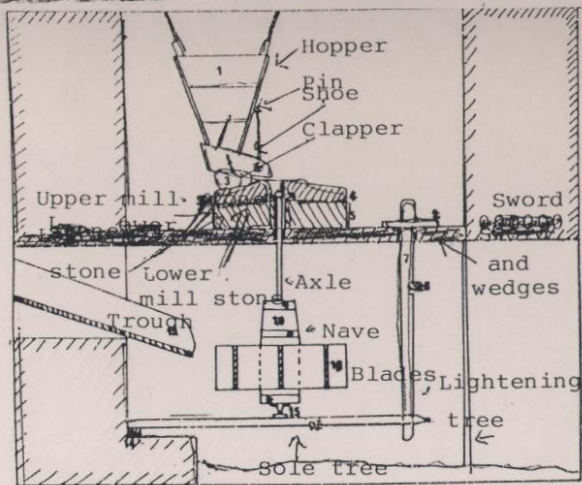


THE HORIZONTAL WATER-WHEEL or "CLICK" MILL



Water wheel
Lightening tree
Sole tree

Once in general use in Sutherland, and the Highlands generally, Orkney, Shetland, the Western Isles and Ireland as well as Scandinavia from early times the horizontal water wheel mill was in use as early as the 1st Century B.C. in Greece and spread to Asia Minor and came into use from China to Portugal and from North Africa to Finland. The mill for grinding cereals is derived from the single or two handed grinding quern using water instead of man power. The final design supplied the two essentials, namely control of (1) the quantity of grain entering the "eye" of the mill stones and (2) the grade of meal or flour produced. Sir Walter Scott on a visit to the Shetland Islands in 1814, estimated that there were 500 mills in the islands. On the Western sea-board of Lewis there were according to the Ordnance 1st edition 6-inch maps, some 150 mills based on the place names containing the Gaelic word "Muillinn", a mill. In Sutherland on the same evidence there were about two dozen but many mills may have existed without being named as such. John Mackay "Hereford" in his Sutherland Place Names, records that at Borrobol (Norse "Baoley farm"), there was "one of these ancient corn mills called muililinn-ton-ri-lar of which there were several in Sutherland so called from the water wheel being horizontal". There are records of two in the parish of Reay, in Caithness, one at Kirtomy and another at Kinlochbervie. Where the mill name is Anglicised as at Milton (mill farm) at Evelix, it usually denotes a vertical water-wheel mill.



Gaelic Names of Mill Parts

The axle: Iarunn mhor, "The big iron".
 Wheel nave: bodach a mhuilinn, "The old man of the mill".
 Wheel blades: sgiathain, "feathers".
 Sile: Crascan an iarunn, "Cross of the big iron".
 Upper mill stone: Clach -uaichdar
 Lower mill stone: Clach iochdair
 Eye of the upper stone: Suil
 Hopper: Treabhailt or sleaghag
 Clapper: Clabhan
 Shoe: Brog (boot)
 Lightning tree: Each (horse)
 Trough: Amair

As shown in the diagram, the parts of a typical mill were:-

- (1) a wooden grain hopper attached to the roof by ropes,
- (2) the "shoe", which guided the grain to the "eye" of the upper millstone,
- (3) the pin on the hopper which was attached by a cord to the shoe and so by being turned could adjust the distance between the hopper mouth and the bottom of the shoe, so regulating the amount of grain falling into the eye,
- (4) the "Clapper" which was attached by cords to the shoe and by running in contact with the rough upper surface of the upper mill-stone, vibrated the shoe to keep the grain moving into the eye,
- (5) the eye of the upper stone measuring about 4 inches in diameter allowing the grain to be fed into the space between the stones,
- (6) the "sile" or bar attached to the top of the axle and lying in a slot in the lower surface of the upper stone to form the drive from the wheel,
- (7) the upper mill stone about 3 feet in diameter,
- (8) the lower mill stone with a central hole through which the axle freely passed,
- (9) the iron axle,
- (10) the nave of the water wheel about 22 inches in diameter,
- (11) the blades of the water wheel each about 15 inches by 9 inches,
- (12) the "sole tree" (which carried the lower bearing of the axle), hinged at one end and at the other carrying the "lightening tree", which passed vertically through the mill house floor and ended in the -
- (13) "sword", a bar attached to the lightening tree, allowing the sole tree to be raised and lowered to permit the upper mill stone to be levelled and set for rough or smooth grades of meal or flour, by insertion of wedges between the sword and the floor.
- (14) the trough about 14 feet long and 15 inches wide, narrowing to about 7 inches, directing the water on to the wheel.

*McHugh
July 1992*