

EAST RIDING MUSEUMS



Photo: Richard Young

How the mill works

Skidby Mill



The Tower

This measures 57'8" to the curb, and 75'2" to the top of the cap. It is painted with black bitumen for weatherproofing, and has a Lincolnshire style white ogee cap (which in Skidby Mill's case is onion-shaped) with a red ball finial. There is a balcony at the stone floor level to allow the Miller access to the striking chain by which the shutters in the sails are adjusted.

The Sails

There are four double-sided shuttered Patent Sails, each measuring 36'6" long, and 9'5" wide, weighing about 1.25 tons. Each sail has 48 shutters (called shades in the East Riding). Patent Sails were invented in 1807, and are designed to allow all the shades to be opened and closed simultaneously while the sails are turning. After setting the shades the striking chain is weighted to hold them at the required position. This means they are able to blow open in a strong gust of wind which reduces the risk of damage to the mill.

The Fantail

On the opposite side of the cap to the sails is the fantail, which keeps the sails turned into the wind at all times. Skidby's fantail has 8 vanes on the rotor set at an angle to the wind, so that when the wind changes direction the fantail starts to turn. Through a system of bevelled gears this turns the whole cap round on the curb at the top of the tower until the sails are once again facing into the wind and the fantail stops turning.

The Stones

Skidby Mill has three pairs of stones: one pair of French burrs (a very hard stone quarried near Paris); one pair of Derbyshire Peaks made of millstone grit; and one pair of composite stones made from a mixture of carborundum and cement. The French stones are the ones used today for milling wheat. The other two pairs would originally have been used for grinding animal feed.

The bottom stone of the pair is fixed in place and called the bed stone. The upper stone is the runner stone since this is the one that is turned by the sails. Each stone weighs about a ton when new.





Mill Machinery

Fortunately the mill machinery at Skidby remains intact and in full working order, with the exception of the sack hoist which was removed in 1954. Most of the mill machinery is made of cast iron.

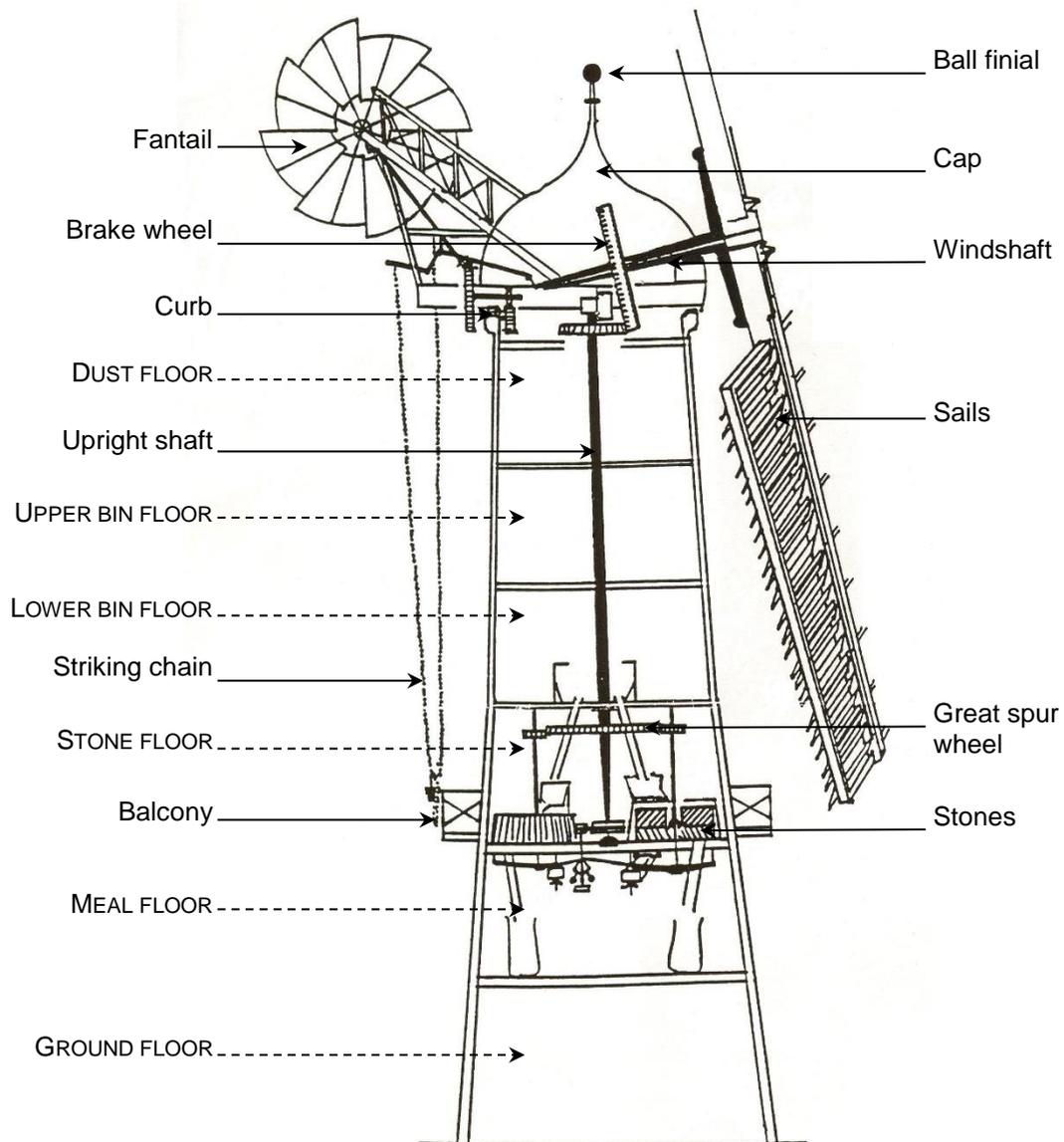
As the sails turn, the rotation is passed down the mill by a series of bevelled gears and an upright shaft that runs through the centre of the mill to the great spur wheel at the stone floor level. This in turn rotates the stones that have been selected and engaged with the spur wheel.

When the grain is delivered it is taken up to the bin floor by a grain elevator, which replaced the sack hoist. When the miller opens a slider in the chute the grain falls from the grain bin into the hopper that feeds the stones on the floor below.

As the millstone rotates it shakes the grain into centre of the stone (the eye). Grooves carved into the stones break open the grain and grind it into flour. The flour is then forced out to the edge of the stones and falls into another chute that leads down to the meal floor to be bagged.

The miller regularly monitors the consistency of the flour, and can alter the gap between the stones to keep a consistent grade. The grade of flour is also determined by the speed of the sails, with the optimum speed being 9-10 revolutions per minute.





Plan your visit to Skidby Mill at
eastridingmuseums.co.uk/skidbymill

