threaded into the forward wall of a CANISTER BOX which bear on a dimpled iron plate within, firmly gripping the stock in place. As used in Sussex. Could also be BRIDGING SCREWS. |
| PINION | The smaller of a pair of GEAR wheels. See NUT. See LANTERN PINION. |
| PINTLE AND POT | A THRUST BEARING |
| PINTLE | The projecting piece of iron from the end of a SHAFT that runs in a BEARING. |
| PIT GEAR | see PIT WHEEL. |
| PIT WHEEL | (1) In a WATERMILL the primary GEAR WHEEL mounted on the inner end of the WHEEL SHAFT, often in or partly in, a pit in the mill floor. (2) In a DRAINAGE MILL the vertical DRIVEN GEAR WHEEL mounted on the inner end of the SCOOP WHEEL SHAFT, usually in or partly in a pit, which takes its drive from the CROWN WHEEL at the base of the UPRIGHT SHAFT. |
| PITCH | (1) see ANGLE OF WEATHER. (2) The distance between faces of successive TEETH of a GEAR WHEEL, measured at the PITCH CIRCLE. (3) A black tenacious substance, obtained by the distillation of tar or turpentine, applied hot to the outside of a mill to weather-proof it. |
| PITCH CIRCLE | Where two GEARWHEELS are running together, each is considered to have an imaginary circle, these circles just touch each other at the point of nearest approach of the wheels. The diameters of these Pitch Circles are such that if the wheels had no TEETH and the pitch circles were pressed together so that they did not slip, the relative motions of the two wheels would be the same as with toothed wheels. Pitch Circles are usually marked out on the ends of wooden COGS when laying out the shapes and positions for their working faces. |
| PITCHBACK WHEEL | A WATERWHEEL where the water is delivered at the buckets at the top of the wheel on the same side as the LAUNDER. Usually the bottom of the wheel rotates in the same direction as the water in the tailrace. |
| PIVOT | An old term for a STONE SPINDLE. |
| PIVOTAL PLANE | The plane in which the millstone is balanced on the SPINDLE. |
| PLAIN SAILS | see COMMON SAILS. |
| PLANING MILL | Mill driving rotary planing machines to produce a smooth finish on wood. |
| PLANK | A long piece of timber, wider than it is thick. |
| PLANKED SOLID | A wooden COG WHEEL or BELT PULLEY where either the sides are boarded inside the rim or the cants extend from the rim to the centre. A gear wheel formed of solid boards. |
| PLANSICHTER | see PLANSIFTER. |
| PLANSIFTER | A machine equipped with SIEVES moving horizontally with either a linear or circular motion, for DRESSING the flour. |
| PLASTER MILL | see WHITING MILL. |
| PLATE MILL | A machine for grinding cattle food using vertical abrasive metal plates; used mainly on farms. |
| PLATFORM | see STAGE. |
| PLASH BOARDS | see SOLE BOARDS (Scot.). |
| PLASTER OF PARIS | A soft white cement made from gypsum and used for bonding together the segments of burr in a millstone. |
| PLATING HAMMER | A TILT HAMMER used for drawing out steel blades. |
| PLIM | To swell cogs or wedges with water in order to counter the loosening effect of vibration. (a bad practice, not to be encouraged). |
| PLOUGH | Boards fitted to EDGE MILLS to direct material back beneath the stones for further CRUSHING. |
| PLUMB (adj.) | Vertical (as in "out of plumb"). |
| PLUMB BOB | Used to check the bedstone is in the horizontal plane. |
| PLUMMER BLOCK | An iron casting containing a BEARING BRASS to support a rotating SHAFT. |
| PLUMPING MILL | A corn crushing mill consisting of a MORTAR in which a PESTLE is repeatedly forcibly dropped to crush or crudely grind grain. (1) The PESTLE may be manually operated. (2) see SAPLING MILL. (3) The PESTLE may also be water powered. In this case, the PESTLE is attached to one end of a SWEEP (3), to the other end of which an open-topped box is attached. Water pouring into the box weighs it down, lifting the pestle (after the fashion of a see-saw) until the water tips out of the box. The pestle then descends into the mortar to crush the grain, and awaits the box refilling with water to repeat the cycle. |
| POINT | The tip of a windmill sail. |
| POINTING LINES | Control lines attached to edges of SAIL CLOTHS, allowing the miller to FURL or spread sail from the ground or REEFING STAGE below. |
| POLDER MILL | Dutch mill used for drainage of a polder. |
| POLL | see POLL END. |
| POLLARDS | see THIRDS and MIDDLEINGS. |
| POLL END | The end of a WINDSHAFT, which usually has two apertures set at right angles, through which the STOCKS are passed and secured by wedges. With a wooden windshaft, the apertures are mortised through the end of the shaft. Splitting of the end is prevented by fitting GRAPPLING IRONS. Wooden shafts often had their rotten ends cut off and replaced by a CAST-IRON combined Poll End and NECK JOURNAL which was secured in the same way as a CROSS-TAILED GUDGEON to the end of the WINDSHAFT remaining inside the mill. Cast-iron windshafts were usually cast in one piece complete with Poll End, though jointed windshafts are occasionally found. Also known as a CANISTER. |
| POLL WEDGES | Wedges for securing the sail STOCKS in the POLL END. |
| POLTROK MILL | see PALTROK MILL. |
| PONCELET WHEEL | An improved type of lightly-constructed undershot waterwheel designed to run fast, fitted with metal buckets curved to a specific pattern; the water is channelled below an inclined sluice; invented by General J V Poncelet in 1824. |
| POND BAY | Dam or embankment of the MILLPOND. |
| POPPET | A framework supporting pulleys used in hoisting. |
| PORTERS LOAD | see SACK OF FLOUR. |
| POSSER | Used for filling sacks. A suspended lever carries a wooden or metal ring with sack hooks at one end. Has sufficient leverage to enable the sack to be shaken manually. Steam mills had power driven-possers. |

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| POST | The large upright timber post usually supported by four or more diagonal quarterbars on top of which a POST MILL BODY revolves. Sometimes called a MAIN POST or MILL POST. |
| POST MILL | The earliest form of European mill, the body of which, containing the machinery & carrying the sails, is turned into the wind about a upright timber post. |
| POT | A GUDGEON which houses the lower end of a SPINDLE. |
| POT BARLEY | see PEARL BARLEY. |
| POTTERS MILL | For grinding marble, stone and bone materials for use in ceramic industries. Also called FLINT MILL. |
| POUND | (1) A body of water confined by a DAM, as in a MILLPOND. (2) The water in a canal impounded behind a lock. (3) An enclosure for holding stray or trespassing animals. |
| POWDER MILL | see GUNPOWDER MILL. |
| POWER MILL | A mill powered by steam, oil, gas or electricity. |
| POWER TRAIN | The system of gears, pulleys, shafts and belts designed to transmit the power of the waterwheel, turbine or steam engine to various pieces of machinery. |
| PRENTICE FURROW | The shorter FURROW which lies next to the JOURNEYMAN FURROW on a MILLSTONE. |
| PRESSURE SAILS | A type of PATENT SAIL having one shutter per bay and narrowing towards the tip (term used by Lancashire millwrights). See PATENT SAILS. |
| PRICK POST | The central vertical stud in the breast of a post mill. |
| PRITCHELL | A pointed chisel-like tool used with a hammer for dressing the lands of a millstone. See also PICK. |
| PRODUCER GAS | Gas produced on site in a producer plant by partial combustion of solid fuel. Predominantly carbon monoxide and nitrogen, it is usually used in gas engines. |
| PROOF STAFF | A proven cast-iron, steel or slate bar, ground perfectly flat, usually housed in a wooden case, used to check the working face of the PAINT STAFF. |
| PROVER | see PROOF STAFF. |
| PROVENDER MILL | A MILL in which animal foodstuffs are exclusively prepared. |
| PROW POST | see PRICK POST. |
| PUDLOCKS | Cantilevered horizontal supports for the gallery of a smock or tower mill. |
| PUG MILL | A machine for mixing and homogenising clay in preparation for shaping it into bricks, tiles or pottery. Animal, water or wind powered in the past. |
| PULLEY | see BELT PULLEY. |
| PULLEY BLOCK | see BLOCK. |
| PULL-ROD STRIKING GEAR | Patent Sail mechanism where the striking rod pulls rearward to close the shutters. |
| PULP MILL | A MILL which produces pulp for making paper. The raw material often being wood. |
| PULSE | Edible seeds of leguminous plants such as peas and beans. |
| PUMP | A device for raising a liquid or forcing it along a pipe or compressing a gas. |
| PUMPING MILL | A marsh windmill with reciprocating pump instead of a SCOOP WHEEL. |
| PUMP WHEEL | A gear wheel, usually a bevel, on the same vertical shaft as a turbine pump impeller in a drainage mill (Norfolk). |
| PUNCHEONS | The horizontal timbers bracing the cap circle to the sheers and where fitted, supporting the GALLERY. |
| PURCHASE SHAFT | Shaft carrying purchase wheel for patent sail control. |
| PURCHASE WHEEL | Wheel with a groove or grooves to take a chain which hangs down for manual operation. Chain may be attached or adheres to the wheel by friction (e.g. to operate patent shutters gear). |
| PURIFIER | C19th device to separate similar-sized particles of flour from bran. The product falls through a horizontal air stream & is graded according to the density of the various components. |
| PURLIN | Horizontal member supporting rafters in a roof frame. |
| PUSH ROD STRIKING GEAR | Patent Sail mechanism where the striking rod pushes forward to close the shutters. |
| PYRAMID | see TRESTLE. |
| QUADRANT RING GEAR | Part of a ring gear, See RING GEAR. |
| QUANT | Vertical iron spindle carrying the STONE NUT to drive the RUNNER STONE from above, which is 4-sided or round with ribs cast on to act as damsel. (OVERDRIFT) |
| QUANT BEARING | see GLUT BOX. |
| QUANT DRIVE | see OVERDRIVEN. |
| QUARTER (of smock mill) | One of the sides of a smock mill. |
| QUARTER BARS | Diagonal timbers from the end of the CROSS TREE to support the POST of a POST MILL and taking the weight of the BUCK. |
| | DRESS see HARP. See DRESS(2) QUARTER DRESS. |
| | ELLIPTIC SPRING see SPRING (4) QUARTER ELLIPTIC. |
| | LOAF Four pounds (the true quarter is 4lb 5.5ozs). |
| | POSTS The cant posts of a smock mill. (Kent). |
| | SPARS Quarter bars of a post mill. (Suffolk). |
| | THE MILL see QUARTERING. |
| QUARTERING | (1) The action of turning the mill broadside to the wind, in order to slow it down. (to quarter the mill). (2) see TRANSOM. (3) The framing of one side of a smock mill (Kent). |
| QUARTERS | The HARPS on a dressed MILLSTONE. |
| QUERN | A primitive hand mill for grinding corn. (1).BEEHIVE QUERN. Consisting of male and female coned stones the cones forming the grinding surfaces. The upper (female) stone incorporates a small hopper for the grain. (Early form of quern, name derives from its shape) (2).ROTARY QUERN, A pair of small millstones turned by hand using a handle. Introduced c400 BC. (3).SADDLE QUERN. Primitive hand quern employing reciprocating motion. |
| QUILL | (1) Used as a pen, with TIVER as the "ink" to mark out the position of FURROWS. See FURROWING STRIPS. (2) Used as a sensitive finger at the end of a JACKSTAFF. |
| QUILL STICK | see JACK STAFF. |
| QUOINS | Stones or bricks forming the external angles of buildings, doorways windows etc. |
| RABBET | Rebate - a long rectangular sectional recess cut in the edge of a member. |
| RACE | The channel of water to and from the wheel, or the channel in which an impulse wheel is fixed. See HEADRACE & TAILRACE. |
| RATCHET WHEEL | (1) A toothed WHEEL which operates by a ratchet system & moves the baulk of timber towards the blades of a sawmill. (2) A toothed WHEEL engaged by a CLICK or DETENT, which prevents the wheel from turning in one direction. |
| RACK | (1) The bar or rod toothed to engage with a pinion or worm. |

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| RACK AND PINION | (2) Specifically the toothed or cogged track fixed around the curb in windmills equipped with mechanical winding gear. A means of converting rotary (PINION) to linear (RACK) motion. The PINION engages with the RACK and is used to raise or lower sluice gates, raise STONE NUTS out of gear, or operate windmill patent STRIKING GEAR. |
| RADDLE | see TIVER. |
| RADIAL ARMS | see COMPASS ARMS. |
| RAFTERS | The roof beams from eaves to ridge. |
| RAG MILL | A mill used for shredding old cloth etc, for paper making. |
| RAG PUMP | see CHAIN PUMP. |
| RAISING SCREWS | see SCREW JACKS. |
| RAMS | (1) see STAMPS. (2) see HYDRAULIC RAM. |
| RANDANS | Bran ground as fine as flour, probably from the second sifting (dialect word Surrey, early C19). |
| RAP | A protective block of hard wood, bone, metal or stone on the side of the shoe to take the knock of the quant or damsel. |
| RATTLER | see DAMSEL. |
| REACTION | The principle whereby energy may be obtained from water in some TURBINES and some HORIZONTAL waterwheel which are fitted with curved floats, whereby the force produced by changing the direction of the water-flow as it passes, is utilised to turn the wheel. This can be a highly-efficient process. |
| REAR SILL | see SILL. |
| RECOIL BLOCK | A resilient block mounted under the tail of a TILT HAMMER shaft to limit the length of the stroke; sometimes bedded on sacking, straw or compressed heather. |
| REDDLE | see TIVER also RADDLE. |
| RED OXIDE | see TIVER. |
| RED STAFF | see PAINT STAFF |
| RED STONE | Type of millstone (Red Sandstone) used in N.W. England. |
| REDUCING | The final stages in roller milling, in which smooth rolls reduce the endosperm to white flour. |
| REDUCTION | The process of milling grain into flour and its by-products. |
| REDUCTION ROLLS | Smooth ROLLERS for reducing intermediate products (e.g. semolina) to flour. Identified by letters, usually A-M. |
| REED | A long key engaging in a splined shaft. |
| REEF | Rolling up or furling, some of the cloth of a COMMON SAIL to reduce the working surface. |
| REEFING STAGE | A projecting platform around tall tower or smock mills, providing access as appropriate to the BRAKE ROPE, tips of the SAILS, TAIL POLE and STRIKING CHAIN. also known as STAGE. |
| REEFING TACKLE | PATENT SAIL mechanism. |
| REEL | (1) The wooden cylinder frame of the bolter, or other flour dresser, which is covered with the silks. (2) An inclined rotary separator for cleaning grain and also for dressing flour from meal. |
| REEL SEPARATOR | see SEPARATOR. |
| REGULATING SAILS | see PATENT SAIL. |
| REGULATOR | see GOVERNOR. |
| REIN IRONS | see BRIDLE IRONS. |
| RELIEVED FACES | Recesses on the faces of an iron shaft - "cruciform shaft". e.g. Wheelshaft. |
| RETTING | The process of helping to separate the woody from the fibrous parts of hemp or flax, by soaking them in water. |
| RETURNS | Stock which is sent back for retreatment to the same machine. |
| RHIND | see RHYND. |
| RHINE STONES | see CULLIN STONES. |
| RHYND | Device set across eye of the runner to support the stone and take the drive. Also known as a CROSS, RIND, BRIDGE, RYND. See GIMBAL and SILE. (1) BALANCE RHYND A two-armed, flexible support for a RUNNER STONE consisting of an iron bar or BRIDGE secured across the EYE of the stone. A dimple in the underside of the bridge fits over the COCK HEAD of the STONE SPINDLE and serves to centre the stone on the spindle. A shaped iron MACE fits on the spindle to engage the bar and rotate the stone. (2) FIXED RHYND A three or four-armed cross-piece which holds the RUNNER STONE firmly above the BEDSTONE. (3) STIFF RHYNDA collar fitted to the top end of a STONE SPINDLE which has three or four arms or spokes which fit into sockets cut round the EYE of the RUNNER STONE to carry the weight of the stone and control the gap between the grinding faces. |
| RIBS (of dresser) | The rotating cylinder framing of a bolter or the stationary framing supporting the mesh in a WIRE MACHINE. |
| RIGGER | (1) A device using chains or straps to disengage the STONE NUTS from the GREAT SPUR WHEEL. (2) Pivoting iron levers, with forked ends, used to lift stone nuts out of gear. See also FORKED LEVER (3) see WOOD RIGGER. |
| RIGHT-HAND DRESS | The furrow pattern of a millstone which rotates clockwise as seen from above. See RIGHT-HANDED MILLSTONES. See also LEFT-HAND DRESS. |
| RIGHT-HANDED FANTAIL | A fantail, the fan of which when seen by a viewer having his back to the wind, turns clockwise. The wind usually operates the fantail when blowing obliquely on to it. The fan will reverse direction when the wind blows on to its opposite face, but will still be seen to turn clockwise by a viewer with his back to the wind. |
| RIGHT-HANDED MILLSTONES | Millstones, the runner stone of which is seen (in a conventional windmill or watermill layout) to rotate clockwise when seen from above. With millstones DRESSED with HARP pattern furrows, a MASTER FURROW, when viewed from one edge of the stone, passes from the right-hand side of the EYE (DRAFT CIRCLE) to the edge of the stone towards the viewer. The minor furrows lie parallel to it on its right hand side. With SICKLE DRESS and other variants of curved furrows, the furrows similarly pass generally from the right hand side of the draft circle towards the viewer. Both stones of the pair usually carry an identical Dress. |
| RIGHT-HANDED WINDMILL | A windmill, the sails of which when seen by a viewer having his back to the wind, turn anti-clockwise. |
| RIGOUR | A double flanged BELT PULLEY -used for driving a sack hoist. |
| RIM | The outer part of a wheel. |
| RIMMER | see HOOP(2). |
| RIND | see RHYND (Scot.). |
| RINER STONE | Runner stone (Scot.). |
| RING | The space between the MILLSTONES and the TUN. |
| RING THE MILL | (1). to provide the first grain for grinding after the stones have been lifted. (2). To collect the meal which has fallen into the RING - regarded as the millers perk. |
| RING AND SCREW | see JACKING RING. |

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| RING GEAR | A geared ring fixed to the SHROUDS or ARMS of a metal waterwheel from which the drive is taken. See RING GEARING. |
| RING GEARING | The use of a PINION to take a direct drive from a toothed ring on the SHROUDS or ARMS of a metal WATERWHEEL. This produces a higher speed with less torque, usually used on large diameter wheels. |
| RINGING | TUN (N.Yorks). |
| RING OILED BEARING | A bearing in which oil is lifted into the bearing by an OIL RING, loosely fitted over the JOURNAL and which dips into the oil reservoir below. |
| RIPARIAN RIGHTS | The right of a landowner to use water from a stream flowing through his property, but the water must be returned to the stream for the benefit of the next landowner. The right may include fishing, navigation, etc. |
| RIVER MILL | A watermill where the wheel is undershot and set directly in the river, not being served by a head or tail race |
| ROCKING LEVER | A lever, to which a chain is attached, for controlling the STRIKING GEAR of WINDMILL PATENT or ROLLER REEFING SAILS. |
| RODE BALK | see BREAST BEAM (Lincolnshire term, apparently derived from Dutch). |
| ROLLER | (1) A cast-iron roller used, with others, to support a cap on a SHOT CURB or the body of a COMPOSITE MILL or PALTRON MILL. (2) Used for crushing/grinding grain See ROLLER MILL and OAT CRUSHER. |
| ROLLER BEARING | A bearing where the SHAFT is carried by rollers, usually set in a cage. |
| ROLLER BLIND SAIL | see ROLLER REEFING SAIL. |
| ROLLER MAN | An employee in a roller mill, responsible for the operation of the rollers. |
| ROLLER MILL | (1) A FLOUR MILL where ROLLER MILLING is carried out. (2) A machine with grooved or smooth steel rollers for grinding grain. |
| ROLLER MILLING | A C19th development (Budapest 1839. Britain 1880) in which the grain is gradually reduced to flour by being repeatedly passed between pairs of rollers. The rollers are set progressively closer together and sieving takes place between each pair, to separate flour from bran and germ. The rollers rotate with different surface speeds to facilitate the grinding process. Rollers which deal with whole grain & coarser particles are fluted to enable them to operate effectively. Some rollers may employ water cooling to limit the temperature rise of the product. See HOLDING ROLL. |
| ROLLER REEFING SAILS | SAILS fitted with canvas strips wound on rollers in place of SHUTTERS. They are connected by webbing straps called LISTINGS. They are not automatic in action. |
| ROLLING BAY | Weir with steps on face giving a wave or roller effect to the water running down. (Dorset term.) |
| ROLLING MILL | A water-powered mill in which red-hot billets of metal are rolled between pairs of rollers to produce lengths of metal having a cross section determined by the shapes of grooves on the rollers e.g. round bars or angle-iron. |
| ROMAN CEMENT MILL | A mill used for crushing "doggers" for making hydraulic cement. |
| ROOF RIDGE | Top ridge of a POST MILL or pent-roofed mill CAP. |
| ROOL | An old term for a ROLLER (often occurs in inventories). |
| ROPE | A stout thick cord made by twisting strands of HEMP, FLAX, hide or wire into one continuous piece. |
| ROPE DRIVE | A system of power transmission where ROPES run on grooved PULLEYS. Ropes may be of cotton, hemp or manila, lubricated with plumbago and TALLOW. Wire ropes may be used. |
| ROPE PULLEY | (1) see BLOCK. (2) A WHEEL with one or more grooves, one for each endless ROPE, used to transmit power from one SHAFT to another, as alternative to using a BELT PULLEY. See ROPE DRIVE. |
| ROPE SADDLES | Two grooved fittings on the ridge of a cap or post mill roof to act as guides for ropes supporting a repair cradle. (Suffolk). |
| ROPE SHOES | Two shoes on the roof of a POST MILL over which to pass ropes, to gain access for maintenance. |
| ROPE SLING | see SLING. |
| ROTARY QUERN | see QUERN, ROTARY. |
| ROTARY SIFTER | see BRUSH SIFTER. |
| ROUND BEAM | A wooden WINDSHAFT. |
| ROUND HOUSE (post mill) | Circular or faceted building enclosing & protecting the substructure of a post mill & providing storage. Normally of no structural significance, but at some northern mills where the cross tree lengths are too short to achieve stability in gale force winds, the top wall of the ROUND-HOUSE has a CURB on which wheels may run. |
| ROUND HOUSE (tower mill) | A building built round the outside of the lower floors of a tower mill. |
| ROUND HOUSE MILL | North-West Essex term used to describe a post mill (found in sale notices). |
| ROUNDEL | The brick or stone base of a smock mill. |
| ROUNDS | The STAVES in a Lantern Gear. |
| ROW, ROWHEAD | Convex part of the mill trough which directs the water from the lade onto the wheel (Scot.). |
| RUB STONES | see RUBBING BURR. |
| RUBBING BURR | A small piece of French Burr used to rub down faces of millstones, to remove sharp spots before stone is STAFFED. |
| RUBBING STRAKES | Wooden strakes fitted to stone or brick walls, to protect the wall from being rubbed away or damaged. |
| RUBBLINGS | Possibly a BIST. Possibly associated with TIVER. A term used in listing stone dressing equipment. |
| RUDDING BAR | see PAINT STAFF (N.E.Yorks.). |
| RUDDLE | see TIVER. |
| RULE OF THUMB | Phrase derived from old-fashioned way of testing the quality of the grind, between the miller's thumb and first finger. See MILLER'S THUMB. |
| RUN (of stones) | American term for a single pair of MILLSTONES, used to describe the capacity of a mill See PAIR of STONES. |
| RUNGS | (1) An old term for floats or paddles on a waterwheel. (2) In windmills, the transverse iron rod carrying the sail cloths at the HEEL of the SAILS. (3) see STAVES. |
| RUNNER | (1) The rotating element in a WATER TURBINE. (2) see RUNNER STONE. |
| RUNNER STONE | The upper revolving stone of a pair of millstones. A 4 foot-diameter stone revolves at about 120 r.p.m. when grinding (outer edge of the stone is moving at about 18mph) also known as a LOOPER, UPPER STONE. |
| RUNNING BALANCE | The RUNNER STONE is in running balance if the weight distribution within it is such that when the TENTERING GEAR is used to raise the stone out of contact with the BEDSTONE, the stone lifts with an even gap between the stones when the stone is running. A stone may be in STATIC BALANCE but not in Running Balance. Also known as DYNAMIC BALANCE. |
| RUNNING STONE | see RUNNER STONE. |
| RUNNING WET | A pit wheel which is running in water or is being sprayed with water. |
| RUNWAY | The bed of a waterwheel pit. |
| RUSSIAN TALLOW | see TALLOW. |
| RYND | see RHYND. |

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| S-CLAMPS | "S" shaped plates used in conjunction with tie rods to strengthen a building. Other shapes are also used. |
| SACK | A hessian bag to contain grain or milled products. |
| SACK (of flour) | 280 pounds = Twenty stone = 2.5 cwt. = British standard SACK of flour. |
| SACK BALANCE | see BEAM SCALES. |
| SACK BOY | see SACK JACK. |
| SACK BOLLARD | see BOLLARD(1). |
| SACK BRAND | Used for marking the miller's sacks, usually with pitch, using a stencil or an implement similar to a branding iron. |
| SACK CHAIN | The chain used for hoisting sacks. |
| SACK FLAPS | see SACK TRAPS. |
| SACK FLOOR | A special storage area for meal or grain in a mill, In a watermill, often on the attic floor. |
| SACK HOIST | A chain or rope mechanism for hoisting sacks at or within a mill. In a CORN MILL, usually for taking GRAIN up to the BIN FLOOR. |
| SACK JACK | A bar suspended on a cord, with hooks for holding the mouth of a sack open. |
| SACK JIGGER | see SACK JOGGER |
| SACK JOGGER | A lever device used to knock a suspended sack on the floor to shake down the contents while it is being filled. See also POSSER. |
| SACK POSSER | see POSSER. |
| SACK ROPE | see SACK CHAIN. |
| SACK SCALES | see BEAM SCALES. |
| SACK SLIDE | Wooden slide down which full sacks may be lowered to a cart etc. (In Essex commonly found on left side of ladder or steps of a POST MILL.) Spiral metal slides are found in late C19 industrial mills. |
| SACK TRAPS | Sets of hinged twin trap doors in the floor, set vertically above each other, with the SACK HOIST chain passing up between them. The trap doors lift as sacks of GRAIN press up from below and fall shut by gravity when the sack has passed through. Also known as a HATCH. |
| SACK TROLLEY | A two-wheeled trolley with one or two handles, sometimes curved, and having an iron foot to lift and hold a sack while it is being moved" |
| SADDLE | see STONE SADDLE. |
| SADDLE QUERN | see QUERN SADDLE. |
| SADDLE STONE MILL | see QUERN SADDLE. |
| SADDLE TREES | A pair of wooden guides on the roof of a post mill for ropes to suspend a cradle for access to paint and repair. |
| SADDLE WEDGE | see STONE WEDGE. |
| SAFETY FLANGES | A coupling with flanges that extend over the bolts to keep them out of harm's way. |
| SAIL BACK | Northern term for timber support for sails into which the SAIL BARS are morticed and which is strapped and bolted directly to the arms of an IRON CROSS (instead of a POLL END) at the outer end of the windshaft. Now often superseded by a combination of STOCK & WHIP BACKS. See SAIL BACK. |
| SAIL BARS | The transverse members of a sail frame mortised through WHIPS or SAIL BACKS to "carry cloth sails or shutters". |
| SAIL BAY | see BAY(1). |
| SAIL BOX | see POLL END. |
| SAIL CLAMPS | see CLAMPS. |
| SAIL CLOTH | see COMMON SAILS. |
| SAIL CLOTH SETTINGS | see COMMON SAILS. |
| SAIL CROME | A long handled crook, used to pull down a SAIL for REEFING etc. |
| SAIL FRAME | (1) The wooden framework of a COMMON SAIL which supports the SAIL CLOTH. (2) The SAIL framework which supports the SHUTTERS. |
| SAIL(ing) IN | To close the shutters. See SAIL OUT. |
| SAIL LEVER | see LEVERS. |
| SAIL(ing) OUT | To open the shutters. See SAIL IN. |
| SAIL POSITIONS | (1) St Andrews Cross - normal rest position. (2) St George's Cross - brief rest position, also known as MILLER'S GLORY or MILLER'S PRIDE. (3) Mourning - lower sail set slightly to right; viewed from in front of the mill (Dutch term). (4) Celebration - lower sail set slightly to left; when viewed from in front of the mill (Dutch term). |
| SAIL RODS | see SHUTTER BARS. |
| SAIL ROPES | see POINTING LINES. |
| SAIL SHUTTER | see SHUTTER. |
| SAILS | The revolving arms of a WINDMILL which are secured to the forward end of the WINDSHAFT, and are turned by wind to provide the power to drive the machinery. See COMMON, SPRING and PATENT SAILS, ROLLER REEFING, HORIZONTAL MILL and JIB SAILS. Known as SWEEPS in Kent & Sussex. |
| SAILSTOCKS | see STOCKS. |
| SAINT ANDREW'S CROSS | see SAIL POSITIONS. |
| SALLE | A room or area in a paper mill where paper was sorted into its various qualities and quantities |
| SALTKVARN | Scandinavian term for the HORIZONTAL MILL. |
| SAMSON HEAD | An iron casting strengthening the bearing instead of wood-to-wood contact. Usually (but not always) they are later than the mill. Often used at the main bearing for the CROWN TREE at the head of the POST, carrying the body of the post mill. |
| SAMSON POST | A stout vertical wooden post supporting a floor beam remote from the wall framing. |
| SAPLING MILL | A PLUMPING MILL(2) (pestle and mortar) in which a sapling (small tree) is bent over and attached to the pestle, acting as a spring, to assist the operator in lifting it. This eased the manual operation of the pestle. |
| SASH MILL | Mill for making window and door frames in which panes of glass are set. |
| SAW BLADES | The cutting blades operated by the CRANKSHAFT and CONNECTING RODS in a SAWMILL for cutting baulk timber. |
| SAW FRAMES | The reciprocating wooden frame in a SAWMILL which carries the saw blades. |
| SAW MILL | A wind or water mill which is used to drive saws and perhaps other woodworking machinery. |
| SAWING FLOOR | The floor in a SAWMILL where the sawing operation is carried out. |
| SCALE BEAM | see BEAM SCALES. |
| SCALES | see BEAM SCALES. |
| SCALP | To sift. Sift off the coarsest portion of the grind. Remove foreign matter from the grain before grinding. |
| SCALPER | (1) A machine with a rotating reel for removing dirt and small seeds from wheat. (2) The sieve after the first break rollers in a ROLLER MILL. |
| SCANTLING | A measured size of timber, dimensions of the cross section, a narrow size piece of timber (less than a beam in cross section, i.e. less than 5 x 5 inches derived from slabbing a whole tree trunk and used for rafters, joists etc.). |
| SCARFED JOINT | Overlapping joint in a long timber. |

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| SCOOP | A broad wooden shovel (old Sussex Term) Also known as a BARN SCOOP. |
| SCOOP WHEEL | A DRIVEN, usually narrow, waterwheel with FLOATS set at an angle to the radius, used to lift or "scoop" water to a higher level for land drainage purposes. Also called a DASH WHEEL. |
| SCOOP WHEEL SHAFT | In a DRAINAGE MILL, the shaft which carries the scoop wheel. |
| SCOTCH WEDGE | see STONE WEDGE. |
| SCOURING | Removal of grease and oil from cloth. See FULLING. |
| SCRATCH DIAL | A sundial scratched on wood or stone. |
| SCRATCHING | see CRACKING. |
| SCRATCH ROLLS | Finely-fluted rollers which remove bran fragments from floury middlings. Usually identified in mill diagrams as X & Y. |
| SCREE DUST | Dust from milling oat kernels, slightly coarser than OAT DUST. |
| SCREEN | see DEBRIS GRILL. |
| SCREENER | A machine similar to a dresser with only one grade of wire gauze, which brushes dust from grain prior to grinding. Used in place of or after a SEPARATOR |
| SCREW AND RING | see JACKING RING. |
| SCREW CONVEYOR | see CREEPER. See AUGER. |
| SCREW DOWN BRAKE | see BRAKE SCREW |
| SCREW JACK | (1) Used for heavy lifting operations. Early versions had two threaded wooden screws set between stout wooden blocks; the screws were turned by a lever inserted into holes in the screw. (2) A screw mechanism for lifting a stone nut out of gear. see HACKLE SCREWS. |
| SCREW PINS | see ARCHIMEDEAN SCREW. |
| SCREW WORM | see ARCHIMEDEAN SCREW. |
| SCRIBBLING | A preliminary carding or combing process employed in the preparation of fibres prior to spinning. |
| SCRIBBLING MILL | A TEXTILE MILL in which wool or cotton fibres are initially and coarsely combed to straighten them. One of the several processes to prepare the fibre for spinning. |
| SCRIBE | A curved steel marker used in fitting new cogs. |
| SCRIER | see JOG SCRY. |
| SCROLL | see FLAKE BUSTER. |
| SCRY | see JOG SCRY. |
| SCUPPIT | A wooden shovel used by millers (Suffolk term). |
| SCUTCHING MILL | A TEXTILE MILL in which the "retted" stems of the linseed plant are beaten to release the fibrous material, flax. |
| SCUTTLE CANISTER | A POLL END with extended rear walls to present an extended surface to take the pressure of the STOCKS. |
| SECONDARY FURROWS | Shorter FURROWS running parallel to MASTER FURROWS on MILLSTONES which are QUARTER DRESSED. See JOURNEYMAN, PRENTICE and FLY FURROWS. |
| SECOND REEF | see COMMON SAIL. |
| SECONDS | see FLOUR. |
| SEED MILL | A mill in which seed corn is cleaned and from which foreign seed is removed. |
| SELF-ACTING SAILS | see PATENT SAILS (Lincolnshire term). |
| SELF-CLEANING BINS | see FUNNEL BINS. |
| SELF-REGULATING SAILS | see PATENT SAIL (Lincolnshire term). |
| SELF-WINDING MILL | A windmill with a FANTAIL. |
| SEMOLINA | Hard particles of wheat from the MIDDINGS, after DRESSING, or the granulated wheat particles of partly-reduced grain in ROLLER MILLING. It has the texture of coarse sand and is used to manufacture macaroni and spaghetti and domestically in puddings. |
| SEPARATOR | A machine used in place of, or in conjunction with, a screener to remove dust impurities from grain. |
| SERGE | A strong twilled fabric, once of silk, now usually of worsted; used especially for its rough wear (silk serge used for tailor's linings). |
| SERVO PRINCIPLE | The BRAKE of a windmill is commonly designed to utilise the servo principle, whereby the greater force which the brake is required to exert, the tighter the brake band grips the BRAKE WHEEL. |
| SET SCREWS | (1) See BRIDGING SCREWS. (2) A screw used to hold the poll wedges. |
| SHADES | Term for SHUTTERS, used in Lincolnshire and to the north. See VANES and SHUTTERS. |
| SHADUF | A hand-operated device for water lifting (like a balanced fishing rod). |
| SHAFT | (1) A rotating bar of wood or metal for transferring power. See LAYSHAFT, UPRIGHT SHAFT and WINDSHAFT. (2) The large wooden or iron beam to which the hammer head of a TILT HAMMER is fixed. See TILT HAMMER. |
| SHAKE | A split or crack along the grain in piece of timber. |
| SHAKER | see JOG SCRY. |
| SHAKER | see SHOE (County Durham term). |
| SHAKER ARM | Arm attached to the shoe which contacts the damsel. |
| SHALLOON | A light cloth for coat-linings and women's dresses. (Chalons in France.) |
| SHANK OF COG | The tail portion of a COG which is mortised into the wheel and projects beyond it. |
| SHARPS | A superior grade of offal sometimes used for coarse household bread but usually used for animal foods. See COARSE MIDDINGS, SUPERS, THIRDS, TOPPINGS. |
| SHARP TO SHARP | An American term. See FRONT TO FRONT. |
| SHEAR | see EEL SHEAR. |
| SHEAR TREES | see SHEERS. |
| SHEARS | see SHEERS. |
| SHEAVE | A grooved wheel for a rope to run in. Used for guiding and supporting. |
| SHEAVES | see TRUCK WHEELS. |
| SHEERS | (1) In POST MILLS, the principal framing members of the floor of the buck running fore & aft on either side of the post. (2) In SMOCK or TOWER MILLS, the principal longitudinal timbers of the cap frame. |
| SHELLED OATS | Oat grains which have had their tough outer husks removed by SHELLING STONES. |
| SHELLING | The first process in grinding oats in which the HUSKS are removed. |
| SHELLING STONES | Millstones, often thin 'worn out' grinding stones, having little dressing, are tentered to be set apart a little less than the length of an oat grain. When kiln-dried oats are milled, the husks are split off leaving the KERNELS or GROATS intact. |
| SHETLAND MILL | see HORIZONTAL MILL. |
| SHIELD | The vertical flange at the circumference of the waterwheel at the sides of the buckets or floats. |
| SHIELING | see SHELLING (Scot.). |
| SHILLERS | see SHELLING STONES (Scot.). |

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| SHIMS | Thin plates of metal or slabs of wood which are added or removed from a bearing to make it fit the journal properly when setting it up or adjusting it to compensate for wear. Shims may also be used for making fine adjustments to the position of a bearing or other component. |
| SHOE | An inclined tapering wooden trough fed with grain from the HOPPER, vibrated by the DAMSEL or QUANT to cause grain to enter evenly into the eye of the stone. See also GATE (1). |
| SHOCK LOSS | The loss of impetus in moving water on coming into contact with the BUCKET of a waterwheel. |
| SHODDY | a grade of recycled wool. |
| SHORT PATENT | A flour containing only a small percentage of fine flour |
| SHORTS | Designation for the most undesirable grade of flour. |
| SHOT CURB | see CURB, SHOT SHOULDER YOKE. Two bars projecting downwards from near the end of a TAIL POLE against which the miller sets his shoulders when WINDING the mill. |
| SHOULDER | A step in a sail stock, locating against the CANISTER to centre it. Same as JOG. |
| SHOWEL | A wooden shovel used for putting corn into a winnowing machine (Old Sussex term.) |
| SHOW YOUR METAL | Phrase used by millers to check how experienced a STONE DRESSER was. Stone & metal particles entered the stone dressers wrists & hands while DRESSING a STONE causing skin discoloration. |
| SHOW YOUR STEEL | see SHOW YOUR METAL. |
| SHROUD | (1) The annular rim of a waterwheel, which closes the ends of the BUCKETS, and to which they are fastened. (2) A flange or rim enclosing the ends of teeth, as in a shrouded pinion. |
| SHUDES | Oat HUSKS or HULLS. Unshelled oats. |
| SHUT | A control gate. See PENSTOCK. See SLUICE. |
| SHUTTER | (1) The pivoted or hinged vanes in spring or patent sails. See also VANES & SHADES. (2) A boarded removable or hinged cover which covers the opening in a wall of a mill, to admit light and/or ventilation. Sometimes used instead of windows. |
| SHUTTER BARS | A longitudinal wooden rod operating a group of shutters on a sail. |
| SHUTTER TREES | The SHEERS of a post mill (Suffolk). |
| SHUTTERED SAILS | Spring or patent sails, set by closing linked canvas or wooden SHUTTERS held in the SAIL FRAME. |
| SHUTTLE | see SLUICE. |
| SHUTTLE TREES | (Suffolk) See SHEERS. |
| SICKLE DRESS | A method of stone dressing employing curved radiating furrows. See DRESS(2) SICKLE DRESS. |
| SIDE GIRTS | The timbers running the full length of the side of a post mill, resting upon the crown tree & supporting the framing of the body of the mill. Also known as GIRTS. |
| SIEVE | A mesh of cloth or metal for separating particles of different sizes, the finer particles pass through. |
| SIEVING | The act of using a SIEVE to separate rubbish from grain, or separating MEAL as in Dressing. See DRESSING. |
| SIFTER | see BRUSH SIFTER. |
| SILE | RHYND as used in some Horizontal mills (Scot - Shetland term.) |
| SILENT FEED | A mechanism consisting of a flat circular horizontal plate attached above the RHYND and within the EYE of the RUNNER STONE. Above the plate is a vertical telescopic tube, concentric with the EYE, down which grain is fed to the stones. The telescopic tube is raised sufficiently above the plate to allow the required amount of grain to fall into the stones, the flow being maintained by the rotation of the circular plate. A CROOK STRING attached to a lifting lever allows the miller to adjust the height of the tube to regulate the grain flow from his operating position. |
| SILK MACHINE | Flour dresser in which the meal is tumbled through a very long silk-covered spider drum, or is beaten through a tubular silk sleeve. See BOLTER. |
| SILK MILL | A TEXTILE MILL in which silk is prepared and woven into cloth and like products or part of that process. |
| SILK REEL | (1) see SILK MACHINE. (2) see REEL. |
| SILKS | The cylinder of silk cloth through which flour is passed in the grading process using a SILK MACHINE. See BOLTER. |
| SILL(S) | (1) Top of wall of weir or dam. (2) Horizontal timber plates on top of base walls of a smock mill to carry cant posts & framing. (3) FORWARD, (REAR) in a POST MILL, the heavy timbers at bottom of post mill body passing over the front (rear) of the SHEERS to support the CORNER POSTS (2). (4) CAP. Two timbers used to support the roof members of some caps. |
| SINGLE-LEAF SPRING | see SPRING (5) SINGLE LEAF. |
| SINGLE-PIECE | For example a CAST-IRON WHEEL, cast in one piece, as opposed to being in two parts bolted together. |
| SINGLE-PRESSURE SAILS | see SINGLE SIDED SAILS. (old Lincolnshire term). s |
| SINGLE-SHUTTERED SAIL | A sail having shutters on the trailing or driving side of the WHIP or SAILBACK only. |
| SINGLE-SIDED SAILS | A sail having shutters or canvas on the trailing or driving side of the WHIP or SAILBACK only. |
| SINGLE-STEP GEAR | Where only one set of gears are between power source and millstones. |
| SIZE HOUSE | A room or building in a paper mill where the sizing operation was carried out. |
| SIZING (of paper) | The treatment of paper or paper fibres with chemicals to reduce the absorbency of the paper |
| SKELETON | A construction of iron rods & stays carrying the pivot for a triangle in a patent sail linkage well forward of the STOCK. Same purpose as Standard or Stump iron. (Suffolk). |
| SKELETON MILL | A mill constructed without any weather-boards cladding on the framework, usually a smock mill. |
| SKELETON SAILS (FAN) | Sails or fans which are added for decorative purposes where the framework is kept to a minimum to reduce wind resistance. |
| SKELLING | A lean-to. (C17 Hants). |
| SKEW BEVEL GEAR | Gear for taking the drive off a bevel wheel at a tangent. |
| SKEW GEAR | A driven SPUR GEAR WHEEL which has its TEETH set at an angle in order to properly mesh with the COGS of a driving gear. Example, sometimes found in a POST MILL in which a SHAFT is positioned behind a BRAKE WHEEL and below the WINDSHAFT, the angle of the skew gear teeth being such as to mesh with the brake wheel teeth. Used for low-power auxiliary drives. |
| SKID PLATES | In tower mills with dead curbs, greased wooden blocks or iron plates fitted to the curb or the cap circle to enable the cap to turn. |
| SKIMMING | see STAFFING. |
| SKIRT | (1) A downwards projecting shield protecting against entry of wind and rain. Also known as a PETTICOAT. (2) (of cap) A SKIRT protecting the curb below a CAP in a SMOCK or TOWER MILL. (3) (of postmill) A SKIRT keeping the weather out of the top of the round-house, usually a downward extension of the weatherboarding. (4) (of millstone) The outer third of the grinding surface of a millstone. (5) The outer edge of a millstone. Also known as the HEM. |

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| SKIRTING BOARD | The low wooden curb around the bedstone at floor level. |
| SKY-SCRAPERS | A Suffolk term for AIRBRAKES. Also known as CATCHPOLE'S SKY SCRAPERS. |
| SLACK BELT | A driving belt fitted loosely between two pulleys, allowing the driving wheel to turn freely; a lever causes the belt to be tightened when the drive is required (e.g. for a sack hoist). |
| SLEEVE | (1) A hollow casting between the bore of a wheel and its shaft. (2) A cloth tube used as a flexible chute for meal. |
| SLICKING | Smoothing out a sample of flour for comparison with a standard (as to colour, etc.). |
| SLIDE | see SPATTLE. |
| SLIDING HATCH | Curved iron gate operated by rack-&-pinion, that moves against a fixed curve plate with inclined slots. Allows the utilisation of the maximum head available. Invented by John Rennie 1783. |
| SLIDING PLATES | see SKID PLATES. |
| SLING | (1) A short iron link connecting the spider to the triangle in a patent sail linkage (Kent). (2) Chains or ropes for hitching a load to a lifting tackle. See SLING ROPE, SLING CHAIN, ROPE SLING, CHAIN-SLING. |
| SLING CHAIN | see SLING. |
| SLING ROPE | see SLING. |
| SLIP COGS | Removable cogs, allowing a pinion to be taken out of gear, secured by iron pins. |
| SLIP JACK and CORD | A cord tightening device used on a SACK JACK (similar arrangement used for holding tent poles). |
| SLIPPER | see SHOE. |
| SLITTING MILL | A water-powered mill used for cutting thin metal into narrow strips. |
| SLUB | The ooze at the bottom of a pond or waterway. |
| SLUBBING BILLY | A water-powered spinning engine, developed from the SPINNING JENNY. |
| SLUICE | A gate to control the flow of water, by raising or lowering it. See PENSTOCK. |
| SLUICE DOOR | A door used in drainage mills in conjunction with the scoop wheel or Archimedean Screw, which opens automatically when under a head of water allowing its discharge into the drainage ditch. |
| SLUICE FRAME | The housing for a sluice gate. |
| SLUICEWAY | see LAUNDER. |
| SMELTING MILL | A MILL where the air for the furnace used for smelting metal was provided by bellows or pumping cylinders driven by water power. |
| SMEEMUM, SMITHUM | The FINEST GRADE OF FLOUR (historic term; current use religious "Spirit of God"). |
| SMOCK MILL | Mill with fixed body & movable cap, the tower of which is constructed of timber, covered with weather-boarding or thatch, named after the resemblance to a countryman's white linen smock. |
| SMUT | A fungal growth (<i>Ustilago carbo</i>) common in wheat. Its spores are dark brown in colour and can affect the colour of the flour. Diseased grains are usually removed in a smutter. See also ERGOT. |
| SMUT MACHINE | see SMUTTER. |
| SMUTTER | A vertical machine used for removing smuts from grain by throwing them in such a way that diseased grains are broken open; these, being lighter are removed by an airstream together with the fungal dust. |
| SNAP ROPE | A rope by which, by pulling on it, the miller can control a BRAKE or SACK HOIST. |
| SNATCH BLOCK | A pulley block with a slot in the side to allow it to be removed from a rope without passing the rope all the way through. Does not grip the rope. |
| SNOTCH BLOCK | see MANY HEIGHTS. |
| SNUFF MILL | A mill in which there is machinery for grinding tobacco leaves and other ingredients into fine powder, thus making snuff. |
| SOFFIT | The underside of a framing member. |
| SOKE | Manorial law governing ownership, building & usage of mills. |
| SOKE RIGHTS | Medieval right of land owner to demand tenants to have their corn ground at his mill. Finally ended in 1871. |
| SOLE (BOARDS) | A timber, sheet-iron or steel lining to a waterwheel or a board forming the inner face of an individual BUCKET. |
| SOLE (PLATE) | see SOLE (BOARDS). |
| SOLE TREE | A horizontal pivoting beam carrying the bottom bearing of the vertical spindle in a horizontal mill. |
| SOLING | see SOLE (BOARDS). |
| SOW | see PIGS. |
| SPATTLE | A sliding gate or shutter controlling the flow of grain or meal in CHUTES, HOPPER or SHOE. |
| SPATULA | see MILLERS SPATULA. |
| SPIDER | (1) The multi-armed coupling on the front end of the STRIKING ROD and is part of the STRIKING GEAR which connects the SHUTTERS of all the SAILS together. (2) The iron arms of a wooden waterwheel. (3) The iron centre of a wooden-rimmed brake wheel. |
| SPIDER MILL | (1.) Mill fitted with JIB SAILS(1). (2) Diminutive hollow post mill, used for drainage work in Holland. |
| SPILL THE WIND | A term meaning to partly open the shutters of a sail which was being driven. |
| SPILLWAY | A CILL over which excess water spills. |
| SPINDLE | The vertical SHAFT which may carry the STONE NUT which passes up through the MILLSTONES to engage with the RHYND which carries the RUNNER STONE. |
| SPINDLE BEAMS | Beams above & below the upright shaft in a post mill. |
| SPINELL (spindle) | Shaft which rotates the upper millstone (Scot.). |
| SPINNING | Drwing out and twisting the combed fibres of wool, cotton etc., to make a thread. |
| SPINNING JENNY | Early SPINNING machine having more than one spindle enabling a person to spin a number of yarns simultaneously (invented and patented by Hargreaves). |
| SPINNING MILL | A TEXTILE MILL in which fibrous materials, e.g. cotton, wool, flax etc., are prepared and spun into threads. |
| SPINNING MULE | A machine with multiple spindles, which draws and spins threads. |
| SPLINED SHAFT | Shaft with multiple riles for a wheel to slide along. |
| SPLINES | see FURROWING STRIPS. |
| SPLIT COTTERS | 'U' shaped pins, folded back at the ends when in use. (common in older mills before screw threads were invented) |
| SPLIT SHEERS | In a windmill cap framing where it is not possible to have a sheers passing from the front to back, several shorter timbers are used, secured by lateral beams. |
| SPLIT WHEEL | A WHEEL which is divided into two or more pieces, which can be assembled round a SHAFT & bolted together. Very convenient for adding a wheel without having to first dismantle the shaft. |
| SPOILERS | see AIRBRAKES. |
| SPOKES | see ARMS. |
| SPOKE CHAIN | The chain used to hold the CAPSTAN WHEEL in one position. It goes from a spoke to the anchor platform. |

SPONDS see QUARTERBARS (old Lincolnshire name).
SPOOL The collar of a GOVERNOR (Suffolk).
SPOUT Wooden, metal, plastic or cloth pipe feeding GRAIN or MEAL.
SPOUT FLOOR see MEAL FLOOR.
SPOUT MAN The person who looked after the SPOUTS and SACKS of MEAL etc.
SPUDGEL A small bucket with a long handle, used for bailing water out of a wheel pit (old Sussex Term).
SPURNS see QUARTERBARS. (old Lincolnshire name).
SPRATTLE ARCH Cast iron arch which is placed over the end of the WHEEL SHAFT in some British water mills to carry the footstep bearing of the UPRIGHT SHAFT (much used later by Armfield's of Ringwood).
SPRATTLE BEAM Fixed horizontal beam carrying the SPRATTLE BOX, or bearing of the upright shaft in smock or tower mills. Also known as CENTRE BEAM.
SPRATTLE BOX The top bearing of a vertical shaft - usually in windmills.
SPRING BACK A timber brace between the tip of a stock and the back of a whip (Kent).
SPRING-LOADED SHUTTERS Shutters of SPRING SAILS.
SPRING PATENT SAILS A sail incorporating the principles of both the SPRING SAIL and PATENT SAIL. Springs being incorporated between the head of the striking rod and the REIN IRONS to the TRIANGLES.
SPRING SAILS SAILS constructed with SHUTTERS which turn after the fashion of the slats in a venetian blind, linked to a spring, the tension of which can be set manually so that the shutters will open & close according to wind strength, in order to control the power produced. An early form of shuttered sail introduced in 1772. (devised by Andrew Miekke).
SPRINGS Used in SPRING SAILS and come in a number of forms
(1) COILED. In the form of a helix.
(2) ELLIPTIC. Two curved spring members, normally LAMINATED, hinged together at their ends after the fashion used in horse drawn vehicles. Used to control amount the shutters of spring shutter sail can open. Situated near heel of the sail.
(3) HALF ELLIPTIC. Comprising one curved spring member, normally laminated.
(4) QUARTER ELLIPTIC. Comprising half of a HALF ELLIPTIC spring, normally laminated.
(5) SINGLE LEAF. An unlaminated ELLIPTIC spring.
(6) LAMINATED. An ELLIPTIC-type spring built up from two or more thin spring components in order to give greater strength and flexibility.
SPROCKETS A series of small triangles of wood nailed to a sill or soleplate to tilt the bottom weather-boards clear of the brickwork.
SPROCKET WHEEL A toothed wheel designed to carry a chain. Each tooth engages with a link.
SPUR-COGS GEAR see SPUR WHEEL GEAR.
SPUR GEAR DRIVE see TWO-STEP GEARING
SPUR GEAR WINDMILL Post mill with spur gear & two pairs of stones normally located in the head.
SPURNS Fan stage members. (it has also been used for quarter-bars)
SPUR WHEEL (1) see SPUR WHEEL GEAR.
(2) see GREAT SPUR WHEEL.
SPUR WHEEL GEAR GEAR WHEELS in which the teeth project radially from the rim.
STAFF see PAINT STAFF, PROOF STAFF or JACKSTAFF.
STAFF PROOF (PROVER) see PROOF STAFF.
STAFFING The process for marking the grinding face of a MILLSTONE using the PAINT STAFF. See also FACING.
STAGE (1) see REEFING STAGE.
(2) see FAN STAGE.
STAGE The central attic floor in a watermill running between the bin openings (Essex).
STAGNUM An old term for a MILL POND or DAM. (Stagnum = Latin for pond).
STAMPERS see paper mill terms.
STAMP MILL A MILL in which material is placed in a mortar and is reduced by being pounded by a heavy weight secured to the lower end of a vertical STAMP.
STAMPING MILL A mill in which water was used to operate STAMPS.
STAMPS (1) Vertical iron-shod bulks of timbers, later all iron, used as pestles to break up materials such as ore or oil seed.
(2) Vertical baulks of timber, used to drive & release pressing wedges in oil mills & similar industrial installations.
STAMPS BARREL Horizontal shaft with cams to raise STAMPS.
STANCHIONS Upright posts within a mill to carry weight of upper storeys - such as the STONE FLOOR.
STANDARD A one-piece wrought or cast-iron fitting carrying the pivot for a triangle well forward of the stock in a patent sail linkage.
STANDING BALANCE see STATIC BALANCE.
STANK a temporary DAM.
STAR WHEEL The iron centre into which the STOCKS carrying the VANES of a FANTAIL are fitted.
STARTER BOX A store of water which can be released to assist in the starting of a waterwheel.
STARTS (1) Short spurs of wood or metal, projecting from the rim of a waterwheel to support the FLOATS or AWES.
(2) The main horse beams of a horse gin. (E. Scotland & N.E. England.)
START AND AWE WHEEL A waterwheel with STARTS and AWES, in a close fitting wheelpit, usually fed through a curving launder or ROWHEAD (Scot.).
STATIC BALANCE A RUNNER STONE is in static balance if the weight distribution within it is such that when the TENTERING GEAR is used to raise the stone out of contact with the BEDSTONE, the stone lifts with an even gap between the stones when the stone is stationary.
STAUFFER A small metal grease reservoir having a screwed cap for lubricating BEARINGS. It is usually fitted to a bearing cap.
STAVES Rods serving as cogs in a LANTERN PINION. Also known as RUNGS.
STAY BOLTS see TIE ROD.
STEADY BEARING see COLLAR (1). Also known as a GIRDLE.
STEADY PIECES Braces to steady the fantail assembly.
STEADY POLE A pole used for steadying the weight chain on smock and tower mills.
STEADY WHEELS The centring wheels of a mill cap.
STEAM MILL A MILL in which the machinery is or may be driven by a steam engine.
STEEL GROUND Ground by steel plates or ROLLERS.
STEEL PROOF see PROOF STAFF.
STEELING HAMMER A TILT HAMMER which is used to weld a bar of steel between bars of wrought iron, for subsequent manufacture into EDGE TOOLS.
STEELYARD (1) A long iron lever, the final one in the system linking the BRIDGETREE or BRAYER to the GOVERNOR; part of the tentering mechanism.
(2) A balancing lever used in weighing.

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| STEP BEARING | see FOOTBRASS. |
| STEP BRASS | see FOOTBRASS. |
| STEPS | The external ladder of a post mill, having side beams called STEP STRINGS also, when it carries a FANTAIL, TROLLEY STEPS. Also called a LADDER. |
| STEP SPRINGS | The outside timbers of POST MILL STEPS. |
| STIFF RHYND | see RHYND. |
| STIFF TACKLE | The fixed drives, the pit wheel, crown wheel, the shafts running across the mill etc. |
| STIRRUPS | (1) see STRAPS. |
| STIRRUP | (2) the rigid cast-iron semi-circular arm of crane, as opposed to articulated arms. See CALLIPERS. |
| STITCHING | see CRACKING. |
| STIVES | Rubbish & husks removed from corn by a winnower. |
| STIVE CUPBOARD | A place where STIVES are blown by a winnower. |
| STOB MILL | POST MILL (NE England term). |
| STOCK | (1.) A tapered spar passing through the POLL END to which a SAIL is fitted on each end, the WHIPS being bolted & strapped to it. (2.) see THRIFT. (3.) The spar carrying the VANE of a FANTAIL. (4.) Main shaft. |
| STONES | see MILLSTONES. |
| STONE BEAMS | Floor timbers supporting a millstone. |
| STONE BEARERS | The beams and strong framework on which the bedstone rests. See also STONE BEAMS. Also called TRIMMERS. |
| STONE BOX | see NECK BOX. |
| STONE CASING | see TUN. |
| STONE CRANE | A crane that can be mounted over the MILLSTONES, to lift them for DRESSING. See also BALES and CALLIPERS. |
| STONE DRESSER | Man whose profession is to DRESS or sharpen the MILLSTONES. |
| STONE DRESSING | see DRESSING. |
| STONE FLOOR | The floor on which the MILLSTONES are situated. |
| STONE FURNITURE | The VAT, HORSE, SHOE and HOPPER. |
| STONEMAN | A STONE DRESSER, either employed or itinerant. Also used (late C19) as a miller who attends to running millstones, rather than roller mills. |
| STONE NUT | Small cogged PINION mounted on the STONE SPINDLE or QUANT, which is driven by the GREAT SPUR WHEEL, or the Brake or TAIL WHEEL in a HEAD-AND-TAIL POST MILL. May be engaged to turn the runner stone. The final driven pinion to the runner stone. See also SLIP COG. |
| STONE PINION | see STONE NUT. |
| STONE PIVOT | The STONE SPINDLE. |
| STONE SADDLE | A block, perhaps built up, which fits against the edge of the BEDSTONE while the RUNNER STONE is being turned over. It is secured against moving by bolts or pins engaging with purpose made holes in the floor. The edge of the runner stone rests on the Saddle as it is being turned over and is thereby prevented from slipping. It also protects the floor from damage. the SADDLE is not required when a STONE CRANE and CALLIPERS are used. |
| STONE SHAFT | The STONE SPINDLE. |
| STONE SPINDLE | The spindle on which a runner stone is supported and driven. With UNDERDRIFT stones it carries the STONE NUT or driving BELT PULLEY. It may carry a BELT PULLEY drive & occasionally other wheels. |
| STONE STAFF | see PAINT STAFF. |
| STONE TRAIL | see JACKSTAFF. |
| STONE TRUNDLE | see STONE NUT. |
| STONE WEDGE | The large wedge, often with handle attached, for use when lifting the edge of a stone in preparation for turning the RUNNER STONE over for STONE DRESSING, in conjunction with a MANYHEIGHT and CROWBAR. |
| STOOL | The platform on which the stones are situated (Scot.). |
| STOP CHAMFER | A bevelled junction between two faces of a timber with a 'Stop' or graduated end. |
| STORAGE BIN | see BIN. |
| STOREY POSTS | Vertical timbers in the wall framing of a WATERMILL, running the full height from SOLEPLATE to EAVES, usually having the floor beams tenoned into them. |
| STORM HATCH | An access hatch, located above the NECK BEARING of the WINDSHAFT, normally closed by a sliding or removable shutter. Also known as WEATHER SHUTTER. |
| STRAIGHT DRESSING | A style of dressing a millstone where there is a large number of main furrows tangential to the eye Also called UNION DRESSING. See also DRESSING. |
| STRAINING WIRES | The wires fitted at three-quarter length along the SAIL BACKS to reduce movement as the sail passes the top of its circle and prevent wear on the bolts and strapping holding them to the iron cross. Used in Lancashire. |
| STRAKES | (1) Iron bars to take the wear on a wooden spindle, as from a SACK HOIST chain. See also SACK HOIST BOLLARD. (2) see FELLOES. |
| STRAP | (1) Iron bars securing timbers. (2) A driving belt. |
| STRAPS or STIRRUPS | U-shaped flat iron straps used to fix together two or more members of a frame in carpentry or of different materials i.e. iron and wood. |
| STRAPPING | The fitting of iron straps or stirrups to SAIL BACKS to fix them to the IRON CROSS. |
| STRAP BOLT | A bolt tapered off to a strap at one end. |
| STRAP RIGGER | A belt pulley. |
| STRENGTH | The ability of a flour to produce bread of satisfactory shape texture and appearances. Depends on the quality and quantity of protein in the wheat. STRONG FLOUR. |
| STRENGTHENER | A wheat which is added to another wheat to improve the quality and/or quantity of protein. |
| STRETCH | (old Sussex term) see STRICKLE. |
| STRICKLE | The straight edge used to level off grain or meal in a toll dish or measure. |
| STRIKE | see STRICKLE. |
| STRIKE OF WHEAT | TOLL taken in a MULTURE BOWL & levelled off with a STRICKLE. |
| STRIKE UP | Start the sails. |
| STRIKER | A rod or lever carrying a fork to guide a belt between FAST AND LOOSE pulleys. |
| STRIKING | To set the sails in motion; hence STRIKING ROD - CHAIN - LEVER etc. |
| STRIKING CHAIN | The chain or rope for operating the STRIKING GEAR. For opening or closing the shutters on a patent sail or the blinds of a roller reefing sail. |

STRIKING GEAR (1) The mechanism used with patent sails to apply pressure to the shutters, comprising a striking rod passing through the length of the windshaft, operated by an endless chain on which weights were hung to suit the force of the wind; a wind force greater than the effect of the weight would raise the latter & open the shutters.
(2) Striking gear was also employed with roller reefing sails.
see BRIDLE IRONS.
see RACK AND PINION.
see ROCKING LEVER.
see REIN IRONS.
see SPIDER.
see SHUTTER BARS.
see SHUTTERS.
see STRIKING CHAIN.
see STRIKING ROD.
see STUMP IRONS.
see TRIANGLES.

STRIKING ROD Rod which links the spider to the adjusting mechanism of a patent or roller sail by passing down through the hollow windshaft & out through its tail end & can be operated from the ground by means of a chain with either a ROCKING LEVER or RACK & PINION GEAR.

STRIKING RULE The sail rod coupled to the SHUTTERS (1) See also WORKING UPLONGS

STRIKING SLIDES Long, slender wooden bars linking the levers of shutters together. Same as SHUTTER-BARS.

STRIKING the SAILS Operating the control to open or close the shutters of PATENT (or SPRING PATENT) SAILS.

STRIKING WHEEL The wheel which carries the STRIKING CHAIN.

STRONG FLOUR Containing sufficient gluten for bread baking (i.e. not a BISCUIT flour).

STUDDING see TRANSOM.

STUDS Uprights in the wall of a timber framed mill, or other building, to support weather-boarding.

STUMP IRONS These are bolted to the STOCKS to support the TRIANGLES of the STRIKING GEAR of windmill sails.

STUMP MILL A post windmill (Kent).

STUNSET A small pot of melted lead for balancing the runner stone (old Sussex term).

SUBSTRUCTURE see TRESTLE.

SUCKEN (SUCKENERS) The area restricted to a particular mill and those to whom the grain product belongs (Scot.).

SUNK POST MILL Medieval POST MILL having the lower parts of its SUBSTRUCTURE buried in the ground. See PEG MILL

SUPERS Superior grade of offal, resembling middlings. See MIDLINGS.

SUSPENDED ROTARY SIFTER see BRUSH SIFTER.

SUSPENDED WATERWHEEL One which can move up and down with the rise and fall of the water level.

SUSPENSION WHEEL A lightly-built iron framed WATERWHEEL with spokes in tension, usually with a RIM DRIVE (cf. ARMS).

SWAKE Lever for operating the STRIKING GEAR (Suffolk - probably extinct).

SWALLOW The wider gap between the MILLSTONES around the EYE which allows easy entry of the GRAIN into the DRESSED faces of the MILLSTONES or QUERNS. American term for the EYE of a RUNNERSTONE.

SWAN NECK BEAM SCALES Beam scales having swan necked pivots at the ends of the arms.

SWAN NECK IRON The iron which anchors the lower end of the BRAKE band to the CAP or mill BODY.

SWEAT changes in wheat induced by moisture and heat. Partial fermentation.

SWEEP (1) see SAIL (Kent/Sussex).
(2) see PADDLE.
(3) A centrally pivoted lever, connecting a PESTLE to its water box in a water-powered PLUMPING MILL.
(4) TAILPOLE.

SWEeper see PADDLE.

SWEEP GOVERNOR A device for regulating the speed of the sails.

SWEEP RODS Sail whips (Kent).

SWIFTS South of England? term for SAILS.

SWING POT SWING POT BEARING (East Anglian).

SWING POT BEARING A bearing which has a TRUNNION at right angles to the axis of the bearing to allow automatic alignment between the bearing and the journal. Sometimes found on a WINDSHAFT NECK BEARING (1).
see SWING POT.

SWING POT NECK

SWIRD The wedge used in the Norse mill to adjust the LIGHTENING TREE and thus TENTER/heighten the STONES.

SWORD IRON (1) The iron connecting piece between the upper end of the BRAKE band and the BRAKE LEVER. It usually has a number of holes for adjustment purposes.
(2) The GOVERNOR linkage (steelyard) utilising a number of notches for locating the fulcrum knife edges.

SWORD POINT see COMMON SAIL.

TACKLE A combination of two pulley BLOCKS suspended by ropes or chains, one of which is attached to a load to be lifted.

TAG see PADDLE.

TACK A lease (Scot.).

TAIL The end away from the sails and the wind. The rear of the post mill body away from the sails and the wind. (as opposed to the BREAST or HEAD). Also describes the rear of a CAP.

TAIL BALK see TAIL BEAM.

TAIL BEAM (1) A beam supporting the tail BEARING of the WINDSHAFT.
(2) see TAIL POLE.

TAIL BEARING The bearing at the rear of the WINDSHAFT, normally incorporating a THRUST BEARING to withstand the wind pressure.

TAIL BEARING BEAM see TAIL BEAM.

TAIL BLOCK A block used when the tail beam is dispensed with in the cap of a windmill.

TAILBOUND see BACKWATER (Dorset term).

TAIL BOX A compartment under the rear of the CAP of some TOWER/SMOCK mills which houses the WINDING GEAR for the CAP.

TAIL END TIE BEAM Transverse timber of cap frame, replacing TAIL BEAM, into which guide timbers carrying TAIL BLOCK are tenoned. Wedges driven between this and TAIL BLOCK are used to adjust windshaft axially.

TAIL FIN Large timber boards, usually in pairs on twin tail booms, designed to turn the mill into the wind. Commonly used on drainage mills in place of a fan tail
see TAIL RACE.

TAIL-GOIT

TAIL HELVE A TILT HAMMER driven by cams acting on the tail of a SHAFT(2).

TAILINGS The material that leaves a BOLTER at its far end because it is too coarse to pass through the sieve.

TAIL LADDER see STEPS.

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| TAIL (of a mill) | see TAIL. |
| TAIL POLE | A massive spar projecting from the rear of a POST MILL, for WINDING a MILL by hand. Sometimes attached to the CAP of a TOWER or SMOCK MILL. Also used to support the STEPS off the ground to allow the MILL to be turned. See also TALTHUR. See YOKE. |
| TAIL POST | see TAIL POLE. |
| TAIL RACE | That section of the mill race downstream of the WHEEL. Also refers to the water leaving a watermill. |
| TAIL SHEET | Coarser sieve at far end of dresser to scalp stock coarser than the material sieved through the rest of the dresser. |
| TAIL SICK | A post mill which has become unbalanced, due to a defect, so that it leans backward. Opposite to HEADSICK. |
| TAIL STONES | MILLSTONES in the rear of a POST MILL. |
| TAIL TREE | see TAIL POLE. Also the rear tie beam between the rear ends of the upper SIDE GIRTS of a POST MILL |
| TAIL WATER | Water leaving the waterwheel. See BACKWATER. |
| TAIL WHEEL | A GEAR WHEEL mounted near the TAIL of the WINDSHAFT in a POST MILL, to drive additional pairs of stones. |
| TAIL WIND | A wind that catches the sails from the rear. |
| TAIL WINDED | A windmill caught with the wind blowing towards the rear side of its sails, with risk of reversal of rotation and consequential damage. Also carries a risk of the CAP blowing off a TOWER or SMOCK mill if the wind is strong. |
| TAIL-WINDING | When the wind catches the sail from the rear. |
| TAKE OFF | Ancillary driving GEAR assembly. |
| TALLOW | The product of melting down the harder varieties of animal fats. |
| TALTHUR | The lever pivoted on the side of the TAIL POLE used to raise the LADDER of a POST MILL clear of the ground prior to WINDING the mill. Also known as a TILLER. |
| TAN BARK MILL | Grinding oak or other bark for use in the leather-tanning industry. |
| TAPESTRY MILL | A Mill in which looms for making tapestry are operated. |
| TAPPET ARMS | Projections or CAMS on the wheel shaft which raise the mallets used for beating cloth in fulling. |
| T-BOLT | A bolt with a head in the form of a letter "T", used to fasten sail bars to UPLONGS (Kent). |
| TEAGLE | A HOIST for raising material to an upper floor. See SACK HOIST. |
| TEETH | The integral projecting parts of a GEAR WHEEL which engage with similar projections on another gear wheel to enable power to be transferred from one to the other. In millwork, it is normal for the teeth to be carefully shaped to comply as nearly as practical with the principles of CYCLOIDAL GEARING. See COGS. TEETH may also be of iron which are integral with the CAST-IRON wheel, or may be cast in sections. |
| TEME | see TEMSE. |
| TEMPERING | see CONDITIONING. |
| TEMPENHEAD | The PINTLE at the top of a mill post (Essex). |
| TEMPLATE | (1) Wooden plates under the ends of the CROSTREES to spread the weight over the tops of the PIERS. (2) A paper, card, wooden or metal pattern used for marking out components. |
| TEMSE | Medieval term for a SIEVE used in bolting meal by hand. |
| TENON | Tongue of wood fitting into a MORTISE to join timbers together. |
| TENTERING | Adjusting the gap between the MILLSTONES thus regulating the fineness of the MEAL. Also known as LIGHTERING |
| TENTERING FRAME (CLOTH) | A wooden rack on which cloth was spread on hooks to stretch and reshape while it is drying, after FULLING. |
| TENTERING GEAR | The mechanism for making fine adjustments to the gap between the MILLSTONES. |
| TENTERHOOKS | Hooks needed to keep cloth at its full width during weaving or after FULLING. |
| TENTER JACK | see LIGHTER SCREW (N. Yorks.). |
| TENTERING SCREW | see LIGHTER SCREW. |
| TENTERING STAFF | A lever for TENTERING the stones, operating via the BRAYER and BRIDGE TREE. |
| TEXTILE MILL | A watermill in which fibrous materials, e.g. wool or cotton, are prepared and processed into cloth or similar products, or part of that processing, using water power. |
| THIMBLE BAR | A bar into which THIMBLES may be set. The bar being attached to the sail, and any gap between it and the WHIP being filled with a shaped wood filler board. |
| THIMBLES | Small iron or brass sockets in which the sail SHUTTERS pivots swing. See also FLATS. |
| THIRDS | see FLOUR. |
| THIRLAGE | The system whereby certain persons (suckeners) cultivating specific land were obliged to take their grain for grinding to certain mills and to pay a multure at that mill (Scot.). |
| THON | A term applied to wet STONES or GRAIN. |
| THREE ARM ARCH | A cast-iron arch with an additional arch on one side. Used to support the THRUST / FOOTSTEP BEARING of an UPRIGHT SHAFT in a WATERMILL. |
| THREE BEAT DAMSEL | see DAMSEL. |
| THREE CONE PULLEY | A stepped belt PULLEY, having three different diameters adjacent each other. The belt is set on to the appropriate diameter to obtain the desired speed. Usually operated in pairs |
| THREE QUARTER DRESSING | A style of HARP DRESSING where there are three furrows going to the perimeter. |
| THRESHING MILL | A farm mill equipped to drive a stationary threshing machine to beat the grain out of the stalks, and separate it from the straw and husk. |
| THRESHOLD | The SILL or cross member which passes below the entrance door of a MILL. |
| THRIFT | The turned wooden handle, usually of ash, in which the MILL BILL, FUSILS or PICKS were held & wedged. Also known as the HEFT. |
| THROAT WEDGES | see FOLDING WEDGES (Suffolk). |
| THROUGH ARMS | see COMPASS ARMS (Suffolk). |
| THROUGH-SHOT ARMS | Wooden compass arms of a wheel (Essex). |
| THROUGHS | (1) Good grain which passes through a sieve. (2) A product that has passed through a sieve. |
| THRUST BEARING | Any bearing taking the end thrust of a shaft, as at the TAIL end of a WINDSHAFT. The PINTLE and POT bearing at the bottom of a vertical SHAFT is a combined thrust and JOURNAL bearing. |
| THRUST BLOCK | A block that carries the THRUST BEARING of the windmill WINDSHAFT. |
| THRUST BRASS | see THRUST BEARING. |
| THRUST RING | A THRUST BEARING which takes the form of a ring, as at the TAIL end of a WINDSHAFT, through the centre of which must pass the STRIKING ROD. |
| THUMB | see MILLER'S THUMB. |
| THUMB OF GOLD | see MILLER'S THUMB. |
| TIDAL FLAPS | Horizontally hinged hatches which open to permit the tidal water to enter the MILL POND and close on the ebb to trap the water. |

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| TIDE GATES | Vertically hinged gates which are operated by the tide, opening on the flood and closing on the ebb, thus holding water in the tide pond. |
| TIDE MILL | A WATERMILL using the rise & fall of the tide to provide the power, and normally provided with a TIDE POND or reservoir, often sited in a stream or river estuary. |
| TIDE POND | A MILL POND which is filled by the rising tide, but may also have a supplementary feed of fresh water. |
| TIE BEAM | A stout framing member which secures two parallel members together to prevent independent movement or ties together the feet of the rafters in a roof couple. |
| TIE ROD | Long rods or bolts holding a mill together, often added to a building (long) after construction, to compensate for structural weakness. STAY BOLT |
| TIGGLE | see SACK HOIST. |
| TILLER | see TALTHUR. |
| TILT HAMMER | A forge hammer operated by a trip-wheel or cam-shaft turned by a WATERWHEEL. See also FULLING STOCKS. BELLY HELVE HAMMER. The cams lift the helve midway between the pivot and the head. NOSE HELVE HAMMER. The cams lift the helve at a point beyond the hammer head. TAIL HELVE HAMMER. The cams force the tail of the helve downwards. |
| TIMBER FEED | The framework carrying the timber bauk being fed to the SAW BLADES in a SAW MILL. |
| TIN EYE | see EYE TIN. |
| TIRL | An Orkney/Shetland term for the waterwheel, impeller or rotor of a HORIZONTAL MILL. |
| TITHE | A tax of one tenth part of the annual proceeds from land or personal industry. Used for the support of the Church. Originally payable in kind. |
| TIVER | Paint composed of red oxide of iron, tallow or fat & water, or soot & water (applied to the PAINT STAFF to detect & mark raised areas on grinding surface of stones prior to dressing. Also known as RADDLE. |
| TJASKER | A simple Dutch drainage mill, consisting of an Archimedean screw driven directly by sails, without gearing. |
| TOE BEARING | see FOOTSTEP BEARING. |
| TOEBRASS | Part of the toe bearing in which a shaft bearing revolves. See FOOTBRASS. |
| TOLL | Payment in kind, taken by a miller in a MULTURE BOWL for grinding corn or dressing meal. |
| TOLL CUPBOARD | Store for products taken as TOLL. |
| TOLL DISH | see MULTURE BOWL. |
| TOMKIN HEAD | A SAMSON-HEAD. |
| TONKIN | Water channel to mill. |
| TOOTH | see Teeth. |
| TOP | A patent flour, containing as little as 20% of the total weight of the wheat employed. |
| TOPPINGS | A secondary product of milling, usually fed to pigs. |
| TOP PLATES (GIRTS) | see TOP SIDE RAILS (Suffolk) |
| TOP SIDE RAILS | The uppermost side rails in a POST MILL. |
| TOP STONE | see RUNNER STONE |
| TOWER MILL | A windmill with a fixed tower of masonry or brickwork, fitted with a revolving CAP. |
| TRACE POLE | A DERRICK POLE. Also refers to a pole erected in the centre of a windmill tower while the tower is being built. The radius & circularity being determined by the use of a TRAMMEL STICK which measures from the pole. |
| TRACER | see JACKSTAFF. |
| TRACER BAR | see JACK STAFF. |
| TRACK | A metal track which may have a toothed RACK mounted on the CURB for turning the CAP. |
| TRACK PLATES | Annular plates of wrought or cast iron bolted or spiked to a wooden curb to take the wear. |
| TRAIL | see JACKSTAFF. |
| TRAILING SIDE (of sails) | see DRIVING SIDE. |
| TRAIL STICK | (1) A lever operating a bell alarm or a SHOE (operated by being vibrated by the rough surface of the runner stone). (2) see JACKSTAFF. |
| TRAM FRAME | Frame carrying the TRAM WHEELS on the STEPS or TAILPOLE of a FANTAIL POST MILL. |
| TRAMMEL | see JACKSTAFF. |
| TRAMMEL STICK | A wooden or iron arm pivoted about a centre point for describing a circle as when building a mill tower or constructing a burr stone. |
| TRAMMING | see BRIGGING THE SPINDLE. |
| TRAMMELING | see BRIGGING THE SPINDLE. |
| TRAM POT | see BRIDGING BOX. |
| TRAM-STAFF | see JACKSTAFF. |
| TRAM STICK | see JACKSTAFF. |
| TRAMWAY | The track on which the tram wheels of a POST MILL FANTAIL travel. |
| TRAM WHEEL | The wheels usually two, driven by a POST MILL FANTAIL which run on a TRAMWAY around the mill to WIND it. |
| TRANSOM | Horizontal timber in the wall of a smock mill, which acts as a tie and also as a support for STUDDING. |
| TRAP DOOR | A door in the floor or a roof. |
| TRAVELLERS | An Essex/Suffolk term for the carriage wheels at the base of a post mill ladder (Suffolk). |
| TREADMILL | A wide large wheel which is rotated by a man or men treading it round to provide power to some devise. |
| TREENAIL | Wooden dowel pin. Also called a TRUNNEL. |
| TRENAIL | see TREENAIL. |
| TRENDEL | A driver that clutched the rhynd (medieval term). Stone spindle. |
| TRESTLE | The whole of the substructure of a post mill (the POST, QUARTERBARS, CROSSTREES and COLLAR) below the body of the mill. Often enclosed in a ROUND HOUSE. |
| TRESTLE GRINDSTONE | A BELT-driven grinding stone for sharpening MILL BILLS etc. Usually half cased and standing on trestle legs. |
| TRIANGLE IRON | see TRIANGLES. |
| TRIANGLES | Iron cranks operating the front STRIKING GEAR of PATENT SAILS. |
| TRIER | see TRIEUR. |
| TRIEUR | A machine for separating the grain from impurities, foreign matter and other seeds. Sorts by size and shape. Two versions, one lifts the wanted product, the other the unwanted. A similar method is found in the SIMON DISC SEPARATOR. Also called a TRIER. Same as a COCKLE CYLINDER. |
| TRIMMERS | Joists at right-angles to the main run of joists, which form the ends of an opening such as a stairwell or SACK TRAP. |
| TRINDLE | see LANTERN PINION. |
| TRINELLS (trubdells) | Early type of gears using wooden pegs instead of teeth. (Scot.) |
| TRINGLE | see LANTERN PINION. |
| TRINLE | see LANTERN PINION. |

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| TRINLE BOARDS | The discs of a LANTERN PINION. |
| TRINLE RINGS | see TRINLE BOARDS. |
| TRIP HAMMER | see TILT HAMMER. |
| TROLLEY STEPS | see STEPS. |
| TROLLEY WHEELS | see TRUCK WHEELS. |
| TROUGH | see PENTROUGH. |
| TROUGH | The vessel which collects the meal from the stones (Scot.). |
| TROW / TROWSE | see PENTROUGH. (Scot.). |
| TROW | see MEAL BIN. |
| TRUCKLE | see TRUCKWHEEL. |
| TRUCK WHEEL | (1) Small wheels fixed to the under-side of the CAP FRAME, running on the CURB, and carrying some or all of the CAP weight. (2) Wheels which carry the CAP FRAME on the CURB. (3) Wheels used to support the steps of post mills. (4) Wheels that run against the inside face of the CURB to centre the CAP. |
| TRUING | see BRIGGING. |
| TRUNDLE | see TRUNDLE WHEEL. |
| TRUNDLE GEAR | see TRUNDLE WHEEL. |
| TRUNDLE-HEAD | LANTERN PINION WALLOWER. See LANTERN WHEEL. |
| TRUNDLE WHEEL | A primitive gear wheel having wooden pegs projecting from the face instead of cogs; may engage with a FACE WHEEL or LANTERN WHEEL. Also known as COW-POP GEAR. |
| TRUNNEL | see TREE NAIL. |
| TRUNNION | A bearing fitted in the ends of horizontal block or at the end of a shaft. |
| TUB MILL | see American terms. |
| TUB WHEEL | see American terms. |
| TUCKING MILL | see FULLING MILL. |
| TUMBLER SHAFT | The horizontal drive from a HORSE WHEEL (Scotland/N.E. England). |
| TUMBLING BAY | See SPILLWAY, WEIR (local term) |
| TUMBLING IN | A sloping surface of brickwork used to effect a transition from one shape to another. |
| TUMP | A term which can be applied to windmill mounds. |
| TUN | Removable circular or octagonal wooden or metal casing enclosing the MILLSTONES. Also known locally as VAT, CASE, CASING, HURSTLE, BOX, CRIB or HOOP. |
| TUNNEL BIN | A bin in the roof of a post mill incorporating a "tunnel" for the windshaft to pass through. |
| TURBINE | see WATER TURBINE. |
| TURBINE PUMP | A centrifugal water pump of the type invented by Appold in the 1850's. The later drainage mills were fitted with these, and some earlier mills were converted to drive them (Norfolk). |
| TURKSHEAD | OGEE-SHAPED CAP. |
| TURNBUCKLE | Double-ended screw embodying right and left-handed threads for drawing two rods together, also known as a BOTTLE SCREW. |
| TURRET MILL | A composite mill with round brick base carrying a curb on which the buck rests. See COMPOSITE MILL (in times past it has been used for POST MILLS or PEG MILLS). |
| TUSK TENON | Tenon extended through a MORTISE & pegged at the tail end, as in the COLLAR(2) of a POST MILL. |
| TWIBILL | Ancient tool for hacking out mortises. |
| TWIST PEG | Adjustable winding peg or other mechanism to adjust the tension on the CROOK STRING and thus control the feed rate to the stones. |
| TWO-QUARTER (FURROW) DRESSING | A style of HARP DRESSING in which there are two furrows per harp leading to the rim. |
| TWO-(THREE) PART SHAFT | A SHAFT comprising two or three sections of iron or wood which are coupled together longitudinally. |
| TWO-STEP GEARING | A system of gearing designed to allow two or more pairs of MILLSTONES to be driven by wind or water. (1) A SPUR GEAR drive, employing an UPRIGHT SHAFT so that two or more STONE NUTS may be engaged with the GREAT SPUR WHEEL - applicable to both wind and water mills. (2) A LAYSHAFT drive, where usually the PIT WHEEL drives a LAYSHAFT on which two or more BEVEL GEARS each take the drive to a pair of STONE SPINDLES. (3) Variants of such drives exist. |
| UNDERDRIFT | Millstones driven from below; the customary arrangement in a watermill. |
| UNDERDRIVEN | see UNDERDRIFT. |
| UNDERHOOSE | The lower compartment of a Norse mill, containing the TIRL. |
| UNDER RUNNER | The lower revolving MILLSTONE of a horizontal pair. |
| UNDER STONE | see BEDSTONE. |
| UNDERSHOT WHEEL | A form of WATERWHEEL, driven by only IMPULSE of water passing beneath & striking the lowest FLOATS. Of use where the fall of water is insufficient to turn an OVERSHOT or BREAST WHEEL. |
| UNION DRESSING | see STRAIGHT DRESSING. |
| UNION MILL | see ANTI-MILL. |
| UNIVERSAL (CENTRE) IRON | see GIMBLES. |
| UNIVERSAL JOINT | A coupling between the ends of two SHAFTS which allows for the shafts to be aligned in different directions. A "Hook Coupling". Comprising yokes and cross-type trunnions |
| UNVENTILATED BUCKETS | Waterwheel buckets in which no air-escapes are provided to assist with rapid filling. The lower edges of the buckets fit closely to the SOLE plate. See also VENTILATED BUCKET & BUCKET. |
| UPLONGS | (1) The intermediate longitudinal battens of a SAIL FRAME(1). (2) see SHUTTER BAR. |
| UPPER SIDE GIRTS | Side beams supporting the tailbeam under the wind-shaft in a post mill. |
| UPPER STONE | see RUNNER STONE. |
| UPRIGHT SHAFT | The main vertical driving shaft of a wind or water mill upon which the WALLOWER, the GREAT SPUR WHEEL and the CROWN WHEEL are mounted. Also called a MAIN SHAFT. |
| V-PULLEY | A PULLEY wheel with one or more V-sectioned grooves on its rim to take driving ropes, belts or chains. |
| VANES | (1) The SHUTTERS in spring and patent sails. (Suffolk term). (2) The blades of a FANTAIL. (3) The blades on a fan. (4) The blades on an enclosed tub wheel or turbine waterwheels. |
| VARYING PITCH | see ANGLE OF WEATHER. |

VAT see TUN.

VENTILATED BUCKETS Waterwheel buckets designed with vents for the passage of air to ease the entry and release of water. Sir William Fairbairn perfected it; but it was known earlier.

VERANDAH see STAGE(1).

VERTICAL MILL The traditional European mill driven by a vertical waterwheel. (e.g. on a horizontal wheelshaft).

VERTICAL MILLSTONES The stones in a mill which are mounted vertically, the RUNNER STONE turning in a vertical plane.

VERTICAL SHAFT A shaft from which ancillary machinery was driven.(also used for the UPRIGHT SHAFT).

VERTICAL WATERWHEEL A WATERWHEEL mounted on a horizontal AXLE and therefore rotates in a vertical plane. It can have a number of features, among which are the following:-
 (1) see ARMS(2).
 (2) see CLASP ARM.
 (3) see COMPASS ARM WHEEL.
 (4) see HUB.
 (5) see RIM GEARING.
 (6) see SUSPENSION WHEEL.

The waterwheel's rim may also have a number of features, depending on the type of wheel
 (1) see BAYS.
 (2) see BUCKETS.
 (3) see FLOATS.
 (4) see SHROUDS.
 (5) see SOLE.
 (6) see STARTS.

A vertical waterwheel may operate in various ways in order to make the best use of the water available on the site.
 (1) see BREAST SHOT WHEEL
 (2) see HIGH BREAST WHEEL
 (3) see LOW BREAST WHEEL
 (4) see OVERSHOT WHEEL
 (5) see PITCHBACK WHEEL
 (6) see PONCELET WHEEL
 (7) see UNDERSHOT WHEEL

VIBRATING MACHINE see JOG SCRY.

VITRUVIAN MILL The Roman VERTICAL MILL, as described by Vitruvius about 15 BC in "De Architectura".

VOLUTE CASING The casing around a turbine rotor directing & enclosing the water.

WAGGON CAP see CAP (SHAPES) - WAGGON.

WAIST The inner portion of a millstone surrounding the eye.

WALK MILL
 (1) see FULLING MILL.
 (2) see HORSE MILL.

WALL BOX A cast iron bearing box mounted in a wall.

WALL MILL A WINDMILL set on the ramparts of a castle or fortified town.

WALL PLATE
 (1) Wooden fillet in the wall for fixing partitions.
 (2) A beam laid in or on a wall.
 (3) A cast-iron plate, usually circular used with a stay bolt to strengthen a building.

WALL TIE see STAYBOLT.

WALLER see WALLOWER.

WALLOW see WALLOWER.

WALLOWER The horizontal BEVEL GEAR or LANTERN PINION driven by the BRAKE WHEEL or PIT WHEEL to turn the UPRIGHT SHAFT or LAYSHAFT, being the first DRIVEN gear wheel in a wind or watermill.

WALLOW WHEEL see WALLOWER.

WAND The STOCKS of a WINDMILL fitted with a cross instead of a POLL END (N.E.Eng.).

WARBLER see BELL ALARM.

WARNING BELL see BELL ALARM.

WASHBOARD Planks set on edge on top of a weir to allow adjustment to the height of the water.

WASTE see BY-PASS.

WASTE GATE BY-PASS SLUICE (used by Thames Conservancy 1908).

WATER AXLE (SHAFT)see WHEEL SHAFT.

WATER ENGINE In mining, a water pump engine.

WATER GATE see PENSTOCK.

WATER MILL A MILL at which the motive power is obtained from water acting on a waterwheel or turbine.

WATER MEADOW A field which may flood naturally, or by controlled flooding in the winter, preventing the soil freezing, and thus obtaining an early crop of grass. As a result it is considered to be very fertile land. Beasts cannot be left there overwinter

WATER RIGHTS An ancient right of the miller to receive a constant supply of water, without hindrance.

WATER TURBINE A C19 development using an enclosed impeller whose cups or blades are scientifically shaped, driven by IMPULSE and REACTION of water. The casing commonly contains vanes or water flow control devices whereby the output power can be controlled. A higher efficiency and increased speeds and power are obtained compared with a water-wheel.
 (1) ARMFIELD TURBINE A turbine manufactured at the Armfield works in Ringwood. They were millwrights and founders. Their two principle turbines were the "River Patent" and the "British Empire" which were produced from the late C19 onwards. Joseph J Armfield. The firm is no longer in existence.
 (2) GILKES TURBINE A turbine manufacturer, whose works are in Kendal, who still repair and manufacture turbines. They have bought up many other turbine manufacturers over the years and are now the principal turbine firm in this country.
 (3) FOURNEYRON TURBINE An outward flow reaction turbine..
 (4) FRANCIS TURBINE A mixed flow reaction turbine in which the water enters the runner radially inwards and leaves axially. Developed in the U.S.A. in the 1840s.
 (5) PONCELET WATER TURBINE An inwards, radial flow reaction water turbine developed in France in 1826.

WATER WALL The wall of a watermill which faces into the lade.

WATER WALLS Walls in a DRAINAGE MILL, making a channel for the water.

WATERGATE see PENSTOCK.

WATERWHEEL A wheel which is able to extract mechanical energy from water as it passes from a high level to a lower level. There are various types of waterwheel, the selection of type being related to the conditions found at the site.
 See VERTICAL WATERWHEEL.

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| | See HORIZONTAL WATERWHEEL. See WATER TURBINE. |
| WALK MILL | see WALK MILL. |
| WEAKNESS | see STRENGTH. |
| WEATHER | see ANGLE of WEATHER. |
| WEATHER BEAM | see BREAST BEAM. |
| WEATHER-BOARD | A board with a tapered cross section used for cladding. Their overlap may vary according to local tradition. |
| WEATHER-BOARDING | The close-fitted boarding covering the structural timbers of a mill. |
| WEATHER HATCH | see STORM HATCH. |
| WEATHER LOOP | see LOOP. |
| WEATHER SHIELD | A plate or shield inserted in a barrel vault for a wheel shaft to pass into the mill, to prevent water ingress. |
| WEATHER SHUTTER | see STORM HATCH. |
| WEATHER STUDS | see NECK STUDS. |
| WEATHER TO | see WINDING. |
| WEATHERED SAILS | Sails with a varied pitch from inner to outer end to the other. see also PITCH. |
| WEAVING MILL | A TEXTILE MILL in which looms for weaving cloth are operated by water power. |
| WEB | A strengthening member in a casting. |
| WEED CROME | A long handled crook, used to pull weeds from the screen or other areas. |
| WEED SCREEN | see DEBRIS SCREEN. |
| WEIGHT BOX | The box for carrying the weights of a STRIKING CHAIN. |
| WEIGHT CHAIN | see STRIKING CHAIN. |
| WEIGHT WHEEL | see STRIKING WHEEL. |
| WEIR | (1) A restriction or dam across a water course to permit the backing up of the water (may be used to divert water to a mill). (2) A feature in a dam permitting the excess water to pass over the top. (3) An enclosure of stakes etc., to catch fish. |
| WELL FRAME | Is suspended from the CAP FRAME and used to centre the CAP (NW Eng.) see also CENTRING FRAME |
| WHEAT BERRY | American term for a grain of wheat. |
| WHEAT FEED | Low grade flour containing mainly germ and fine bran. |
| WHEAT MEAL | Ground wheat as it comes from the stones, undressed. see WHOLEMEAL. |
| WHEAT SCREEN | (1) A cleaning machine. (2) A heavy wire screen placed in a spout with an outlet for rubbish. see BALANCE DISH. |
| WHEAT STAFF | see PAINT STAFF. |
| WHEAT STONES | see MILLSTONES(1) BURR. |
| WHEEL | A circular component capable of rotating, used for many purposes and having many forms of construction. see WATERWHEEL, BELT PULLEY, GEAR WHEEL, BRAKE WHEEL, MITRE WHEEL, FRICTION DRIVE, TRUCK WHEELS, CAP-CENTRING WHEELS, WORM, WORM WHEEL, PIT WHEEL, COMBINATION PULLEY, COG WHEEL, SPURWHEEL, COMPASS ARM WHEEL, CLASP ARM WHEEL etc. |
| WHEEL & CHAIN GEAR | Endless chain for hand WINDING a mill CAP, or for a hand-operated hoist. |
| WHEEL AXLE | see WHEEL SHAFT |
| WHEEL HOUSE | The enclosure, especially on the side of the mill, to house the waterwheel etc. |
| WHEEL OF POTS | see NORIA. |
| WHEEL PIT | The pit in which a waterwheel turns. see also RUNWAY |
| WHEEL RING | see RIM GEARING. |
| WHEEL SAIL | see ANNULAR SAIL. |
| WHEEL SHAFT | The wooden or iron shaft on which the WATERWHEEL is mounted. see also AXLE. |
| WHETTING | (1) see DRESSING. (2) N.England term used for sharpening an edge tool.-hence "whetstone". |
| WHIP | The main longitudinal timber of an individual windmill SAIL, strapped & bolted to the face of the STOCK. see SAIL BACK. |
| WHITESMITH | A smith who works with metals other than iron. |
| WHITING MILL | Wind or watermill in which chalk or calcined limestone is ground with a pair of HORIZONTAL MILLSTONES, or by EDGE RUNNERS (in a water-filled grinding pan), for whitewash or fertiliser. |
| WHIZZING | Whirling grain in a centrifugal machine to rid it of surplus water added during washing. Usually associated with power/roller mills. |
| WHOLEMEAL | see MEAL. |
| WHOLEMEAL BREAD | Bread made from WHOLEMEAL. |
| WHOLEMEAL FLOUR | see FLOUR. |
| WIDDERSHINS | Describes a rotary motion in an opposite direction to the motion of the sun: e.g. applicable to the anti-clockwise motion of certain millstones. |
| WIDDERKINS | WIDDERSHINS. |
| WILEY | (from Willow) A preparatory process before the spinning of cotton or woollen yarns. |
| WILLOW | A wooden spring for tensioning the SHOE against the DAMSEL. |
| WINCH | A hand-operated machine with or without GEARS which can produce a powerful pull on a rope or chain useful for lifting or pulling operations, such as WINDING a mill with a winch fitted on its TAILPOLE. Also known as a WINDLASS. |
| WINCH BARREL | see BOLLARD. |
| WINCH POSTS | CHAIN POSTS used with a TAILPOLE mill. See TAILPOLE. |
| WINDING WHEEL | see FANTAIL. |
| WINDLE | A measure of corn. (term used in 1556 document). |
| WIND BEAM | The WEATHER BEAM. |
| WINDBOARD | Board on the leading edge of a sail to 'gather in' the wind. |
| WIND ENGINE | An ANNULAR SAILED WIND MILL on a skeletal wooden or iron tower, normally used for pumping or generating electricity. (Also known as AMERICAN WINDMILL.) |
| WING GUDGEON | A journal of cast-iron with four "wings" in the form of a cross, set into the end of a wooden shaft to run on a bearing. Same as CROSS-TAILED GUDGEON. |
| WIND PUMP | A pump powered by wind, usually driven by annular sails on a 'pylon type' metal tower. See WIND ENGINE. |
| WIND WHEEL | Annular sail controlled by patent type gear. |
| WINDED | A WINDMILL turned to face the wind. |
| WINDING | The process of turning the MILL so that the SAILS face square to the wind (pronounced as in 'win'). See WINDING GEAR. |

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| WINDING GEAR | TAILPOLE or FANTAIL for turning the windmill to face the wind (into THE EYE OF THE WIND). May also be turned by the use of inside winders such as the Dutch use or at Chesterton and Tysoe mills, as well as Wheel & Chain as at e.g. Bursledon and Llynor. Also known as LUFFING. |
| WINDING WHEEL | see WINDING GEAR. |
| WINDING WORM | A wooden or iron WORM which meshes with the RACK to turn a CAP to face the wind. See WINDING GEAR. |
| WINDLASS | (1) see SACK BOLLARD. (2) see WINCH. |
| WINDMILL | see POST, SMOCK & TOWER. |
| WINDMILL MOUND | An artificial mound on or in which early POST MILLS often stood, either to give them greater height for a stronger wind or to cover the bottom of the TRESTLE to stabilise the mill against high winds. |
| WINDOW POSTS | see INTERMEDIATE UPRIGHTS. |
| WINDSHAFT | Main SHAFT of a WINDMILL axle of iron or wood, usually entering the cap or body of a windmill at a small angle to the horizontal, and which carries the sails and the BRAKE WHEEL. see also MORTISED WINDSHAFT. |
| WIND TO | see WINDING. |
| WINNOWER | (1) A machine in which a FAN(2) blows air to remove CHAFF and other light material from the grain as it falls across the airstream, before it is ground. It may incorporate sieves. (2) A flat basket held or shaken in the wind to blow chaff and other light refuse from the threshed grain. |
| WINNOWER FAN | Fan which blows chaff and other light refuse material from uncleaned grain as it passes through a box and sieve. |
| WINTER-LAKES | Water-meadows (Old term.) |
| WINTER MILL | A watermill on a small stream that is only strong enough to work it during the winter. A class of WATERMILL mentioned in the Domesday Survey, and still functioning in Denmark. See NAILBOURNE. |
| WINTERBOURNE | A stream which only flows in the winter (Bourne, Piddle, Lavant etc). |
| WIPMILL | A Dutch type of HOLLOW POST MILL driving a SCOOP WHEEL. See HOLLOW POST MILL. |
| WIRE DRESSER | see WIRE MACHINE |
| WIRE MACHINE | Device used to separate FLOUR from SHARPS & BRAN, and grade it into several qualities. A type of cleaning, or dressing, machine using a fixed cylindrical frame covered with a wire mesh containing rotary brushes. See DRESSER. |
| WIRE MILL | A watermill in which rods of metal were pulled through a succession of holes of reducing size, to produce wire. |
| WIRE RIGGING | Stay wires for easing the strain on the SAILS. |
| WITH THE SUN | Clockwise. See also AGAINST THE SUN. |
| WOOD | Traditional material for building mills; Oak for wheels and main mill construction; elm for FLOATS; apple, beech or hornbeam for COGS. see PAINT STAFF. |
| WOOD PROOF | see PAINT STAFF. |
| WOOD RIGGER | An old term for a BELT PULLEY. |
| WOOD WEARS | Wooden blocks round the main post in a post mill floor. See COLLAR(1). |
| WOOLLEN MILL | Cleans, cards, weaves and fulls woollen cloth. |
| WORKING DRY | When the stones are running without grain present. |
| WORKING UPLONGS | Long, slender wooden bars linking the levers of SHUTTERS together. Same as SHUTTER BARS. |
| WORM | (1) Cylindrical GEARWHEEL bearing a helical TOOTH or START; frequently used in conjunction with a rack in windmill winding gear. It could be regarded as a single-toothed GEAR WHEEL. Sometimes provided with more than one tooth or 'start'. In Westmorland it was used as part of the MILLSTONE lifting hoists (2) see AUGER. |
| WORM RING | see RACK. |
| WORM WHEEL | A SPUR GEAR having its cogs set at an angle to mesh with a WORM. |
| WORSTED MILL | see WOOLLEN MILL. |
| WRAPPING CONNECTOR | see BELT. |
| Y-WHEEL | Wooden or iron wheel which has metal 'Y's' projecting from the rim, for operation by an endless chain or rope so increasing the grip. See STRIKING WHEEL. |
| YIELD | A unit of finished product expressed in terms of the number of bushels of grain required to make it. |
| YOKE | A wooden cross-piece joining two pieces of timber. |
| YOKE and CHAIN | A tool used for disengaging a STONE NUT. |
| YOKE ARM | A bar with a fork or yoke at one end. See YOKE AND CHAIN. |

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AMERICAN (USA) MILL TERMS

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| CAPLOG | The heavy timber secured across the top of a milldam to minimise wear. |
| CHOP | The product of a millstone or of a break in a roller mill. |
| CUT OFF | An adjustable dividing board under a sieve to allow the miller to change the flow of flour in order to get the best result from the milling/sieving operations. |
| CUT STRAIGHT | A straight flour from which a (better) part has been removed. |
| DESCENDER | A labour-saving device perfected in the C18 by Oliver Evans, an American Millwright, to control the descent of grain. |
| DIFFERENTIAL | In ROLLER MILLING, the ratio of the rotation of the fast and slow rolls. |
| ENDING STONES | A pair of stones set well apart, employed in American mills to crack the bran as a preliminary to "low" grinding. |
| FEATHERING | STITCHING. See CRACKING. |
| FLUME GATE | see HEADGATE. |
| FLUTTER WHEEL | Narrow waterwheel of moderate diameter with radial floats placed at the bottom of a chute, it worked by the impact of the water. Used primarily in up-and-down saw mills, it was capable of providing as many as 120 strokes of the saw per minute (so called because of the birdlike sound it makes). |
| HOMINY | Foodstuff made from hulled and coarsely-broken maize, mixed with water and boiled (hulled maize). |
| HOPPER BOY | A device invented by Oliver Evans for spreading out the warm freshly-ground meal for cooling and then gathering it together again prior to BOLTING-INCORPORATION. Important process of intimate mixing and grinding in an EDGE-RUNNER MILL. |
| LONG PATENT | A variety of patent flour with a large percentage of the finest flour. |
| METATE | SADDLESTONE. |

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| MILL BIT | see BILL. |
| MILL CAPACITY | A mill's capacity was measured by so many barrels. 196 lbs.= 1 BARREL (14 stones) |
| NEW PROCESS | The process of high milling used in the USA before the introduction of the modern roller mill. |
| RED DOG | A very low-grade, branny flour used only for animal feed. |
| SHAWNGUNK CONGLOMERATE GRIT | Millstones produced by the Esopus Millstone Co. of Kingston, New York. |
| SWALLOW | The EYE of a RUNNERSTONE. |
| TRAMP IRON | Metal scrap (binder wire etc.) hidden in the grain. |
| TRASH GRID | see DEBRIS GRILLE. |
| TRASH GRILLE | see DEBRIS GRILLE. |
| TRASH SCREEN | see DEBRIS GRILLE. |
| TUB MILL | A HORIZONTAL WATERMILL fitted with a TUB WHEEL. |
| TUB WHEEL | Horizontal WATERWHEEL revolving in a circular casing made of wood or other material. The Tub Wheel is less affected by backwatering than is the conventional horizontal wheel. |

FLINT MILL TERMS.

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| BRAKE DRUMS | The friction drive clutch which transmits the drive to the SWEEP ARMS of a flint-GRINDING PAN |
| CALCINED FLINT | Flint nodules roasted in a kiln to make them easier to grind. Then crushed & ground in water in a GRINDING PAN to provide a component part of potters "clay" for making white pottery. It is rich in silica and airborne dust causes silicosis. Early grinding was done in air with resultant lung damage. |
| CALCINING KILN | see FLINT KILN. |
| CENTRE TUB | A tubular-shaped member in the centre of a flint-GRINDING PAN through which the SHAFT(3) passes. It prevents water and slurry escaping from the centre of the pan. |
| CHERT | A type of stone used for grinding calcined FLINT. See MILLSTONE(7) CHERT. |
| CLAY SEAL | Clay used to seal a flint GRINDING PAN against water leakage. |
| FLINT | A hard stone of nearly pure silica found in irregular lumps in chalk formations. These can be calcined (burnt) in a FLINT KILN. See CALCINED FLINT. |
| FLINT KILN | A vertical cylindrical kiln in which layers of flint and coal are burned (900 degrees C) to produce CALCINED FLINT before it is crushed and ground. Calcining makes the flint easier to grind. |
| FLINT MILL RUNNER | Blocks of softer CHERT used in a GRINDING PAN. |
| GRINDING PAN | Used for grinding CALCINED FLINT. An open top shallow pan, with a CHERT-lined bottom. Flint is ground by lumps of chert being pushed round the pan in water by the SWEEP ARMS. Different grades of ground flint are obtained by settlement through water. |
| HANGING ARMS | Oak arms with slots for adjustment and with their lower ends fitted with iron toe plates, fixed to the SWEEP ARMS. They push the FLINT MILL RUNNERS round the GRINDING PAN. |
| LEVELLING DIRT | The material into which the CHERT PAVERS of a flint GRINDING PAN are set. |
| PAVERS | Blocks of hard CHERT used in a flint GRINDING PAN, acting as a bedstone. |
| SLIP KILN | A kiln at a FLINT MILL in which the ground slurry is dried into handleable lumps for transport to the pottery. |
| SLUG IRON | A protective iron ring which keeps the RUNNERS of a flint GRINDING PAN from contact with the STAFFING to prevent damage. |
| STAFFING | The outer edge or containment of a GRINDING PAN. May be made of wood, iron or steel plates, stone or masonry. |
| SWEEP ARMS | Arms attached to and driven by the upright shaft above the centre of a flint-GRINDING PAN. They push the RUNNERS round in the pan via the HANGING ARMS. The drive is via a friction clutch (BRAKE DRUM) which will slip should a runner jam. Commonly four sweep arms. |

GUNPOWDER MILL TERMS (Edward M Patterson)

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| BLACKPOWDER | Synonymous with gunpowder. Probably dates from the introduction of smokeless powder for guns. |
| BALL MILL | Large wooden barrel or cylinder containing blocks of hardwood. The barrel revolved on its axis, and was used to pulverise corned black powder and make mealed powder (q.v.). |
| BOBBINITE | A modified black-powder which was rendered non-incendive by the addition to it of 'Maizite' (q.v.) and could therefore be used safely in gassy coal mines. |
| BOGIE | General term for a small, wheeled, roofed vehicle used for the conveyance of powder. |
| BREAKER | Machine with two cracker rolls (q.v.) used to break slabs of mill-cake prior to pressing. Also termed cake-breaker. |
| BREAKING DOWN | The operation of reducing the size of fragments of mill cake prior to pressing. |
| BUCKET ELEVATORS | Endless canvas belts carrying copper or composition buckets, whereby powder in process is raised to a higher level, as in a corning machine. |
| CAMEL BOGIE | Term for a large bogie used to convey smaller bogies. |
| CAM-PELLET PRESS | A type of pellet press in which pressure is applied to unconsolidated black-powder by the action of a cam. |
| CHUBBINS | Oversize fragments of corned powder from Glaze & Dust houses. See also 'Stops' (Gatebeck). |
| CLEAN FLOOR | Floor, or gangway between buildings, where special rubber-soled shoes or overshoes were worn to minimise entry of grit to the process of manufacture. |
| CLINKER | Hard, adherent powder accumulated on the mill-bed or runners during incorporation. |
| COCOA POWDER | A brown gunpowder made with incompletely carbonised wood or straw, in place of charcoal. It contained some volatile organic matter and had a lower ignition temperature than ordinary black powder. |
| COOLER | Lidded steel drum in which freshly-carbonised charcoal was cooled and conditioned prior to being ground, thus avoiding spontaneous ignition. |
| COOPERAGE | Building where barrels were made by coopers. |
| CORNING | Process whereby compressed slabs of milled black powder are broken by being passed between a series of toothed, fluted or smooth gunmetal or zinc rollers, and then separated or 'cut' by sieving into granules of approximately even size. |
| CRACKERS | 'Corning rolls covered with pyramidal teeth. |
| CRACKINGS | Powder which has settled and hardened on the shaft of glazing drums (Hounslow). |
| DIRTY FLOOR | Floor of building, usually in non-danger area, where entry was permitted in any footwear off open ground. |
| DRENCHER | A tank of water situated above an incorporating mill and capable of being tipped by a mill explosion, thus extinguishing the flame. |
| DUSTING | The removal of dust from blackpowder by gentle sieving. |
| EDGE RUNNER | General term for type of mill used to incorporate black powder. |
| EXPENSE MAGAZINE | A magazine used to store powder temporarily between the various manufacturing processes. |
| FROG BOX | used to transfer powder from Glazing Drum to barrel (Gatebeck). |
| FULMINATING COMPOUND | A detonating compound. |
| GLAZING | Process of applying a final polish to corned grains of black powder by tumbling them in black-lead or graphite. |
| GLOOM STOVE | Old type of drying facility where warm air came from a convex metal wall-plate directly heated by an external fire. |
| GLOSSING | see GLAZING (Cornish). |
| GOVERNMENT POWDER | Black-powder produced to meet exacting Government specifications as to ballistics, strength and burning speed. |
| GROUGH | Incompletely purified saltpetre or sulphur. |
| KERBING | Stoping outer edge to mill bed. Synonymous with mill curb (q.v.). |
| LIQUORING | Addition of pure water (termed liquor) to a charge before and during milling. |
| MAGAZINE | Building used to store explosive. See 'Expense Magazine'. |
| MAIZITE | A mixture of starch; paraffin wax and boracic powder, added to and conferring non-incendivity on black-powder See Bobbinite. |
| MEALED POWDER | Finely-pulverised black-powder specially made by crunching corned powder in a ball-mill. |

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| MILL | Machine used to incorporate blackpowder. |
| MILLING | The process of incorporation. |
| MILL BED | Flat base of mill, on which runners revolved. |
| MILL CAKE | Semi-consolidated product from milling process. |
| MILL CHARGE | The statutory authorised maximum quantity of powder which was incorporated. |
| MILL CURB | Raised rim to mill-bed which contains the powder during milling. |
| MILL PADS | Leather or balata pads on which suspended runners were rested while mill was being cleared of clinker, or overnight. |
| MIXING | A preliminary to incorporation (q.v.). Superseded in part by pulverise (q.v.) production. |
| NIP | The gap between rolls in a coming machine. |
| N/P/POWDER | Black-powder made with nitrate of potash. |
| N/S POWDER | Black-powder made with nitrate of soda. |
| PELLETS | Compressed cylindrical cartridges of blackpowder, often N/S type, and with an axial perforation. Used in blasting in mines. |
| PESTLE MILL | Primitive method of incorporation (q.v.) in which a heavy wooden pestle was worked within a wooden bowl or mortar, either manually or mechanically. |
| PLOUGH | Part of edge runner mill, made of bronze or brass & used to sweep the charge towards the centre of the mill bed during incorporation. Two ploughs were used in each mill. |
| POWDER MILLS | General term formerly applied to a gunpowder factory. |
| PRESS | A machine used to compress black-powder into hard slabs prior to coming. |
| PRESSING | The operation of compressing milled black-powder into slabs of a high (c 1.75) density. |
| PULVERISE | An Ardeer noun for charcoal and sulphur mixed in the proper ratio and finely powdered by energetic ball-milling, using steel balls in a steel drum. It formed part of the mill charge. |
| REEL | A cylindrical form of sieve, made of sieve cloth mounted on a wooden frame. It rotated on its axis, which was usually tilted. |
| REWORK | General term for re-processed powder, for example coming-house dust returned for milling or pressing. |
| RIPE CHARGE | A mill charge after incorporation. (See WROUGHT CHARGE.) |
| ROLLS | Pyramidally-faced, or fluted, or smooth metal rollers used in coming. |
| RUNNER | A man whose job was to push a bogie. |
| RUNNERS | Pair of solid wheels, resting on edge, mounted freely on a horizontal axle which was fixed to a vertical drive shaft. Runners rested on the mill-bed originally, later they were suspended about 75 mm above it. Runners were originally of limestone, later of cast iron or steel, and weighed up to six tons. |
| SCUPPIT | Wooden shovel used to lift and transfer the wrought charge from mill to bogie. |
| SERVICE WAITER | Operator who transported material from one process building to another. |
| SIZING | The control of grain size (and therefore of surface area) of finished powder by sieving. |
| SKIDDING | Failure of edge runners to turn during the milling process. |
| SKRY (also SCRY) | Large flat sieve in coming machine, actuated by a horizontally rotating crank (Lake District). |
| SMOOTH ROLLS | Used in pairs in the later stages of coming. |
| STAMP MILL | see PESTLE MILL. |
| STOPS | Oversize ground material retained on a sieve or reel (q.v.). |
| STOVE | Building in which finished powder or pellets were dried. |
| SULPHURLESS | A special black-powder made from potassium nitrate and charcoal only, used in special environments because it did not react with brass. |
| SUSPENDED RUNNERS | An incorporating mill in which the runners (q.v.) were suspended so that they did not rest on the mill-bed. The adoption of suspended runners made an important contribution to the avoidance of mill ignitions and explosions, this in turn allowed significant increases in the mill charge (q.v.) and in productive capacity. |
| TIP BOGIE | Small or large bogie capable of being tipped. Ran on gangways and on clean floors, but not in rails (Ardeer). |
| TRAYS | Wooden frames with canvas bottoms, used to expose powder or pellets of warm air during stoving (q.v.). |
| TROD | see CLINKER. |
| WHEEL PIT | Structural recess to accommodate a waterwheel, usually beside or between working buildings. |
| WROUGHT CHARGE | see RIPE CHARGE (Lake District). |
| YANKEE PRESS | A hydraulically-operated horizontal press of U.S.A. manufacture (Ardeer). |

PAPER MILL TERMS from "Paper making in Britain 1488 to 1988" by R L HILLS; and other sources.

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| AGITATOR | A revolving paddle used in STUFF CHESTS or VATS to mix and keep the STUFF stirred. |
| AIR-DRIED | Machine-made paper which is passed over skeleton drums and dried by air, usually hot, circulated through them. |
| AIR-KNIFE COATING | The so-called air knife acts on the principle of a doctor blade and uses a thin, flat jet of air to remove the excess coating from a wet sheet which has just passed through the coating zone. |
| ALUM | ALUMINIUM SULPHATE for sizing. Correctly it is a general name of a group of double sulphates, all of which crystallise in the same form such as potash alum. |
| ALUMINIUM SULPHATE | Used in the sizing of paper. It is added to ANIMAL SIZE or GELATINE to stabilise the consistency, to act as a preservative by arresting the formation of destructive bacteria and to help render the GELATINE impervious to ink. |
| ANIMAL GELATINE | Produced by boiling the waste pieces of hides, hooves, bones etc. in copper-lined steam-jacketed heaters. The GELATINE helps to prevent ink and water penetration into the paper. also known as ANIMAL SIZE. |
| ANIMAL SIZE | see ANIMAL GELATINE. |
| ANTIQUARIUM | A size of drawing paper introduced by the younger Whatman in 1773. It was the largest size sheet of paper made by hand in the west and was standardised at 53 x 30 in. |
| APRON | A sheet of oiled cloth, leather or rubber which bridges the gap between the breast box and the moving wire on a FOURDRINIER paper machine so that the PULP is delivered evenly onto the wire. |
| BEATER | Device generally assumed to have been invented in the middle of the seventeenth century in Holland and which superseded the older method of preparing the PULP by hammering or stamping the rags in a mortar. Also known as a HOLLANDER or a HOLLANDER BEATING MACHINE. |
| BEATERMAN | Person who supervises the mortar and pestle engines in which rags are pulped. |
| BEATER ROLL | A cylinder or drum with knives set around its circumference which cut up the rags and fibrillate the fibres against the bedplate set in the bottom of the beater trough. |
| BEDPLATE | A flat plate of iron in the bottom of the trough in a STAMPER, against which the rags are pounded. In a HOLLANDER beater so that the PULP has to pass between it and the roll above it. The distance between the two determines the fibre length of the PULP. |
| BOARD | A thick sheet of paper. It may be homogeneous throughout or may be made from layers of paper, either pressed together while wet or glued to form the sheet. |
| BOARD MACHINE BREAKER | Similar to the cylinder MOULD machine but has from two to seven cylinder moulds in a line to form multi-ply boards. Gives the primary reduction of the pieces of rags to make them smaller and fit for their final beating in the Hollander. Also known as a BREAKER ENGINE. |
| BREAKER ENGINE | see BREAKER. |
| BREAST BOX | The part of the paper-machine from which the PULP issues onto the moving wire. On most recent machines, the PULP is forced out of the BREAST BOX under pressure. |
| BREAST ROLL | The roller around which the wire on a FOURDRINIER machine passes under the BREAST BOX just before the STUFF is poured onto it. |
| CALENDER | A set or stack of rollers or rolls between which the paper passes and is smoothed by their weight or heated rollers for hot pressing and glazing. The CALENDER is placed at the end of the paper-machine while the super-calender is separate. Both may have heated rolls. In the 1850's usually a separate finishing process but now usually integrated in the Paper mill. |
| CALENDERER or CALENDERER | see CALENDER. |
| CARDBOARD | A term applied to thick, stiff papers, or stiff board produced by passing together a number of layers of paper. |
| CELLULOSE | The basic substance of paper manufacture, the chemical formula being C ₆ H ₁₀ O ₅ . It is the predominant constituent of plant tissues from which it must be separated before it can be used. |
| CHAIN LINES | The more widely-spaced WATERMARK lines across the narrow way of the sheet. They are caused by the tying wires which bind the laid lines into the cover of the mould. |
| CHEMICAL WOOD PULP | Wood reduced to PULP by a chemical process, e.g. by boiling or digesting with either caustic soda, caustic soda and sulphate or soda or bi-sulphate of lime. |
| COATING | The term applied to mineral substances such as china clay which are used to cover the surface of the paper to make it more suitable for some methods of printing. |
| COUCH | The action of transferring the newly-formed paper from the hand mould onto a felt blanket so that the water may be pressed out. |
| COUCHER | The person who carries out the COUCH process. |
| COUCH-ROLLS | They are situated at the end of the moving wire from which paper is transferred onto a felt blanket on a FOURDRINIER paper-machine. |
| COVER | The wire surface of a hand MOULD through which the water drains, leaving the fibres behind to form a sheet of paper. It is also applied to the surface of a dandy roll. |
| CYLINDER | A term indiscriminately applied to various kinds of rolls or drums on paper-machines. More particularly the term is applied to the steam-heated cylinders used for drying the web of paper. |
| CYLINDER MACHINE | Invented by John Dickinson in 1809 and has a cylinder covered with wire through which the water drains, leaving the PULP on the surface. The cylinder is partially immersed in a vat of PULP. It has been developed into board machines and machines for making paper with complex WATERMARKS. |
| CYLINDER MOULD MACHINE | see CYLINDER MACHINE |
| DANDY ROLL | A light skeleton roll or cylinder covered with wire which presses gently on the paper while still wet. It helps to improve the formation of the sheet and can be used to impress a WATERMARK on paper made on a FOURDRINIER paper-machine. |
| DECKLE | In hand papermaking is the removable frame around the MOULD which helps to retain the PULP on the mould's surface while the water drains through. On a FOURDRINIER machine, the deckle straps perform the same function on the moving wire. |
| DECKLE EDGE | When the deckle is removed from the MOULD and the paper is couched, the edge of the paper becomes thinned out in a slightly wavy line which is the true DECKLE EDGE, an effect found only in hand made paper. |
| DEVIL | A machine for removing dust and dirt from rags or esparto grass (also called a 'willow'). |
| DIGESTER | The vessel in which wood chips, esparto grass or rags are boiled with chemicals. It can be stationary or revolving, horizontal or upright, cylindrical or spherical according to the system used. |
| DOCTOR | A thin metal blade which scrapes excess liquid or fibres off a roller to help maintain a smooth surface. |
| DRY CYLINDER MACHINE | Where the PULP is poured onto the surface of the cylinder so that the water drains away through the cover on the cylinder. |
| DRY END | The term for the drying section of the paper-machine consisting of the drying cylinders, CALENDER, REEL, etc. |
| DUSTER | A mechanical contrivance, usually consisting of a revolving drum of wire mesh for opening out rags, esparto, etc. and getting rid of the dirt. |

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| EMBOSSSED WATERMARKS | see THREE DIMENSIONAL WATERMARKS. |
| ENGINE | Originally a term applied to any machine but in a paper mill particularly to the HOLLANDER BEATER. Hence 'Engine-sized' refers to the addition of the SIZING materials during the beating stage. |
| FELTS | Woven material of either cotton or wool with a raised surface which supports the wet sheet of paper during the stages of removal of water and on a machine the subsequent drying. |
| FLONG | A board used for forming stereotype MOULDS. |
| FOILS | Tapered strips of plastic fitted under the moving wire of a FOURDRINIER machine to scrape off the water and drain the sheet more quickly. |
| FOURDRINIER | The name applied to the normal type of paper machine after the brothers who financed its early development. A machine for making paper in a continuous length. |
| FURNISH | The material from which paper is manufactured. |
| GELATINE | A nitrogenous constituent of skin, bones and hooves of animals, used as a SIZE. |
| GLAZE | The gloss or polish on a sheet of paper. |
| GRINDER | The machine used to prepare mechanical wood PULP, consisting of a revolving grindstone against which the logs are pressed to disintegrate them. |
| GROUND WOOD | PULP produced by grinding wood. |
| HALF STUFF | Any partially broken or beaten source of fibres for papermaking is termed HALFSTUFF. |
| HAND MOULD | see MOULD. |
| HOLLANDER | see BEATER. |
| HOLLANDER BEATING MACHINE | see BEATER. |
| INTERMITTENT BOARD MACHINE | Produces thick sheets of board by winding the paper as it comes from either a FOURDRINIER or a CYLINDER MACHINE onto a roller in layers. When sufficiently thick, the web is cut along the length of the roller and pulled off. |
| JORDAN | A machine for reducing or making finer the stock or PULP before it passes to the paper-machine. It has a cone with knives around its circumference which rotates within another, also fitted with knives. It was invented by J. Jordan, Hartford, Connecticut, U.S.A. in 1859. |
| KNOTTER | An appliance with vibrating screens for removing knots or lumps from the PULP. |
| KOLLERGANG | The German name for an edgerunner used for pulping materials for papermaking. |
| LAID LINES | The close light lines in laid paper formed by the laid lines of the hand mould or DANDY ROLL. |
| LAID PAPERS | When held up to the light they have a ribbed or lined effect due to the paper being made with a cover of closely-placed parallel laid wires to form a sieve through which the water drains. |
| LAYER | The person who separates the sheets of hand-made paper from the felts on which they have been pressed. |
| LEVER, LEVERER | The man in a paper mill who operates the press |
| LIQUOR | A general term for chemical solutions, but in the paper industry chiefly used for the alkaline solutions. |
| LOOK-THROUGH | Structural appearance of a sheet of paper observed when viewed by transmitted light. |
| MECHANICAL WOOD PULP | PULP prepared by purely mechanical means, e.g. by grinding the logs of wood. |
| M.G. MACHINE | A single highly-polished steam-heated drying CYLINDER to which the sheet of paper adheres as it dries and receives a smooth surface on the side in contact with the CYLINDER. |
| MOULD | A device consisting of a rectangular wooden frame across which is stretched a covering of wire to act as a sieve or STRAINER. The sheet of paper is formed on the surface by dipping the mould in a vat of fibres suspended in water which drains away through the cover when the MOULD is lifted out. |
| NEWSPRINT | Name applied to paper for printing newspapers. It is the cheapest type made. |
| PACK or WAD | May be either the pile of wet sheets assembled by the layer which he has separated from the FELTS or a small number of sheets piled up ready for glazing. |
| PAPER-HANGING | An obsolescent term for wallpaper. |
| PASTEBOARD | General term for cardboard formed by passing fine papers to either side of middles of inferior quality. |
| PLATE GLAZING | Method of producing a smooth surface on sheets of generally hand-made paper by placing them between polished plates of zinc or copper and passing them back and forth with slight friction between pressing rollers. |
| POST | Term applied to a pile of sheets, normally 144 but varying in number, of wet PULP, fresh from the mould, just made into paper couched with alternate felts and ready for pressing. |
| POTCHER | One of the series of BEATERS or engines used in washing and preparing especially esparto into a PULP. |
| PRESSE PÂTÉ | Machine practically identical to the wet end of a FOURDRINIER paper-machine used to turn wood PULP into sheets which can be transported to another mill for making into the final paper. |
| PULP | The aqueous STUFF containing disintegrated fibrous material from which paper is made. |
| RAGS | Original material from which paper was made but now rarely used except for papers of the highest quality. Certain types of fibres could be used, e.g. linen, cotton, jute and some types of hemp ropes. |
| REAM | Term used for a quantity of sheets of paper, at one time 480, but this could vary depending upon the type of paper and today is often 500. It probably bore some relation to the number of sheets a vatman could make in a day. |
| REEL | General term for the revolving frame or drum which receives the paper coming off the machine. |
| REFINING | Originally beating out any lumps left in the PULP before it passed to the paper-machine but is now used for the final beating of wood PULP. Hence the DISC REFINER is the machine which today beats most of the PULP for paper-machines with rotating ribbed discs or plates between which the fibres pass. |
| RETTING | Term applied to soaking flax in water in order to rot the hard stems which could then be broken to leave the fibres. In papermaking the rags were soaked with water so they rotted and became easier to beat. |
| RIBS | Thin bars of wood which support the wire cover of a hand mould. They normally run across the narrow way and in a laid MOULD support the CHAIN LINES. |
| SHADOW WATERMARKS | see THREE DIMENSIONAL WATERMARKS. |
| SHADOW ZONE | A thicker area in a sheet of paper formed either side of the supporting ribs of a hand MOULD because the ribs have drawn the water out of the PULP through the single-layered cover, so attracting more fibres towards them. |
| SHAKE | Term applied to a sideways movement of a hand MOULD or the wire of a paper-machine to interlock the fibres while they are still suspended in the PULP. |
| SIZE | Originally a solution of glue or GELATINE but later any substance that reduces the rate at which paper treated with it absorbs water. |
| SIZING | The treatment of paper with chemicals to reduce its absorbency. |
| SLICE | The opening through which the PULP is poured onto the wire of a FOURDRINIER machine. |
| SODA PROCESS | The alkaline treatment of wood for the production of chemical wood PULP by digesting the fibres under pressure with a solution of caustic soda. |
| STAMPER | The early form of devise with hammers falling into a mortar used for pulping the materials for making paper. |

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| STATIONER | Originally a tradesman who had a station or shop, as distinct from an itinerant vendor, formerly a book-seller, or publisher, or both, but now only a tradesman who sells writing materials, chiefly paper. |
| STRAINER | A devise consisting of screens to keep back impurities from the PULP passing to the paper. |
| STRAWBOARD | Cheap coarse board made on a multi-cylinder machine from incompletely cooked straw. Straw paper is a cheap wrapping paper made from unbleached straw PULP. |
| STUFF | Paper stock or PULP ready for making into paper. |
| STUFF CHEST | The large circular supply chest or tank provided with an AGITATOR in which the STUFF is stored before passing to the VAT or machine. |
| SUCTION BOXES | These are placed under the further end of the wire on a FOURDRINIER machine to draw out the water from the PULP or paper passing over them. Also known as VACUUM BOXES. |
| SUCTION COUCH ROLL | A perforated revolving bronze shell passing over a SUCTION BOX which serves to further extract water from the sheet of PULP or paper just before it leaves the wire of a FOURDRINIER MACHINE. |
| SULPHATE PROCESS | A method of cooking wood chips generally in sulphate of soda to produce a chemical wood PULP. It was first produced by Dahl in 1884. |
| SULPHITE PROCESS | Invented by Tilghmann in 1863/6 and is the process of pulping wood with sulphurous acid and its acid salts (bisulphite of lime, magnesia or soda) in closed vessels at high pressure. |
| TEARING WIRE | A thick wire fixed to a hand MOULD to permit the sheet of paper produced on it to be torn along the position of the wire. It can be applied to a CYLINDER MOULD as well. |
| THERMO-MECHANICAL PULP | Made by heating the chips of wood under pressure as they are passed through the first stage of the refining process. |
| THREE-DIMENSIONAL WATERMARKS | Formed on a woven wire cover which has been pressed into lower or higher areas to form a pattern. The lower areas form a darker and the higher areas lighter parts of the WATERMARK and the contours give grades in between. Portraits and pictures can be made with this technique which is often used in security papers. also known as EMBOSSED WATERMARKS or SHADOW WATERMARKS |
| TUB-SIZE | SIZING applied after the sheet of paper has been dried, by soaking the paper in a solution of hot GELATINE and ALUM. |
| TWIN_WIRE | Name applied to duplex paper made on a pair of Fourdrinier machines but joined while still wet in such a way that the two wire sides come together so that the surfaces on both sides are the same. |
| VACUUM BOXES | see SUCTION BOXES. |
| VAT | Originally the wooden casing or tank containing STUFF or paper stock by which a VATMAN stands when he makes sheets of hand made papers but later applied to the tank in which the cylinder of a mould machine is partially immersed. |
| VATMAN | The man who forms the sheet of paper by dipping the MOULD into the VAT and then lifting it out, forming the sheet of paper on top. |
| WATERMARK | Contrived thickening or thinning in a sheet of paper which give darker or lighter areas in the paper as it is being made. These become visible when the sheet is held up to the light. |
| WET END | General term for the portion of the paper machine on which the PULP becomes the sheet of paper |
| WHOLE STUFF | see STUFF. |
| WILLOW | see DEVIL. |
| WIRE | Short for machine wire and is that moving part of the FOURDRINIER machine on which the sheet of paper is actually formed. |
| WIRE MARK | Diamond-shaped pattern of the paper-machine wire, seen on the wire side or in the look-through of a sheet of paper. |
| WIRE PROFILE | Pattern made from bent wires which form the WATERMARK. They are sewn onto the surface of the cover of a hand mould and protrude into the PULP, causing thinner areas which show as lighter lines in the sheet of paper. |
| WOVE | (adj.) of paper from a woven wire, with (usually) no obvious patterning when held to the light. Compare LAID. |
| WOVE MOULD | Cover of a mould made from wire woven like a piece of cloth. |
| YANKEE MACHINE | see M.G. MACHINE. |

The following books were referred to in compiling this glossary

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|---|--------------------------------|---------------|
| NORFOLK CORNMILLS | Harry Aplin | |
| WINDMILLS of ENGLAND | R J Brown | 1976 |
| WINDMILLS | Suzanne Beedell | 1975 |
| WINDMILLS OF SUSSEX | M Brunnarius | 1979 |
| WINDMILLS of SOMERSET and the MEN WHO WORKED THEM | A J Coulthard & Martin Watts | |
| THE THAME MILLS OF STAFFORDSHIRE | D Dilworth | |
| SUFFOLK WINDMILLS | Brian Flint | |
| OXFORDSHIRE WINDMILLS | Wilfred Foreman | |
| WINDMILLS and MILLWRIGHTING | Stanley Freese | 1957 |
| ESSEX WINDMILLS | Kenneth Farries | |
| WATERMILLS (KENT AND THE BORDERS OF SUSSEX) | M.J.Fuller & R.J. Spain | |
| OLD SURREY WATER MILLS | J Hillier | 1951 |
| TOCKETTS MILL GUIDE | J K.Harrison & P W Morgam | 1984 |
| OLD WATERMILLS and WINDMILLS | R Thurston Hopkins | |
| PAPER MAKING IN BRITAIN 1488 to 1988 | R L HILLS | 1988 |
| WINDMILLS OF SUSSEX | Rev.Peter Hemming | 1936 |
| THE MODERN BAKER, CONFECTIONER & CATERER | John Kirkland | 1909 |
| THE WINDMILL - YESTERDAY and TODAY | R.J. de Little | |
| WINDMILLS and WATERMILLS | J Kenneth Major & Martin Watts | 1977 |
| MILL PRIMER | Barton Mcguire | 1977 |
| WHERE MAN BELONGS | H J Massingham | 1946 |
| MILLS of GLOUCESTERSHIRE | Mills & P Riemer | |
| THE BARRY MILL GUIDE | National Trust for Scotland | |
| WINDMILLS and WATERMILLS | John Reynolds | 1970 |
| VERSATILE MILLSTONE WORKHORSE of MANY INDUSTRIES | Jon A Sass | 1984 |
| WATER POWER IN SCOTLAND 1550-1870 | Shaw | 1984 |
| WINDMILLS IN LAMBETH | | Michael Short |
| WATERMILLS of SURREY | Derek Stidder | |
| BRITISH WATERMILLS | Leslie Syson | 1965 |
| WATERMILLS of BRITAIN | Leslie Syson | 1980 |
| WINDMILLS of ENGLAND | Rex Wailes | 1948 |
| THE ENGLISH WINDMILL | Rex Wailes | 1954 |
| THE WINDMILLS of KENT | Jenny West | 1973 |
| WATERMILLS | Peter Wenham | |
| EARLY AMERICAN MILLS | M & M Zimiles | 1973 |
| ALSO VARIOUS NEWCOMEN PAPERS AND DICTIONARIES | | |

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