The specification in this patent is not in print.

6913X

G. Hotchkiss.

Grist Mill.

Patented Jan. 27, 1832.

Fig. 2.

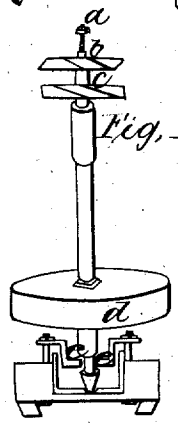
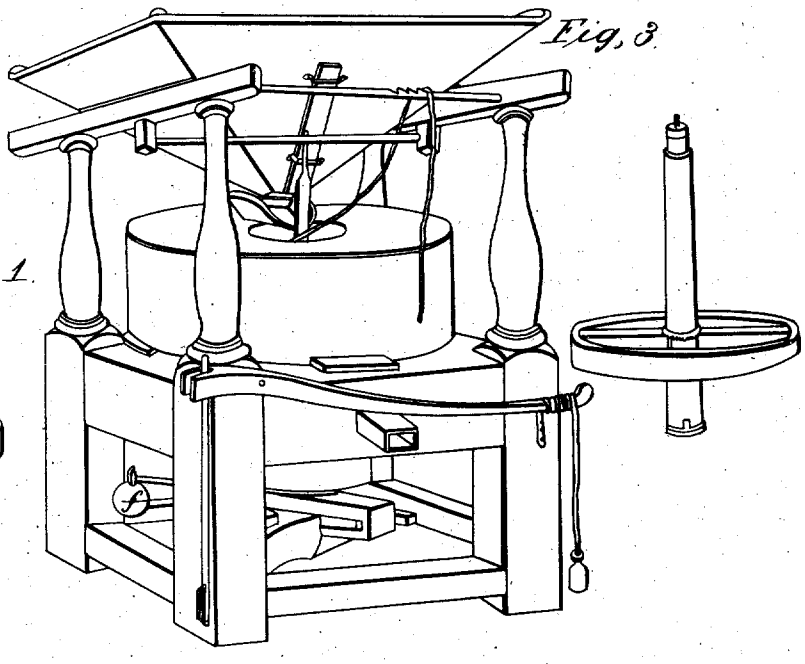


Fig. 1.

Fig. 3.



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Gideon Hotchkiss.

Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Gideon Hotchkiss himself of his improvement in the Grist mill.

Be it known that I Gideon Hotchkiss of the Town of Windsor in the County of Broome and the State of New York have made a new and useful improvement in the Grist Mill which is described as follows. The principal objects to be effected by my improvement are to perform fast grinding with small stones without heating the flour thereby lessening the expense in erecting the mill and requiring less power to drive it. Also to improve Mills now in use by placing the hereinafter described cylinder and flights in the eye of the Runner to keep the stones cool and to make the flour better. The frame on which the stones are placed is made by framing together four posts one at each corner and eight joists, four of which to be of sufficient width to receive and support the beams bearing the stones and the flooring around the bed stone. One of the lower joists is of sufficient size to receive an end of the Bridge-tree inserted in a mortise in the same, the other end resting on the centre of the Brake moving on a joint inside of the opposite joist. On the middle of the Bridge-tree rests a key or iron block in which is secured the oil-pot or cup. In the centre of the oil cup turns the foot or lower point of the spindle. The spindle is made of iron & steel with a flange or circular projection near the lower end. An iron lock-joint made in two parts encircles the spindle immediately above the flange or projection and is screwed to the frame block which secures the foot or point of the spindle in the oil cup and prevents its erring or bounding out therefrom. The spindle at high

Describing the wheel.

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as the collar and square part on which is fixed the Driver is made in the usual manner. The shoulders of the Spindle above the Driver are to be rounded off in a semi globular form on which rests the Balance rind and Runner the balance rind where it rests on the semi globular shoulder being of a semisphereical concave shape, its upper side is convex. on which and around the spindle is put a circular washer or lateral concave on its under side resting on the balance rind. Above this is put a nut screwed on the spindle the threads of which being cut in a contrary direction from the turning of the stone, the lateral may be secured by a key passing through the spindle or it may be otherwise fastened The spindle is connected and suspended from the Runner the latter being finely balanced on the spindle, having a motion similar to a ships compass and whilst running constantly forming itself to the bed stone in the nicest manner. The damsel is screwed or otherwise fastened to the upper end of the spindle. — A pulley whirl drum or cog wheel is placed on the spindle to drive the same, a weight is added to the spindle in order to give greater power or gravity to the Runner when required which therefore may be of smaller size and will move with greater velocity thereby lessening the expense and power required in constructing and driving the Mill. The Driver and Balance rind are curved or twisted in such a manner as to answer the purpose of flights or wings, which, during the operation of the Mill, carry round and force the air which is in the eye of the Runner between it and the bed stone along deep channels cut in the runner or piece inverted to distribute the air and out at the circumference through also through grooves cut on the periphery of a hollow cylinder inverted on the eye of the runner creating a current of air — through these grooves and a draught tube or trumpet or suction through the eye, causing a

more free, easy and quick admission of the grain between the stones The grain in entering the eye comes in contact with two curved wings or projections on the inside of the cylinder before mentioned When the smut or any other dirt, which may be on the grain is separated from it, and being lighter than the grain is carried by the currents of air through the groove out from the stones. Mills that grind fast are liable to heat the flour and consequently injure it, but the currents of air, created as before described, and driven between the stones prevent this from taking place. To the brake may be attached a screw or lighter staff in the usual way to raise or sink the Runner at pleasure. Also near the end of the brake and on it are placed weights and springs or a fulcrum supporting a lever attached to one of the corner posts of the frame by a bolt passing thro' one of it ends and having a weight suspended near the other end in the manner of a steel yard by which the gravity or power of the Runner may be increased or diminished at pleasure, so that an equilibrium is formed between the power required and power applied. The Hopper Frame Hopper and Shoe are made in the usual manner. What I claim as my Invention and for which I solicit Letters Patent is increasing the gravity of the Runner by means of weight attached to the spindle or by means of the flange near the bottom of the spindle and the lock joint fastened to the frame block on the Bridge-tree with the lever and weight acting on the same. The spindle passing through the balance-mind secured to and suspended from the Runner, the inserting wings or flights in the eye, the shape of the driver and balance mind causing currents of air to pass between the stones in pipes or otherwise and through grooves on the circumference of a hollow cylinder placed within the eye of the Runner carrying off the dirt and keeping

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the stones from heating, likewise causing a draft thro' the eye which allows the grain to pass more freely to the grinding stones.

Done at the City of Washington this 24th day of January 1832

Witnesses
Wm G. Branch
Wm St Elliot

Gideon Hotchkiss

(1070 wds.)

Patented January 27. 1832.