

(No Model.)

A. DOBLER.
GRINDING MILL.

No. 381,346.

Patented Apr. 17, 1888.

Fig. 1.

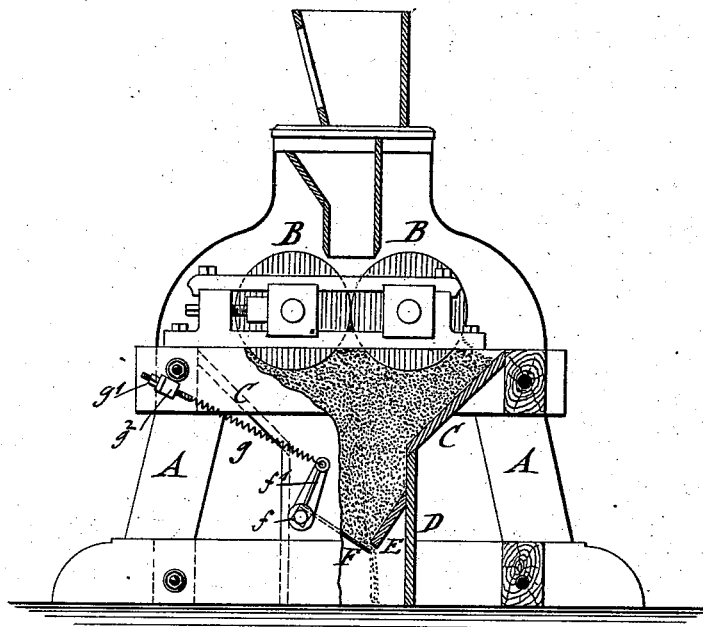
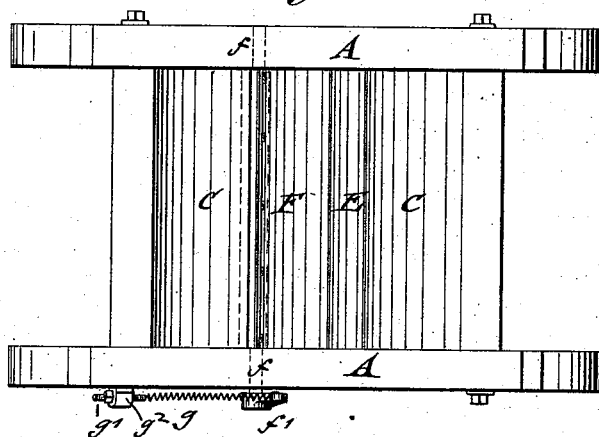


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ANTON DOBLER, OF NEW YORK, N. Y., ASSIGNOR TO CHARLES DOBLER, OF
SAME PLACE.

GRINDING-MILL.

SPECIFICATION forming part of Letters Patent No. 381,346, dated April 17, 1888.

Application filed December 4, 1886. Serial No. 220,661. (No model.)

To all whom it may concern:

Be it known that I, ANTON DOBLER, of the city, county, and State of New York, have invented certain new and useful Improvements in Grinding-Mills, of which the following is a specification.

The dust created by the malt-crushing mills used in breweries forms when mixed with air an explosive body, the ignition of which has frequently caused great damage by fire.

The object of this invention is to provide a malt or grain mill in which dangerous explosions are avoided.

In the accompanying drawings, Figure 1 represents a vertical central section of a malt or grain mill provided with my improved means for preventing explosions. Fig. 2 is a plan of the lower part of the same.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the supporting-frame of a malt-crushing mill; B B, the crushing-rolls; C, the collecting-hopper, and D the conveying-trunk of a malt-crushing mill of the usual construction.

In the trunk D is arranged at one side an inclined deflector, E, and at the other side an inclined valve, F, which is pivoted to the opposite side wall of the trunk D, and which latter abuts against the lower edge of the deflector E, as shown in Fig. 1. The valve pivots *f* turn in journal-bearings of the conveying-trunk D, one of the pivots being extended to the outside of the same, where it is provided with a crank-arm, *f'*, to which a strong spiral spring, *g*, is attached, the opposite end of which is applied to a tension-adjusting screw, *g'*, that turns in a socket, *g''*, of the supporting-frame A. In place of the spiral spring *g*, a balance-weight may be applied to a cord, which latter is attached to the crank-arm *f'* and passed over a pulley; or any other suitable equivalent device may be used by which the valve F is pressed with a certain force against the deflecting-plate D. The tension of the spring *g* is so adjusted that the valve prevents the flow of the crushed malt and supports a sufficient quantity of the same, so that the malt fills entirely the space below and comes

in contact with the lower surfaces of the crushing-rolls B B and above the valve F, as indicated in Fig. 1. When the pressure of the malt collected above the valve F overcomes the tension of the spring *g*, the valve is slightly opened, so as to allow some of the malt to escape, while simultaneously a new quantity of crushed malt is supplied by the crushing-rolls B B. The space below the crushing-rolls is thus kept continually filled with crushed malt, which is discharged by the opening of the valve in proportion to the pressure exerted thereon. As the space between the rolls B B in the collecting-hopper and upper part of the trunk is filled with malt, no air-space is formed in which the dust from the malt can form an explosive mixture. The crushed malt acts, therefore, as a filler for the space below the rolls and as a stopper for closing the conveying-trunk. As no explosive mixture can be formed in or near the mill, no explosion can occur in the room where the mill is located, nor in the conveying-trunk, so that the danger of fire from this source is entirely obviated. The valve F oscillates under the varying pressure exerted by the crushed malt thereon and permits the uniform passage of the malt from the rollers B B to the collecting-hopper C and from the same to the conveying-trunk.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a malt or grain mill, the combination, with the crushing-rolls, of a collecting-hopper below the rolls, a conveyer-trunk connected to the discharge end of said hopper, a valve in said trunk, and a spring normally holding said valve closed, whereby said hopper is kept filled with a passing mass of crushed grain, which excludes therefrom the ingress of air and is discharged in predetermined quantities.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

ANTON DOBLER.

Witnesses:

PAUL GOEPFEL,
MARTIN PETRY.