A. LENZ.

Flour Mill.

No. 165,677. Patented July 20, 1875.

Fig. 1.

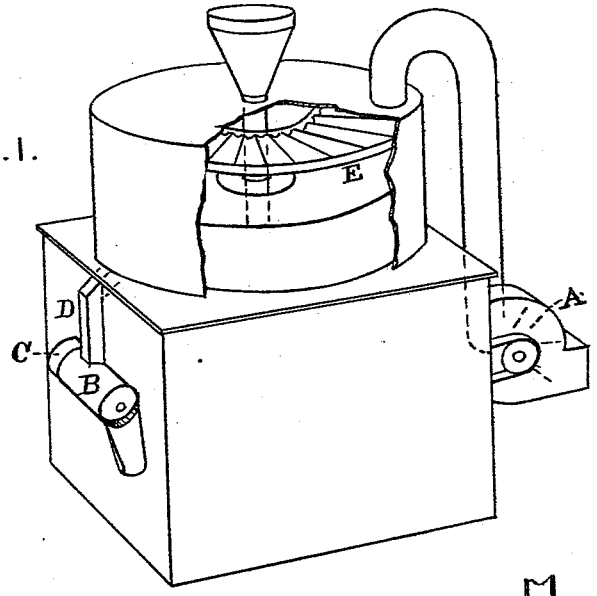



Fig. 2.

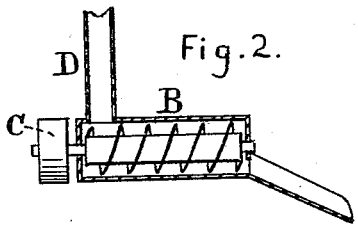



Fig. 3.

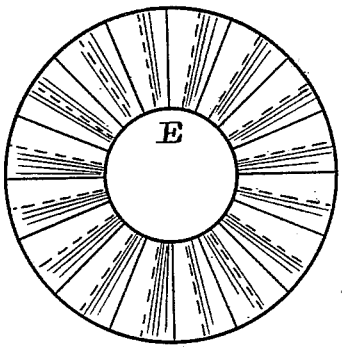
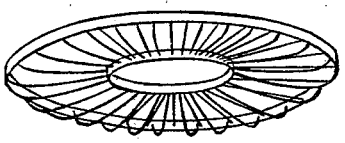



Fig. 4.



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# UNITED STATES PATENT OFFICE.

AUGUST LENZ, OF OSHKOSH, WISCONSIN.

## IMPROVEMENT IN FLOUR-MILLS.

Specification forming part of Letters Patent No. **165,677**, dated July 20, 1875; application filed December 3, 1874.

*To all whom it may concern:*

Be it known that I, AUGUST LENZ, of the city of Oshkosh, Wisconsin, have invented an Improvement in Flour-Mills, of which the following is a specification:

This invention relates to certain improvements, hereinafter described, whereby the manufacture of flour is improved by excluding the air and exhausting the vapor and dampness from the curb surrounding the stones.

It has been demonstrated that, by using an air-tight curb with an exhaust-fan attached, as hereinafter described, the stones run much cooler and grind much faster, and that the meal is much cooler and drier than when grinding has been done in the usual way, thereby expediting the process of bolting and cooling the flour; and, in order to produce the results above mentioned, I make use of the mechanical devices hereinafter set forth and illustrated in the drawings accompanying this specification.

Figure 1 shows a mill of the usual form, with an exhaust-fan and a meal-conveyer attached. Fig. 2 is a view of the inside of the meal-conveyer as it would appear if divided lengthwise through its center. Fig. 3 is a top view of the screen. Fig. 4 is a perspective view of the frame of the screen.

From the hopper I extend a tube downward through the top of the curb nearly to the bottom of the upper stone, and I make the top of the curb-pit air-tight around the tube. I also attach to the top of the upper stone a piece of leather or rubber that fits closely around the feeding-tube. The fan A is of the usual style that is used for producing suction, and may be located as shown in Fig. 1, or at any other point at which connection can be made with the curb. The conveyer B consists of two parts, a cylinder and a worm or screw inside the cylinder. The cylinder is made with a uniform inside diameter, and should be finished inside on a true circle. The worm or screw should be formed with but little "level" or "pitch," and should fill the cylinder as tightly as possible and not produce friction. The worm or screw is fitted up with bearings at each end of the cylinder, and at one end the shaft should extend outside the cylinder far enough to attach a pulley marked C in the drawing. The worm or screw is to receive motion by a belt applied to the pulley C.

The conveyer above described has a twofold purpose. It excludes the air that otherwise would be drawn in through the cylinder by the action of the exhaust-fan, and it also carries the meal (as it receives it from the curb) to the elevator running to the bolting-chest. D is a spout, which serves to convey the flour from the curb to the conveyer B, and should make an air-tight connection between the curb and conveyer. E is a screen made with a frame and covered with thin cloth. The frame is so formed that when it is covered the surface will be fluted, the fluting radiating from its center to the circumference. This screen is attached to the curb, between the upper stone and the top of the curb.

The object in using the screen is to prevent the flour or meal from passing up through the exhaust-pipe.

Having described my invention, what I claim as new is—

1. The air-tight curb, provided with the screen E, combined with the exhaust-fan A and pipe, substantially as specified.

2. The fan A, conveyer B, and screen E, in combination with an air-tight curb, substantially as shown and described, when used in the manner and for the purposes set forth.

AUGUST LENZ.

Witnesses:

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