L. KUNDA.

ROLLING MILL.

APPLICATION FILED MAR. 12, 1910.

977,637. Patented Dec. 6, 1910.

FIG. 1.

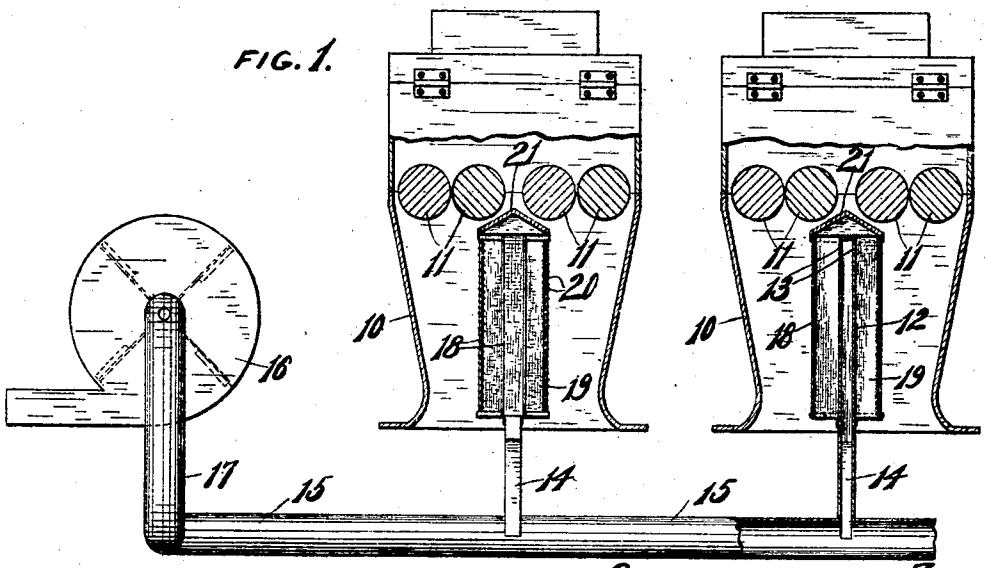
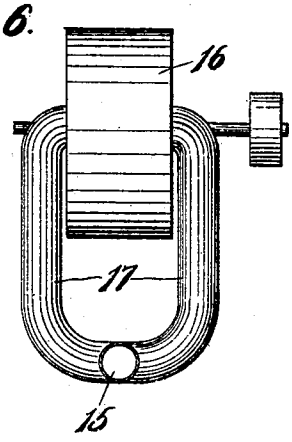
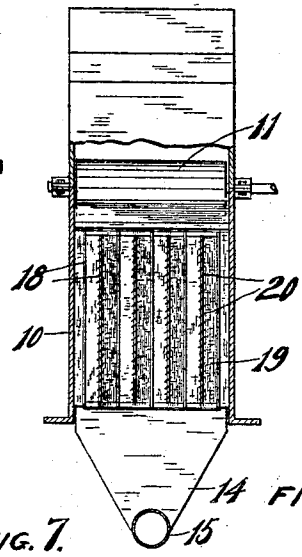


FIG. 2.

FIG. 3.

FIG. 6.





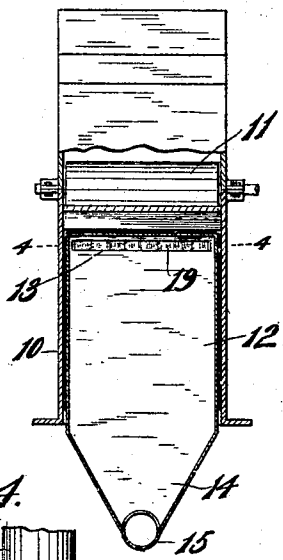
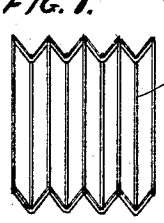
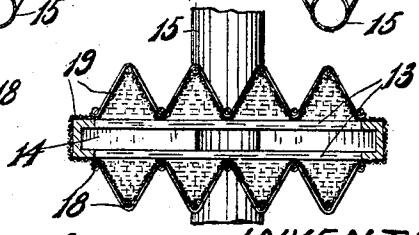


FIG. 4.

FIG. 5.

FIG. 7.





WITNESSES

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ROLLING-MILL.

977,637. Specification of Letters Patent. **Patented Dec. 6, 1910.**

Application filed March 12, 1910. Serial No. 548,829.

To all whom it may concern:

Be it known that I, LOUIS KUNDA, residing in South Oshkosh, in the county of Winnebago and State of Wisconsin, have invented new and useful Improvements in Rolling-Mills, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention has for its object to provide for withdrawing the air from within the casing of a roller mill so as to prevent the condensation of moisture on the walls thereof and thus obviate the formation of cakes or crusts which are incident thereto and which impair the value of the product.

In rolling mills a condition of warmth and moisture prevails, due to the condition of the grain admitted thereto and due to the action of the rolls thereon, and this results in the condensation of moisture upon the walls of the casing with which the flour combines to form a paste that will eventually fall as a cake or crust and will be found as lumps in the flour.

The present invention provides for causing a current of air through the casing of the rolling mill which will thereby withdraw the warm moist air and replace it with dry cool air which will prevent the objectionable condensation.

A further object of the invention is to perfect the construction of such a ventilating device for a rolling mill.

With the above and other objects in view the invention consists in the rolling mill herein claimed, and all equivalents.

Referring to the accompanying drawings in which like characters of reference indicate the same parts in the different views: Figure 1 is a sectional elevation of a pair of rolling mills constructed in accordance with this invention; Fig. 2 is a sectional view of one of the rolling mills on a plane at right angles to the sectional plane of Fig. 1, showing the ventilator head in elevation; Fig. 3 is a similar view showing the ventilator head in section; Fig. 4 is a transverse sectional view of the ventilator head on the plane of line 4—4 of Fig. 3; Fig. 5 is an enlarged view of a fragment of the fabric with which the ventilator head is covered; Fig. 6 is a detail view of the blower for connection with the ventilators; and, Fig. 7 is a perspective view of a portion of one of the zigzag wire frames.

In these drawings 10 indicates the casings of rolling mills, each containing two sets of rollers 11 in the usual manner. Positioned beneath the rollers and directly below the space intervening between the two sets of rollers is a transverse partition-like ventilator head 12 which extends from one side of the rolling mill casing to the other and from the bottom thereof to near the level of the rollers. This ventilator head is preferably constructed of sheet metal with opposite faces spaced slightly apart to afford a passageway between them which is entirely inclosed except for the inlet slots 13 at the upper end of said faces extending nearly across the entire width thereof and the outlet at the contracted lower end 14 where it connects with a pipe 15 common to the ventilator heads of all of the rolling mills. The pipe 15 connects with a fan blower 16 at both eyes thereof by having branches 17 extending up on both sides of the blower casing, as shown in Fig. 6.

On the opposite sides of the ventilator head 12 are secured wire frames 18 which, as shown in Fig. 7, are formed of vertical rods alternately arranged in parallel planes and connected by strips at their upper and lower ends. These frames may be soldered or otherwise secured to the opposite faces of the ventilator head and are covered with a hairy fabric 19, such as a canton flannel or the like which is abundantly provided with short hairs or projecting fibers on the side which is outermost. The entire frame 18 is provided with this covering as well as the upper end of the ventilator head, for the purpose thereof is to prevent the air carrying the flour with it into the ventilator. The long free fibers on the outside of the covering cloth 19 serve to shed the flour and cause it to fall without reaching the mesh of the fabric, while the air is free to pass therethrough under the suction created by the fan blower and in order that the full value of the extended covering area may be availed of, the cloth is mounted on the wire frames 19 in such a manner that the said frames are outside thereof, Fig. 7, the outer folds of the cloth being bound to the vertical rods of the frame by being stitched thereto as shown at 20 in Fig. 2. The zigzag frame 18 therefore serves to produce a maximum area of screen surface to the ventilator head within the limited space occupied by the device within the casing of the rolling mill. An inverted

V-shaped guard 21 extends across the top of the ventilator head to prevent flour lodging on top thereof.

By means of this invention the casing of each rolling mill is constantly subjected to a change of the air contained therein, the warm moist air being drawn through the covering for the ventilator head where it is screened from the flour and being ejected through the blower, and cool, dry air being drawn into the rolling mill casing to take its place and thereby maintaining a condition within the rolling mill casing which will not permit of the condensation of moisture and the attending objectionable features thereof.

What I claim as new and desire to secure by Letters Patent is—

1. In a ventilator for rolling mill casings, a ventilator head having opposite walls spaced a short distance apart with a passageway between them, there being openings in said opposite walls, zigzag frames secured to the ventilator head, a fabric stretched upon said zigzag frames to inclose the openings and to present a maximum surface to the interior of the rolling mill casing, and means for withdrawing air from the ventilator head.

2. In a ventilator for rolling mill casings, a ventilator head comprising opposite walls spaced a short distance apart to occupy a minimum space within the roller mill casing, zigzag frames mounted on the opposite faces of the ventilator head, a covering cloth for the zigzag frames having free fibers on the outside surface thereof to shed the flour from the meshes of the cloth while permitting the moist warm air of the rolling mill casing to pass therethrough, there being openings at the upper ends of the opposite faces of the ventilator head to receive the air from the cloth covering, a guard on top of the ventilator head to shed the flour therefrom, a pipe connected with the ventilator head, and a blower having its eyes connected with the pipe.

In testimony whereof, I affix my signature, in presence of two witnesses.

LOUIS KUNDA.

Witnesses:

JOE KRAUTKRAMER,

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