(No Model.)

W. SCHWARTING & J. F. TRASTER.

AUTOMATIC FEED DEVICE.

No. 302,432. Patented July 22, 1884.

Fig. 1

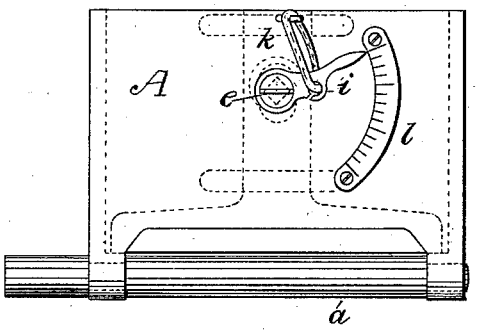


Fig. 2

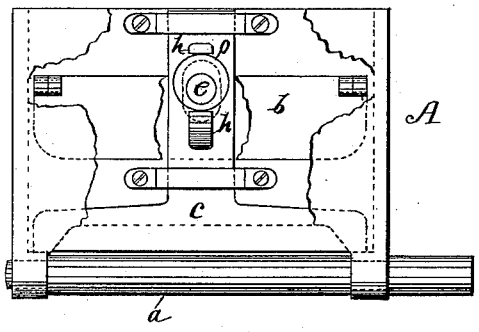


Fig. 3

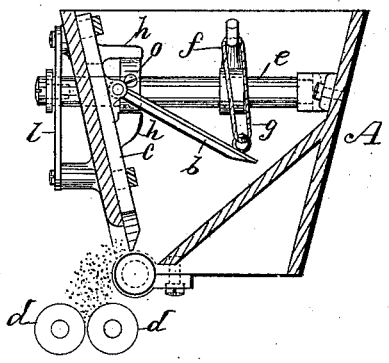


Fig. 4

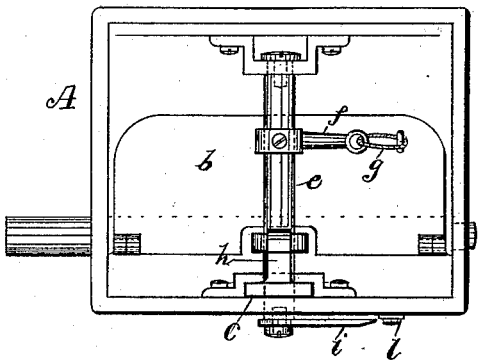
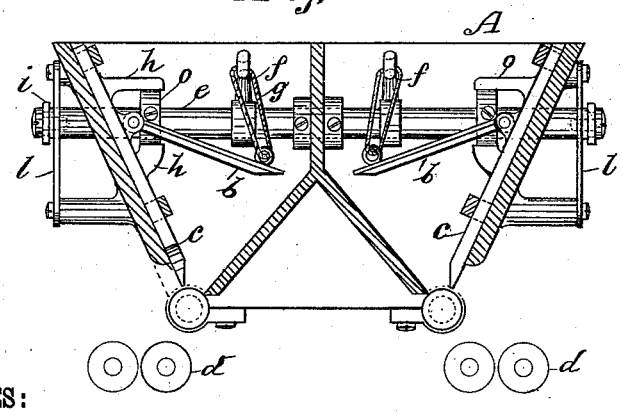


Fig. 5



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WILLIAM SCHWARTING AND JOHN F. TRASTER, OF WOLCOTT, IOWA.

AUTOMATIC FEED DEVICE.

SPECIFICATION forming part of Letters Patent No. 302,432, dated July 22, 1884.

Application filed April 26, 1884. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM SCHWARTING and JOHN F. TRASTER, of Wolcott, in the county of Scott and State of Iowa, have invented a new and improved Automatic Feed Device, of which the following is a full, clear, and exact description.

The object of our invention is to insure steady and uniform feed of material to grinding-rollers and wherever any material is to be supplied from a feed-hopper.

To that end the invention consists in an attachment for hoppers which, being connected to the feed-gate and pressure-board, effects the regulation of the feed, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of a feed-hopper with our attachment applied. Fig. 2 is an elevation of the hopper with one side broken away to show the interior. Fig. 3 is a vertical cross-section, and Fig. 4 a plan view of the hopper; and Fig. 5 is a cross-section of a double hopper with the improvement.

The hopper A is of ordinary character, having a feed-roller, *a*, at its outlet, hinged pressure-board *b*, and sliding feed-gate *c;* and *d d* represent the grinding-rolls. Across the upper part of the hopper A is a shaft, *e*, having an arm, *f*, that is connected by a cord or wire, *g*, to the pressure-board *b*, and the shaft is also fitted with a cam, *o*, between lugs *h h* on the feed-gate *c*. On the end of the shaft extending outside the hopper is an arm, *i*, to which is attached a rubber or other spring, *k*, so attached to the hopper also that it raises the arm *i* and turns the shaft in a direction to raise the pressure-board *b* and close gate *c*. By applying a scale, *l*, on the hopper the arm *i* is utilized as an indicator to show the position of the gate.

In the operation of the device the hopper being supplied with the material, the weight or pressure on the board *b* causes the latter to descend more or less, and thus reduce the space between the end of the board and side of the hopper, so that the material escapes slowly. At the same time this downward movement of the board turns the shaft *e*, and the cam *o* raises the gate *c*. Any slackening of the pressure allows the board *b* to rise, and the gate is closed to the same extent, the action being thus automatic.

The shaft with the arm and cam may be placed outside the hopper, if preferred.

In applying the device to a double hopper it is to be arranged as shown in Fig. 5, one shaft being extended through with an indicator-arm on each end.

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

1. The shaft *e*, having arms *f i* and cam *o*, the connection *g*, and spring *k*, all combined with a hopper having a sliding feed-gate and hinged pressure-board, substantially as described.

2. The combination, with the hopper and the shaft provided with the cam and arm *f*, of the gate having the projections or arms, the pressure-board, and a suitable connection between said board and the arm on the shaft, substantially as and for the purpose set forth.

3. The combination, with the hopper and the shaft provided with the cam, the arms *f* and *i*, and the spring, of the gate having projections or arms, the pressure-board, and means to connect said pressure-board to the arm *f* of the shaft, substantially as and for the purpose set forth.

WILLIAM SCHWARTING.
JOHN F. TRASTER.

Witnesses:
LOUIS BENNEWITZ,
HENRY GRUEMMER.