

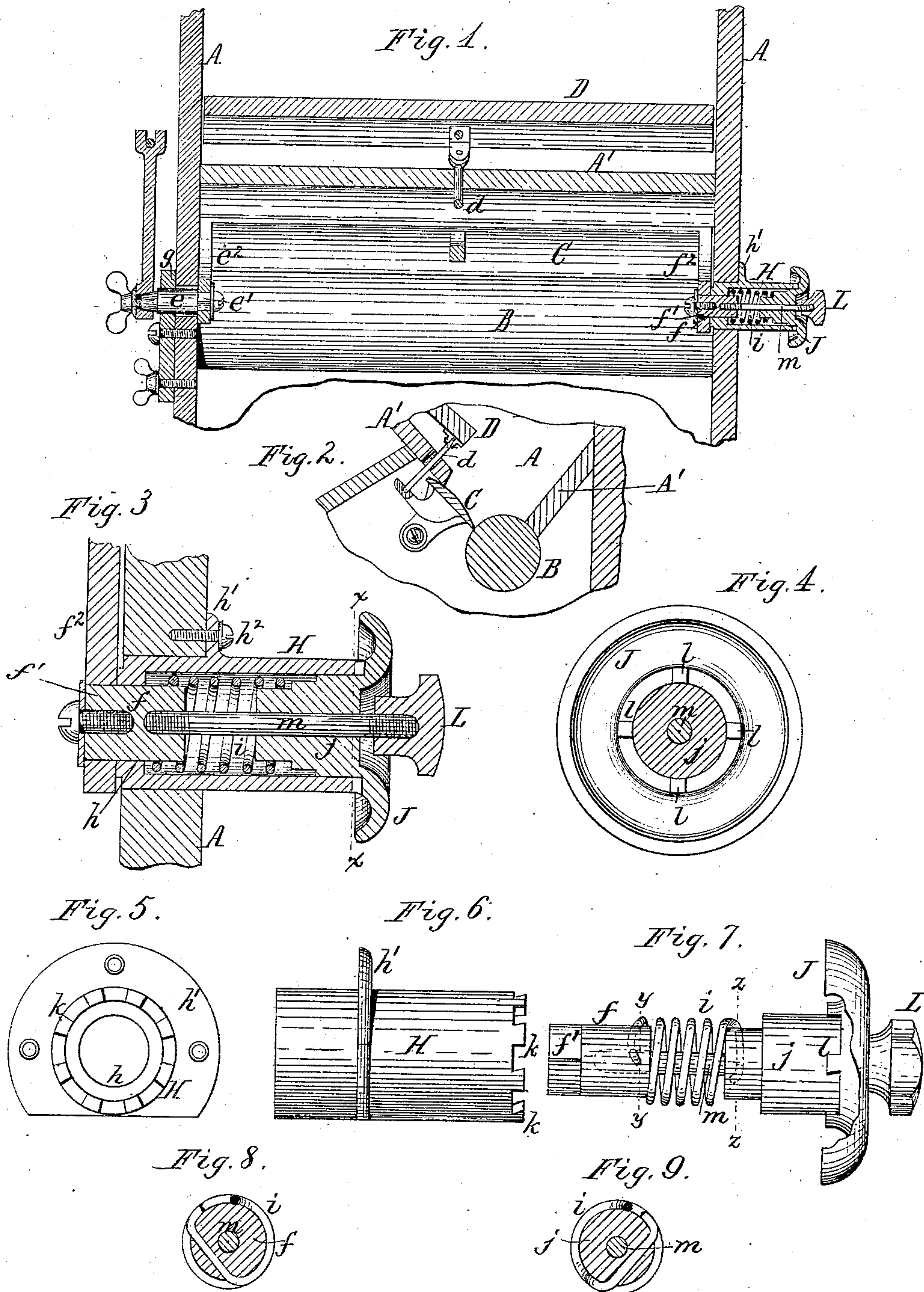
(No Model.)

C. B. CAMPBELL.

FEED MECHANISM FOR ROLLER MILLS.

No. 256,878.

Patented Apr. 25, 1882.



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Witnesses.

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# UNITED STATES PATENT OFFICE.

CHARLES B. CAMPBELL, OF BUFFALO, NEW YORK, ASSIGNOR TO JOHN T. NOYE MANUFACTURING COMPANY, OF SAME PLACE.

## FEED MECHANISM FOR ROLLER-MILLS.

SPECIFICATION forming part of Letters Patent No. 256,878, dated April 25, 1882.

Application filed February 20, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES B. CAMPBELL, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Feed Mechanism for Roller-Mills, of which the following is a specification.

This invention relates to an automatic feed mechanism for roller-mills and similar machines in which a pivoted feed-slide is employed, which is adjusted automatically toward and from the feed-roller by means of a movable board or plate arranged in the feed-hopper, and connected with the pivoted feed-slide in such a manner that the pressure of the grain or other material in the feed-hopper against the movable plate operates to swing the pivoted feed-slide away from the feed-roller and strains a spring which tends to hold the feed-slide in contact with the feed-roller.

The object of this invention is to connect this spring with the feed-slide in a simple manner, and to render the tension of this spring adjustable, so that the resistance which it opposes to the movement of the feed-slide can be increased or reduced, as may be necessary to properly regulate the feed.

My invention consists in that end of a spring applied to one of the pivots of the feed-slide, and of mechanism whereby the tension of the spring can be regulated, as will hereinafter be fully set forth.

In the accompanying drawings, Figure 1 is a longitudinal section of the feed-hopper of a roller-mill provided with my improvement. Fig. 2 is a cross-section of the same. Fig. 3 is a longitudinal section, on an enlarged scale, of the mechanism whereby the tension of the spring is regulated. Fig. 4 is a vertical section in line *x x*, Fig. 3. Fig. 5 is an end view of the sleeve which incloses the spring. Fig. 6 is a side elevation of said sleeve. Fig. 7 is an elevation of the spring and connecting parts. Figs. 8 and 9 are cross-sections in lines *y y* and *z z*, Fig. 7, respectively.

Like letters of reference refer to like parts in each of the figures.

A A represent the vertical end walls, and A' A' the inclined side walls, of the feed-hopper.

B represents the feed-roller, C the pivoted feed-slide, D the movable plate arranged in

the feed-hopper, and *d* a rod by which the plate D is connected with the arm of the feed-slide C.

*e* and *f* represent the pivots of the feed-slide, to which they are connected by square shanks *e'* and *f'*, which fit in square openings formed in the arms *e<sup>2</sup>* *f<sup>2</sup>* of the feed-slide, so that the pivots turn with the feed-slide. The pivot *e* turns in a bearing or socket, *g*, secured at the outer side to one of the vertical walls A of the hopper. The pivot *f* turns in a socket, *h*, formed at the inner end of the sleeve H, which is secured to the adjacent wall A of the feed-hopper by a flange, *h'*, and screws *h<sup>2</sup>*.

*i* represents a spiral spring arranged in the sleeve H, and secured with its inner end to the outer portion of the pivot *f*, and with its outer end to a shank, *j*, of a cap, J, which bears against the outer end of the sleeve H. The shank *j* is made cylindrical and turns in the sleeve H.

*k* represents teeth formed in the outer end of the sleeve H, and *l* represents teeth formed in the adjacent portion of the cap J in such a manner that the teeth of one part engage in the notches between the teeth of the other part. The cap J is held against the sleeve H by the spring *i*.

*m* represents a bolt or rod arranged centrally in the sleeve H, and secured with its inner end to the pivot *f* by a screw-thread, or otherwise, while its outer portion passes loosely through the shank *j* of the cap J, and carries at its outer end a head, L, which is arranged at such a distance from the cap J that the latter can be drawn outward far enough to disengage its teeth from the teeth of the sleeve H before the cap comes in contact with the head L. Upon drawing the cap J out, so as to disengage its teeth from those of the sleeve H, and turning it to the right or left, the tension of the spring *i* is increased or reduced, and by re-engaging the cap with the teeth of the sleeve H the cap is secured in place and the desired tension of the spring maintained. The head L forms a stop which prevents the cap J from being drawn out so far as to break or injure the spring, and it forms at the same time a rest against which the thumb can be placed in taking hold of the cap J.

I claim as my invention—

1. The combination, with the feed-slide C,

of a pivot, *f*, a spring, *i*, connected with the pivot, and means whereby the tension of the spring can be regulated, substantially as set forth.

5 2. The combination, with the feed-slide C and its pivot *f*, of a sleeve, H, spring *i*, cap J, and means whereby the cap J can be secured in different positions on the sleeve H to regulate the tension of the spring, substantially as set forth.

10 3. The combination, with the feed-slide C and its pivot *f*, of the spring *i*, sleeve H, provided with teeth *k*, and cap J, provided with teeth *l*, substantially as set forth.

15 4. The combination, with the feed-slide C

and its pivot *f*, of the sleeve H, cap J, spring *i*, bolt *m*, and head L, substantially as set forth.

5. The combination, with the feed-hopper A and feed-roller B, of the feed-slide C, provided with suitable pivots, a spring, *i*, surrounding one of the pivots and attached with its ends respectively to the pivot and to a stationary part of the machine, and mechanism whereby the feed-slide is opened against the pressure of the spring, substantially as set forth. 25

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Witnesses:

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