

(No Model.)

C. S. LEET & W. H. NORTHALL.

CARTRIDGE CLOSING MACHINE.

No. 287,693.

Patented Oct. 30, 1883.

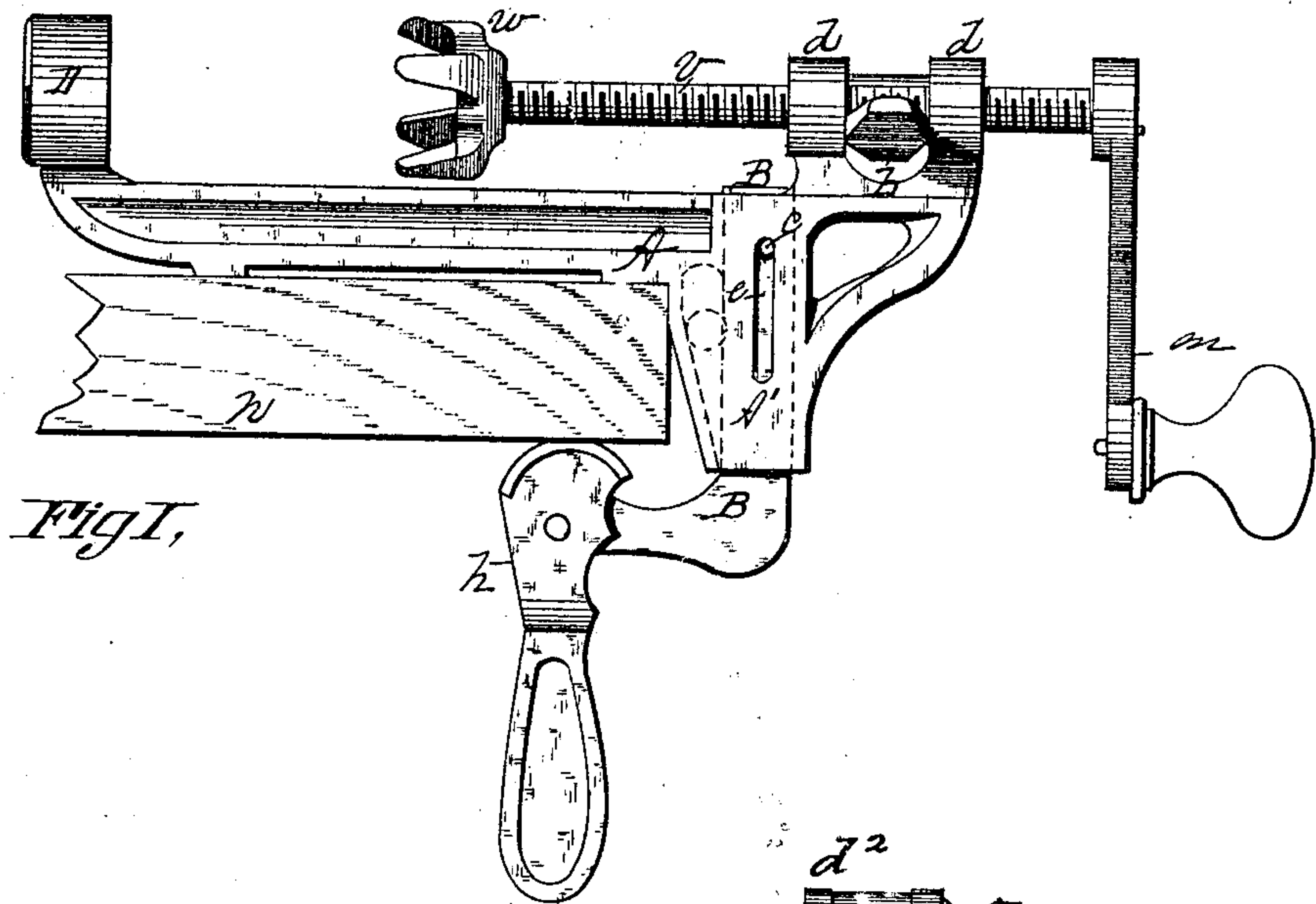


Fig I,

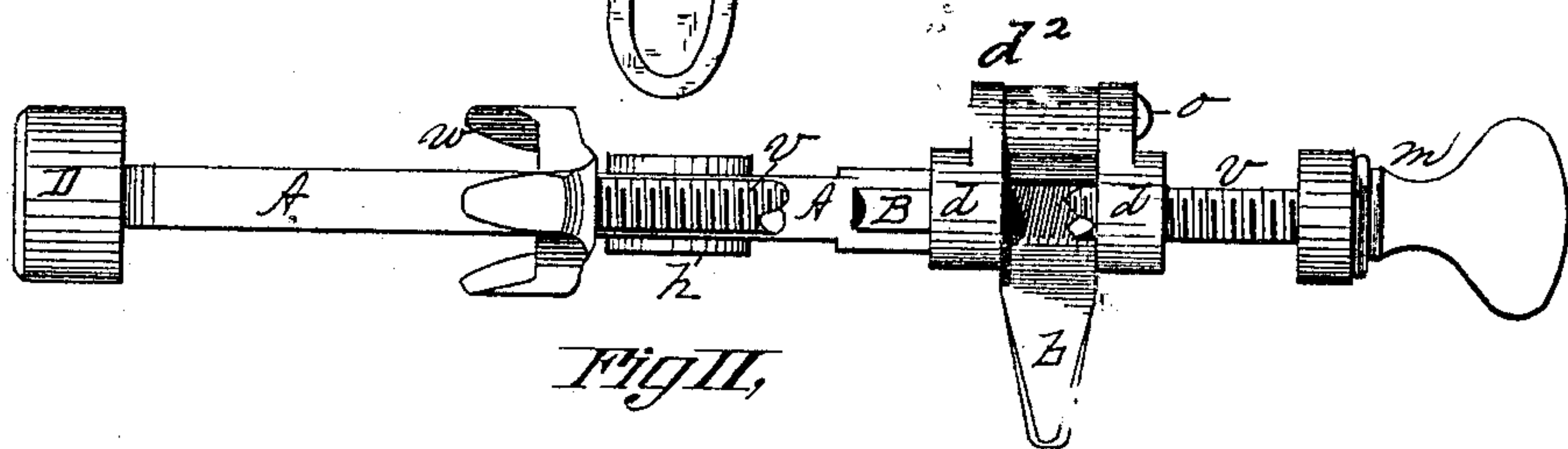


Fig II,

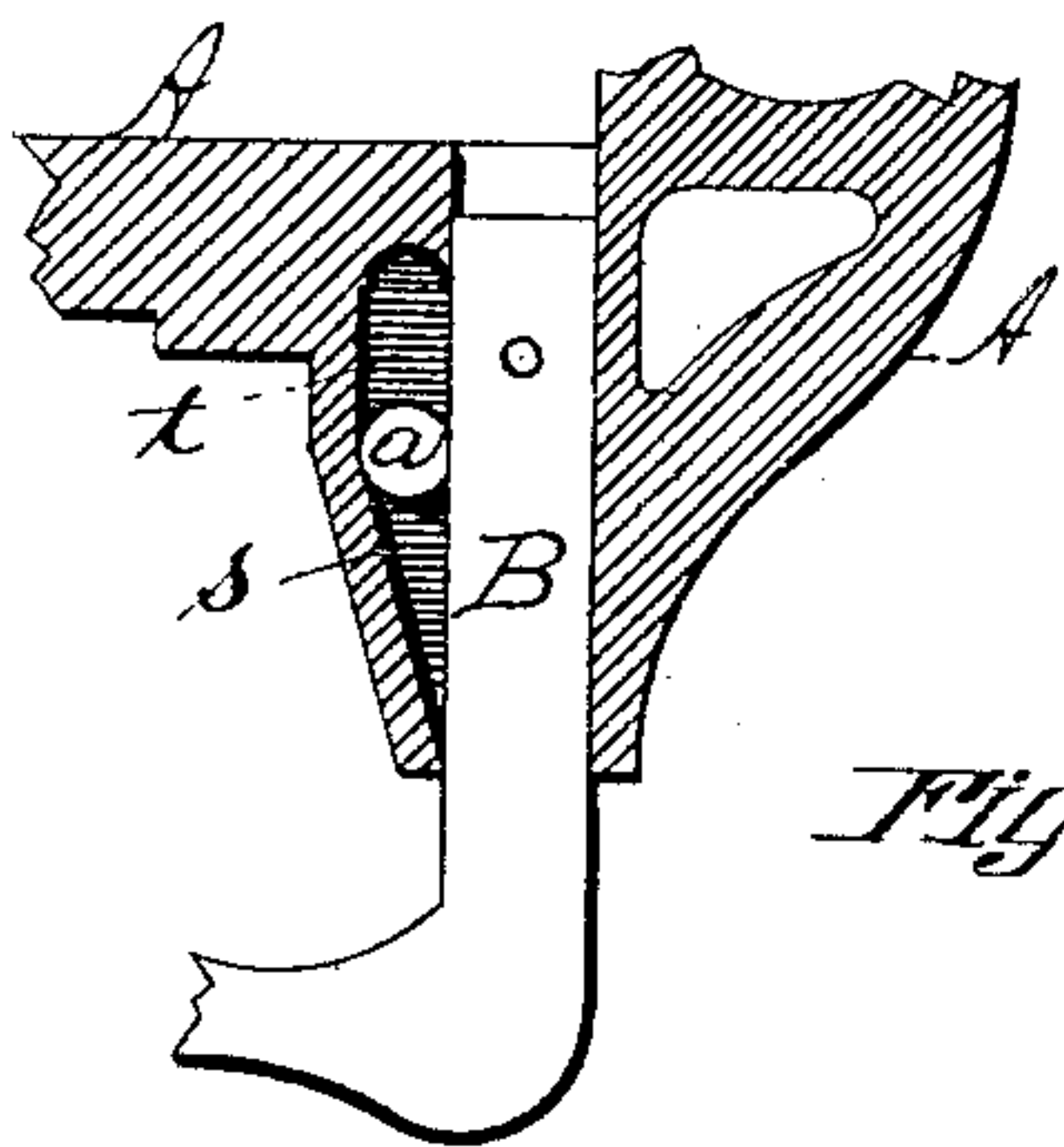


Fig III,

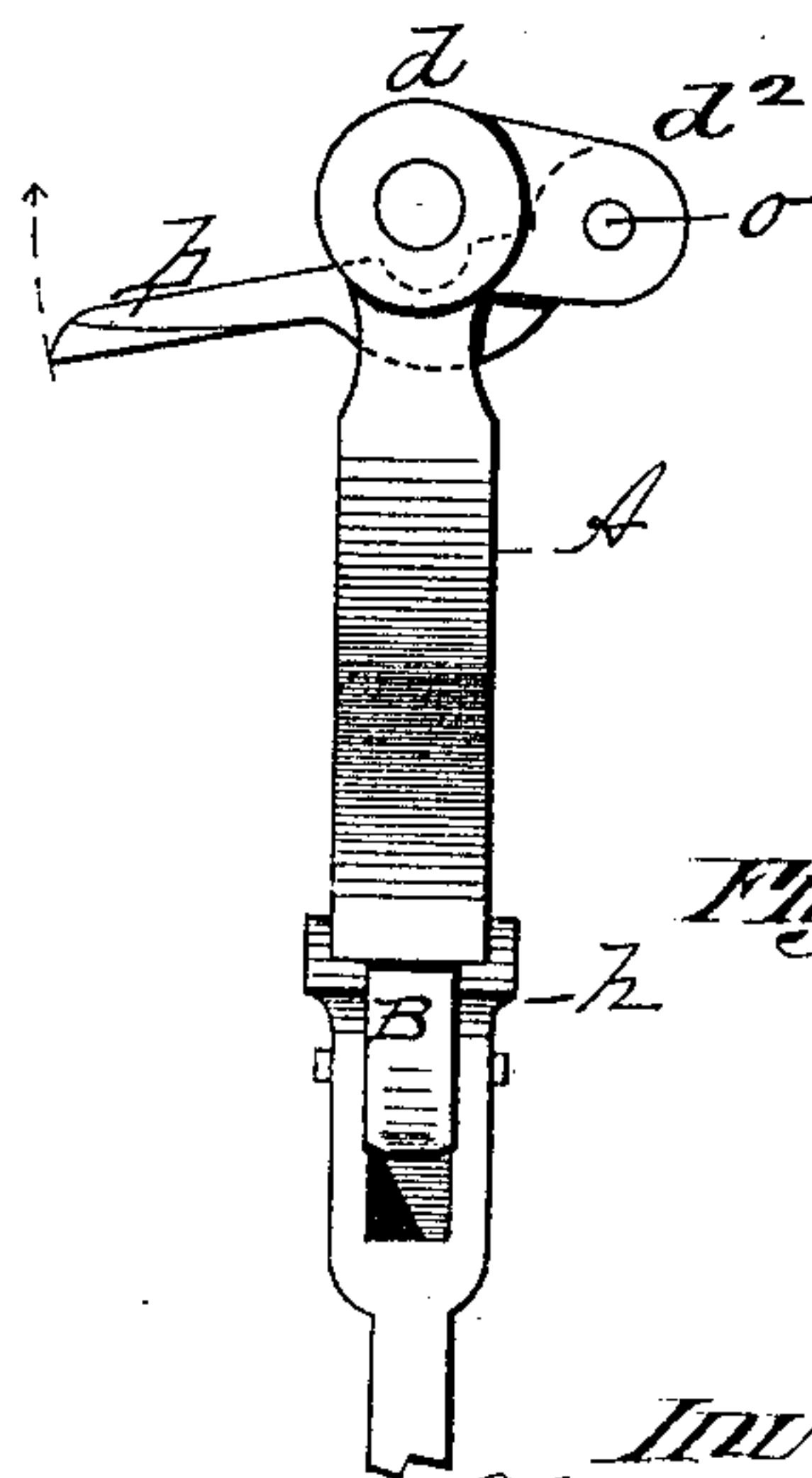


Fig IV,

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UNITED STATES PATENT OFFICE.

CHARLES S. LEET AND WILLIAM H. NORTHALL, OF BRIDGEPORT, CONNECTICUT; SAID NORTHALL ASSIGNOR TO SAID LEET.

CARTRIDGE-CLOSING MACHINE.

SPECIFICATION forming part of Letters Patent No. 287,693, dated October 30, 1883.

Application filed April 17, 1883. (No model.)

To all whom it may concern:

Be it known that we, CHARLES S. LEET and WILLIAM H. NORTHALL, citizens of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented new and useful Improvements in Cartridge-Closing Machines, of which the following is a specification.

This invention relates to improvements in cartridge-closing machines, the object being to facilitate the quick removal of the cartridge-head clamp away from the closer-cup after the cartridge has been closed, and to provide improved means for adapting the machine to be clamped on benches or tables of different thicknesses.

In the drawings forming part of this specification, Figure I is a side elevation of a cartridge-closing machine embodying our improvements. Fig. II is a plan view, partly in section. Fig. III is a detail view, and Fig. IV is an end view with the crank removed, and showing the lower end of the cam-lever broken off.

In the drawings, A is the frame of the machine. A' is a hollow leg on said frame. *d d* are screw-shaft bearings on said frame. *b* is a half-nut hung on a lateral projection, *d'*. *o* is a pivot-pin. *v* is the screw-shaft. *w* is the head-clamp. D is the closer-cup. *h* is the clamp-lever. B is the clamp-lever support. *a* is a binding-ball. *e* indicates a slot in leg A'. *m* is a crank. *n* indicates a section of a bench, showing the closer secured thereto.

The frame A is constructed of any suitable metal, and is provided with the upstanding screw-shaft bearings *d d*, which bearings are not provided with screw-threads, as usual, but are bored out smooth to permit of sliding the screw-shaft *v* back and forth therein. Lateral projections *d'* are provided on one side of said shaft-bearings *d d*, through the ends of which a pin, *o*, is placed. A half-nut, *b*, threaded to correspond with the screw on shaft *v*, is pivoted on pin *o*, and extends from thence under shaft *v*, there resting on frame A, its free end projecting a little beyond the side of the frame. A crank, *m*, is secured to one end of shaft *v*, and the cartridge-head clamp *w* to the opposite end thereof.

The closer-cup, of ordinary construction, D,

is fixed on one end of frame A, its center on a line with the axis of the shaft *v*.

A hollow leg, A', is provided on frame A, having a chamber therein adapted to receive the vertical portion of the clamp-lever support B; but on one side of said chamber is provided a ball-recess, *t*, having an inner face, *s*, standing at an incline to the side of said support B. A binding-ball of hard material, *a*, is placed in said recess *t*, as shown in Fig. III and in dotted lines in Fig. I. The side of support B next to the said inclined face of the recess *t* is grooved, as shown in Fig. II, to give the ball *a* a better bearing against it. The side of the leg A' is slotted, as shown in Fig. I, and a pin, *e*, in the support B projects far enough into said slot to prevent said support from sliding out of the chamber in leg A'. The clamp-lever *h*, having a cam-shaped bearing-face on one end, is pivoted to the end of the horizontal arm of support B.

The operation of the machine is as follows: The closer is secured to the bench *n* about in the position shown in Fig. I by turning the lever *h*, to cause the bench to be clamped firmly between the cam-shaped end of said lever and the frame A. The construction of frame A, with its hollow leg A', having therein the inclined-sided recess *t*, the latter to receive the ball *a*, provides for moving said support B and lever *h* to adjust the space between the cam end of the latter and the frame A to the thickness of the bench to which the machine is to be secured. To draw the support B out of leg A' as far as pin *e* will allow, the machine is inverted, causing the ball *a* to fall away from between the face *s* and the side of said support. The machine is now placed on the part *n* of the bench in the position shown in Fig. I, and said ball falls back, as in Fig. III, but offers no resistance to the upward movement of the support, which, with lever *h*, is pushed upward, while the latter is held in nearly a horizontal position until the cam end of the lever comes against the bench, when the lever is swung to the position in Fig. I, clamping the machine to the bench. After said support and lever have been lifted to their proper positions, as aforesaid, they cannot be made to slip downward again by any clamping-strain of the lever against the bench, for ball

a falls between the side of support B and the inclined face *s*, and prevents it. The above-described means for adjusting the clamping-lever to the thickness of the bench enables the operator to make such adjustment with the precision which is necessary to the best development of the clamping-power of a cam-lever of the class shown. The machine having been secured, as described, to the bench, the half-nut *b* hanging down away from shaft *v*, as in Fig. IV, said shaft is drawn away from the cup D, and the cartridge-shell is placed between the clamp *w* and the cup. Nut *b* is then raised up and held against shaft *v*, and while so held the shaft and the cartridge-shell are rotated by seizing crank *m*, the nut *b* and screwed shaft operating to feed the latter and the shell against cup D, and effect the closing in of the shell in the usual manner, and said closing having been completed, the half-nut is dropped away from its contact with shaft *v*, and the latter is freely and quickly drawn back from cup D, letting the shell drop, instead of, as in machines of this class as ordinarily made, having to turn back shaft *v*, slowly retiring it from the cup, to take the shell from the machine.

What we claim as our invention is—

1. In a cartridge-closing machine, the frame A, having thereon the cup D, and screw-shaft-supporting devices which permit of a free sliding movement of said shaft therein, a screw-shaft having on one end a cartridge-head clamp, and on its opposite end a crank, and a half-nut capable, by means substantially as described, of being applied to and removed from said screw-shaft, substantially as and for the purpose set forth.

2. In a cartridge-closing machine, the frame A, having the leg A' thereon, provided with a chamber to receive one end of the clamp-lever support B, and having at one side of said chamber the recess *t*, provided with the inclined face *s*, the lever-support B, the binding-ball *a*, and the clamp-lever *h*, combined and operating substantially as set forth.

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