(No Model.)

J. J. HORAN.

FEED REGULATOR.

No. 420,385. Patented Jan. 28, 1890.

Fig. 1,

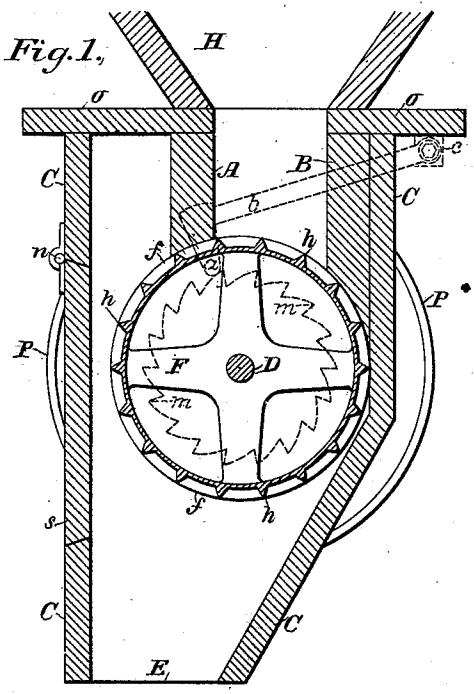


Fig. 2,

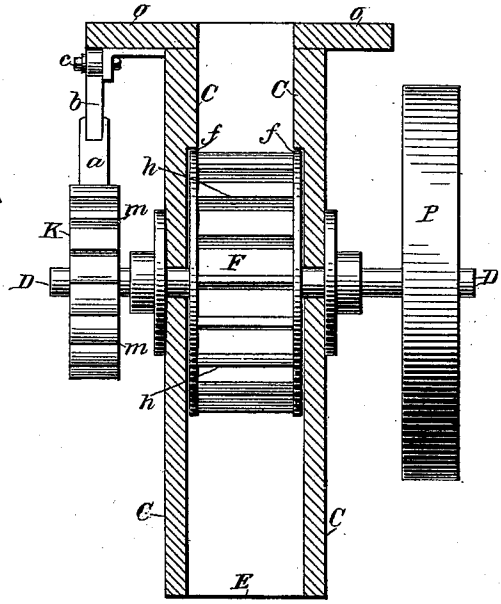
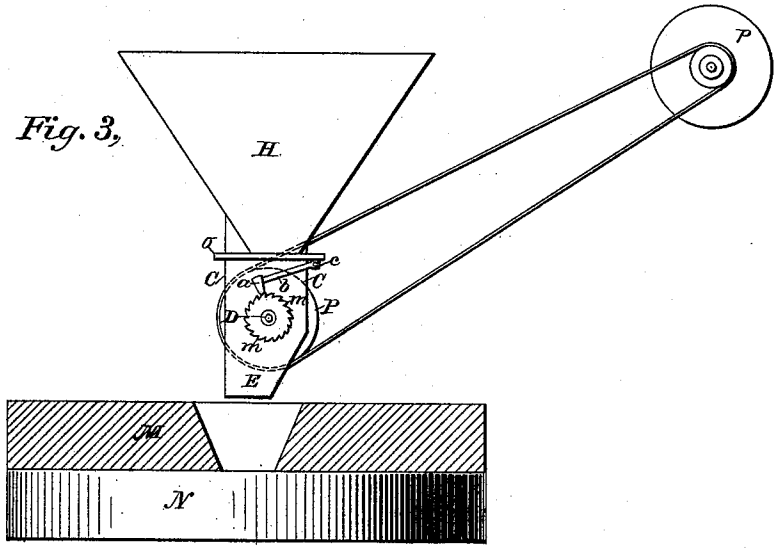


Fig. 3,



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN J. HORAN, OF LONG ISLAND CITY, NEW YORK.

FEED-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 420,385, dated January 28, 1890.

Application filed February 27, 1888. Serial No. 265,470. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. HORAN, a citizen of the United States, residing at Long Island City, in the county of Queens and State of New York, have invented a new and useful Feed-Regulator, of which the following is a specification.

The objects of my invention are, first, to accurately measure to mills used for general grinding purposes the material to be ground; second, to deliver said material to said grinding-mill in a uniform and continuous manner, thus keeping the amount of material between the grinding-surfaces constant and securing the greatest amount of work and the best results. I obtain these results by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the machine. Fig. 2 is a front view of the machine after removing the front of case which incloses the wheel, being part section; and Fig. 3 is a view of the machine, representing its connection with the driving-pulley and its position in relation with the grinding-surfaces, M representing the upper and N the under grinding-surfaces of an ordinary mill.

Similar letters refer to similar parts throughout the several views.

The flange O O and case C C constitute the frame of the machine.

H represents an ordinary hopper, into which the material to be ground is first placed, from which said material passes down into and completely fills the space between the blocks A and B and sides of case C C.

F is a wheel, which is attached to the shaft D, which may be driven by a belt passing round the pulley P. On either side of the wheel F are flanges *f f*, and across the face of the wheel F, from flange to flange, at equal distances from each other, run bars *h h*, which are of the same height as the flanges *f f* and divide the surface of the wheel into equal divisions or pockets. The wheel is inclosed in a box C C, which is attached to the hopper H by the flange O O. In the front of this box C C, Fig. 1, is a door *s*, hinged at *r*, by opening which the action of the machine may be examined.

Attached to the shaft D and revolving with it is a toothed wheel K. Resting upon the teeth *m m* of the wheel K is a knocker *a*, the handle *b* of which is attached to any convenient part of the case C C by any kind of a hinge *c* which will permit the hammer to fall from tooth to tooth as the wheel revolves.

My machine operates as follows: I suppose the hopper H to be filled with the material to be ground. As the wheel F revolves, the spaces formed by the bars *h h* are filled and passed under the block A, which fits closely to the flanges *f f* and bars *h h* of the wheel F. The thickness of the blocks A and B is greater than the distance between the bars *h h*, so that the opening to the hopper is always closed by at least one of the bars *h h*. The material which fills the space between the blocks A and B cannot pass into the mill faster than it is taken up by the spaces or pockets on the surface of the wheel F. As the wheel F revolves the said pockets are filled on passing under the opening to the hopper H and are emptied by gravity after passing the block A. Should any of the material to be ground stick in the pockets for any reason, the jar which is given to the machine by the knocker *a* upon the teeth of the wheel K, as already explained, serves to free any material remaining in the pockets. The sides of case C C, Fig. 2, are recessed to let the flanges of the wheel in flush with the surfaces of the sides above to cover the flanges *f f* of the wheel F to prevent the material escaping back of the wheel, and thus interfering with the working of the machine. And it is to be observed that these recesses are made in the vertical sides of the case, so that there is no contraction of the space above the wheel as when inclined or shelving cleats are attached to the sides of the case above the wheel, as has been done for the same purpose, but which tends materially to clog and obstruct the feeding of some kinds of material.

The amount of material delivered to a mill by my machine may be increased or diminished by increasing or diminishing the speed of the wheel F.

While my improved feed-regulator is applicable for feeding grain and other substances not liable to clog, it is more especially

designed for feeding materials for paints in paint-mills which are of such a nature as will clog on the feed-wheel without means for preventing the same.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, in a feed-regulator, of the hopper for containing the material to be ground, the feed-passage therefrom, the feed-wheel located in said passage and having pockets in the face, the knocker-wheel attached to the shaft of the feed-wheel, and the knocker acting on the knocker-wheel, substantially as described.

JOHN J. HORAN.

Witnesses:
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