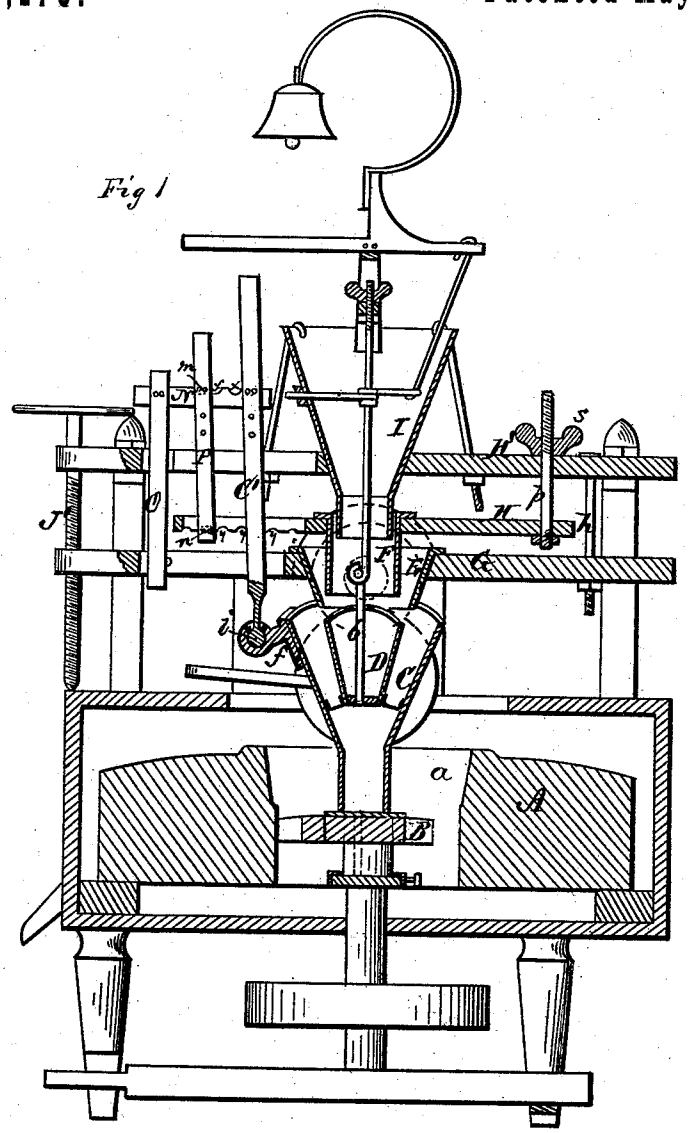
2 Sheets—Sheet 1.

J. D. MINES.

MILL-FEEDER.

No. 178,179. Patented May 30, 1876.

Fig 1



WITNESSES.

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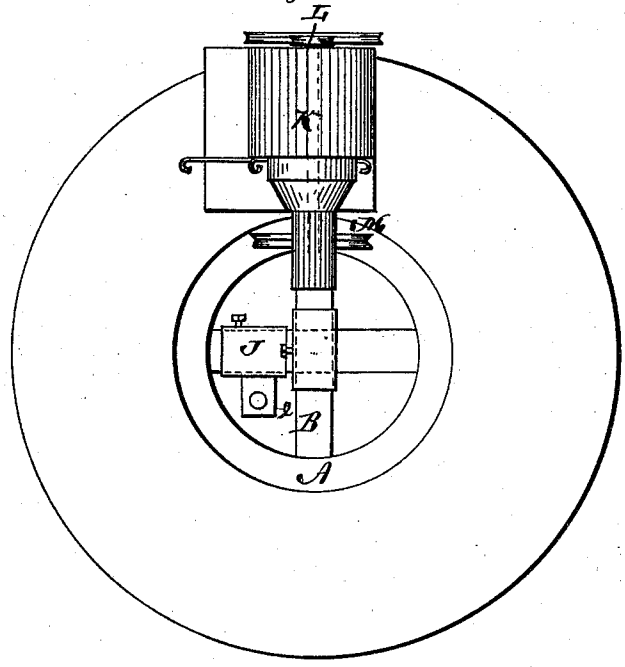
2 Sheets—Sheet 2.

J. D. MINES.

MILL-FEEDER.

No. 178,179. Patented May 30, 1876.

Fig 2



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN D. MINES, OF MOFFATT'S CREEK, VIRGINIA, ASSIGNOR TO WILLIAM L. TETER, OF SAME PLACE.

IMPROVEMENT IN MILL-FEEDERS.

Specification forming part of Letters Patent No. **178,179**, dated May 30, 1876; application filed March 20, 1876.

To all whom it may concern:

Be it known that I, JOHN D. MINES, of Moffatt's Creek, in the county of Augusta and State of Virginia, have invented a new and Improved Mill-Feeder; and I do hereby declare that the following is a full, clear, and exact description of the same.

My present invention is intended as an improvement upon the feeding device and tell-tale for mills for which Letters Patent No. 129,577 were granted to me July 16, 1872; and the nature of my invention consists in a ball-and-socket joint forming the connection between the discharge-funnel and the bar which operates the signal; also, in the arrangement of the devices whereby the feed is regulated; also, in the means of connecting the funnel to the balance-iron, and in the attachment of a suction-fan for removing all chaff and light stuff that may be in the grain when it is fed into the mill, all as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the accompanying drawing, in which—

Figure 1 is a longitudinal vertical section of my apparatus mounted on the frame-work of a pair of millstones, and Fig. 2 a plan view of the millstone-casing with the fan on the same.

A represents the runner of a pair of mill-burrs. *a* is the eye thereof, and B a balance-iron made fast in said eye, the same being in the shape of a cross. C represents the discharge-funnel with cup D. E F are the tubes made fast in the beams G H, and I the hopper attached to the beam H′.

All these parts are constructed and arranged in the same manner as described in my former patent above referred to, with the exception that the lower end of the discharge-funnel is inserted through a hole in a rubber or leather collar, *e*, which may be adjustably attached to the balance-iron B′ by means of a clamp, J. This collar *e* is made of flexible material, preferably leather. It cushions the funnel and holds it away from the balance-iron, thus preventing it from being injured by contact therewith. On the side of the funnel C is attached a short arm, *f*, having a socket formed upon its outer end, and in this socket is placed a ball, *i*, formed upon the lower end of the bar C′. When the current of grain ceases to flow through the spout this bar C′ acts against the end of a bar arranged over the top of the grain-supply spout, to which a bell is attached, as shown, and causes the bell-bar to vibrate the bell, substantially as described in my former patent herein referred to. The connection between the discharge-funnel and the bar C′ is thus formed by a ball-and-socket joint, which works easy and without any noise whatever. The beam G is suspended at one end by bolts *h h*, and adjusted at the other end by a screw-shaft, J′. The bolts *h h* have nuts upon their lower ends, which may be moved up and down on the bolts, and thus also adjust this end of the beam G. In the beam G, a short distance from the screw-shaft J′, is pivoted a bar, O, which passes up through a slot in the stationary beam H′, and has a frame, N, pivoted to its upper end. The other end of this frame is adjustably connected to the bar C′, as shown in Fig. 1. The upper edge of the frame N is provided with a number of notches, *x x*. A bar, P, passes through the frame N, and is supported by a spring-key, *m*, which passes through it, and rests in either of the notches *x* on the frame N. The lower end of the bar P passes through an elongated slot in one end of the beam H, and has a spring-key, *n*, passing through it. The under side of the slotted portion of the beam H is provided with notches *y*, either one of which may rest upon the key *n*, thus supporting this end of the beam. The other end of the beam H is suspended and adjusted by a bolt, *p*, with thumb-nut *s*.

It will be readily seen that by these various adjustments the tubes E and F can be regulated to a nicety, so that only the desired quantity of grain will be fed to the mill. K represents a fan-case attached to or placed upon the casing surrounding the mill-stones. This case contains a suction-fan, which is driven by means of a belt from a pulley on a counter-shaft, L, and this shaft receives its motion direct from the runner-burr A by means

of a wheel, M, placed on the shaft, and resting on the upper surface of the runner-burr. This fan draws all the chaff and light stuff from the grain before or just as it passes through the eye of the runner-burr.

What I claim as new is—

1. The ball-and-socket joint *i*, in combination with the discharge-funnel C and bar C′, for operating the signal over the top of the grain-supply spout, as and for the purposes herein set forth.

2. The flexible arm *e*, in combination with the discharge-funnel C and balance-iron B, substantially as and for the purposes herein set forth.

3. The combination, with the tubes E and F, of the beam G, bolts *h*, screw-shaft J′, bars C′, O, and P, notched frame N, notched beam H, and keys *m n*, all constructed and arranged substantially as and for the purposes herein set forth.

4. The combination, with the runner-burr A, of the fan-case and fan K, placed upon the casing surrounding the millstone, countershaft L, and the wheel M, arranged in frictional contact with the runner, as and for the purposes set forth.

The above specification of my invention signed by me this 10th day of December, A. D. 1875.

JOHN D. MINES.

Witnesses:

HARRY SUMMERS,

S. P. HITE.