

# A SHORT GUIDE TO GREEN'S MILL

## OUTSIDE THE MILL

Green's Mill is a brick tower mill on a ridge overlooking the Trent Valley and exposed to the winds from all directions.

The white painted 'ogee' - or onion - shaped cap turns upon the top of the tower to keep the sails facing into the wind. The wind, on changing direction, rotates the eight bladed fantail that then drives the cap around.

When the mill is grinding corn, one pair of sails, the common sails, have canvas spread upon them to catch the wind. The other pair, the spring sails, have shutters that may be closed, rather like a Venetian blind.

When the mill is not at work the canvas is furled up and tied along the edge of the common sails and the shutters of the spring sails are opened to allow the wind to blow through.

The gallery around the first floor of the mill allows the miller to reach the sails and the brake rope which hangs down the outside of the tower when the mill is at work.

## INSIDE THE MILL

### GROUND FLOOR

The chain hanging through the trap door in the ceiling is the sack hoist. Sacks of grain are hooked onto the chain and the power of the wind turning the sails lifts them to the upper floors of the mill.

The large machine next to the stairs is a flour dresser. This sieves the flour to remove bran and so produce a white, rather than wholemeal, flour.

### OUR TOUR STARTS BY THE GRAIN CLEANER FLOOR AT THE TOP OF THE MILL

From the top of the mill you can follow the path of the grain down through the mill and also see how the power of the wind is transmitted from the sails down to the millstones. From the Grain Cleaner Floor you can look into the cap of the mill.

### THE CAP or DUST FLOOR

The sails are fixed onto the end of the windshaft, a cast iron grey painted axle that spans the inside of the cap. The huge oak brakewheel on the windshaft engages with the wallower, the

smaller horizontal cog wheel on top of the upright shaft. The upright shaft goes down through the mill to drive the millstones three floors below.

The cap of the mill turns upon the curb, a toothed cast iron ring around the top of the tower. The centring wheel fixed to the underside of the cap frame stop the cap from sliding off the top of the tower.

By the top of the upright shaft, on the side opposite the stairs, is a smooth iron wheel which, when in contact with the underside of the wallower, drives the sack hoist.

## **GRAIN CLEANER FLOOR**

Sacks of grain can be lifted on the sack hoist and stored on this floor. The upper section of the upright shaft is made of oak. The large grain cleaner near the top of the stairs may be used to sieve out any leaves, bits of straw, grains with the husk still on and dust. The clean grain then falls through a chute into a bin on the floor below.

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## **THE BIN FLOOR**

Sacks of grain are emptied into the bins, each holding about half a tonne. The bins are reservoirs, feeding the grain down chutes to the mill stones on the floor below. The section of the upright shaft at this level is made of cast iron, as is the third section at the floor below.

## **THE STONE FLOOR**

When the sails are turning, the great spur wheel on the upright shaft will also turn. Before the millstones can rotate, the smaller gear wheel - the stone nut - has to be engaged with the spur wheel.

Grain, dropping down the chute from the floor above into the hopper, falls further into the trough shaped shoe just above the millstones. The end of the shoe is joggled by the corners of the rotating shaft, causing the grain to fall into the eye of the upper, or runner stone.

The grain is cut and crushed into flour between the runner stone and the lower, stationary bed stone. The flour emerging from between the stones is contained by the wooden tun and drops down another chute to the floor below.

## **THE MEAL FLOOR**

The iron handle underneath each pair of millstones allows the miller to adjust the gap between the stones and so control the fineness of the flour. The gap is also adjusted automatically by the governor, compensating for changes in the fineness of the flour as the speed of the mill varies with the wind.

Flour drops down the chutes into the cotton sacks. Later it is weighed out into paper bags and sacks ready for sale.