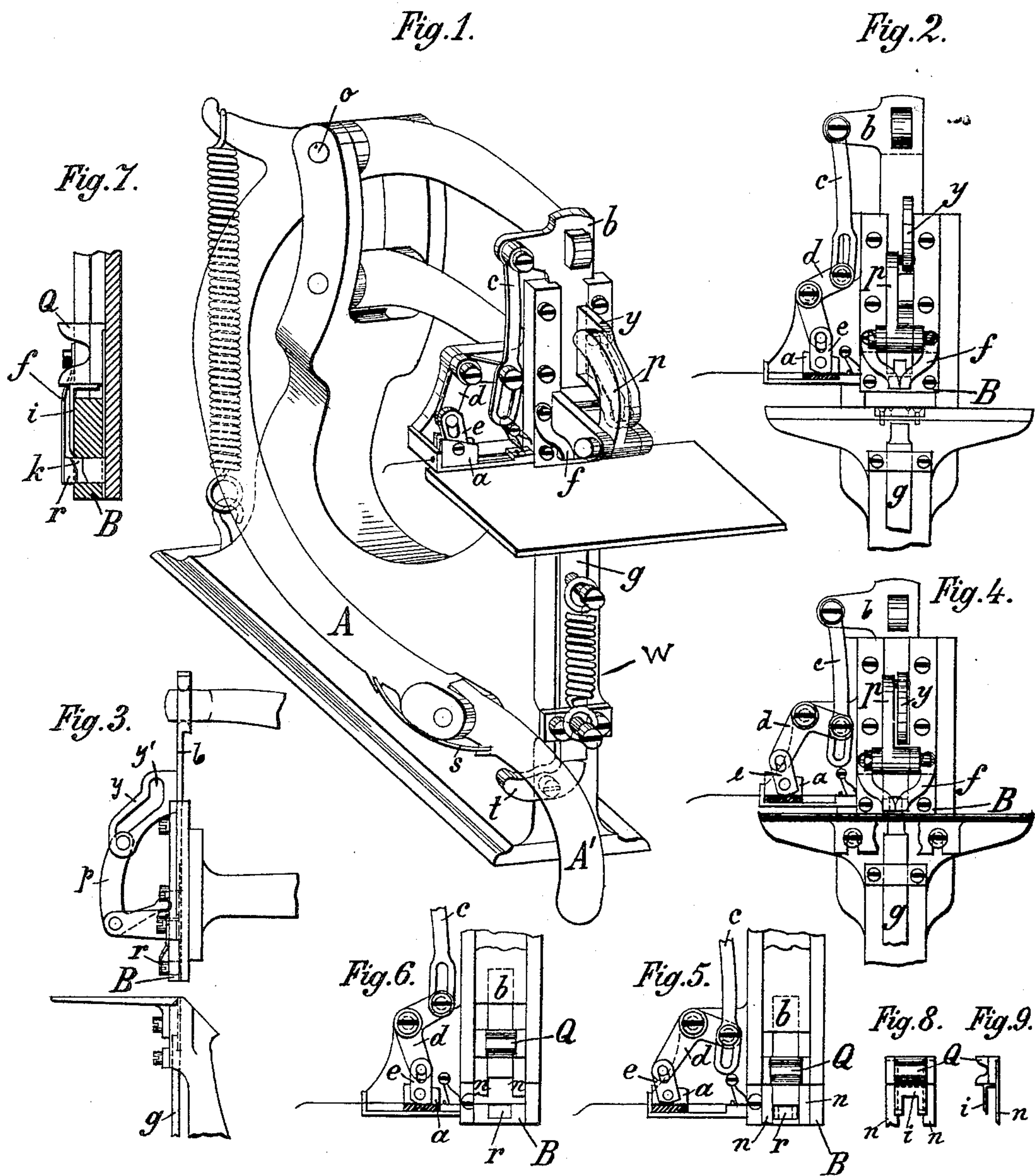


C. E. PREUSSE.
BOOK STAPLING MACHINE.

No. 399,555.

Patented Mar. 12, 1889.



Witnesses:
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Henry Mann

Inventor:
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 10.

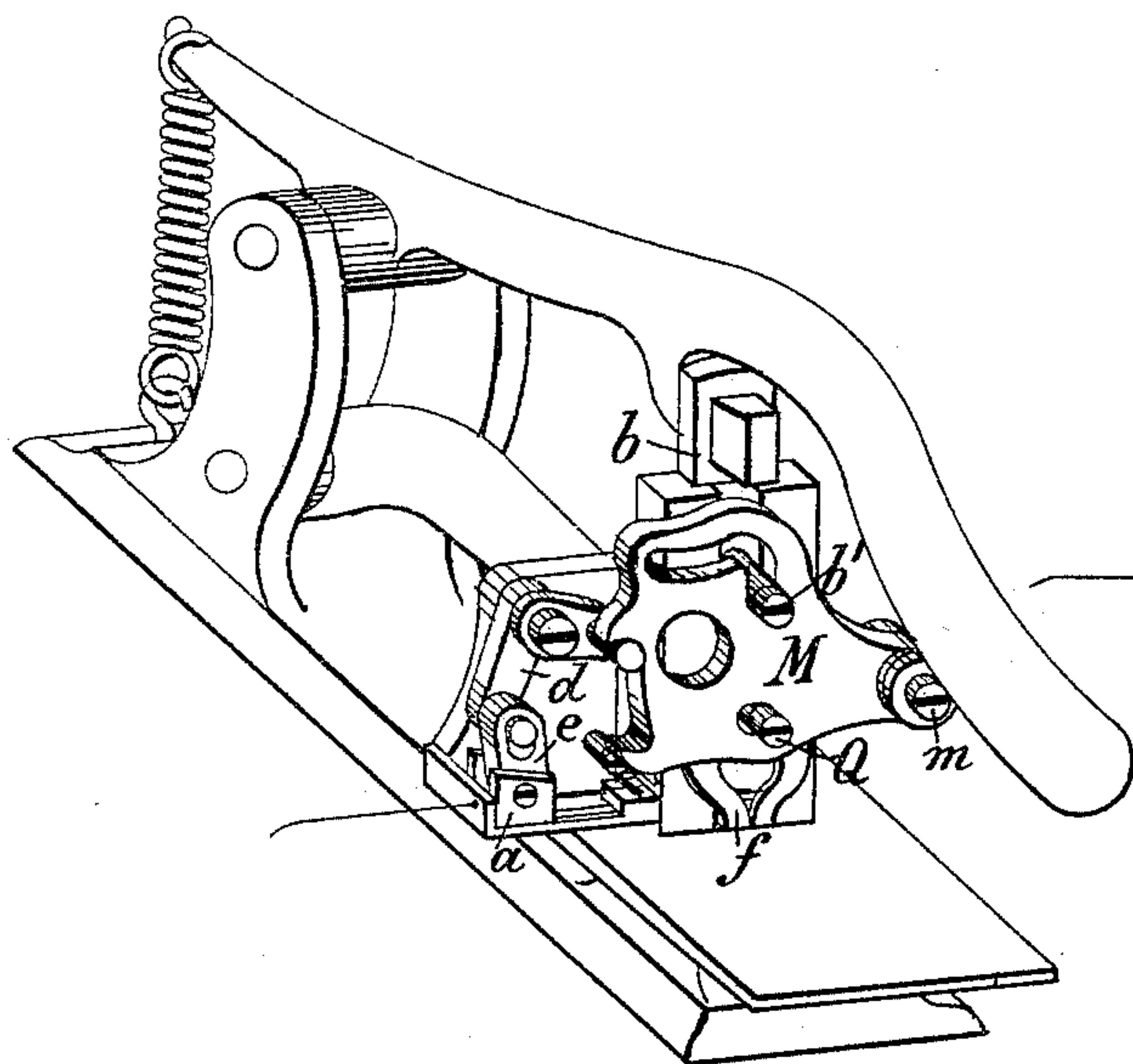


Fig. 11.

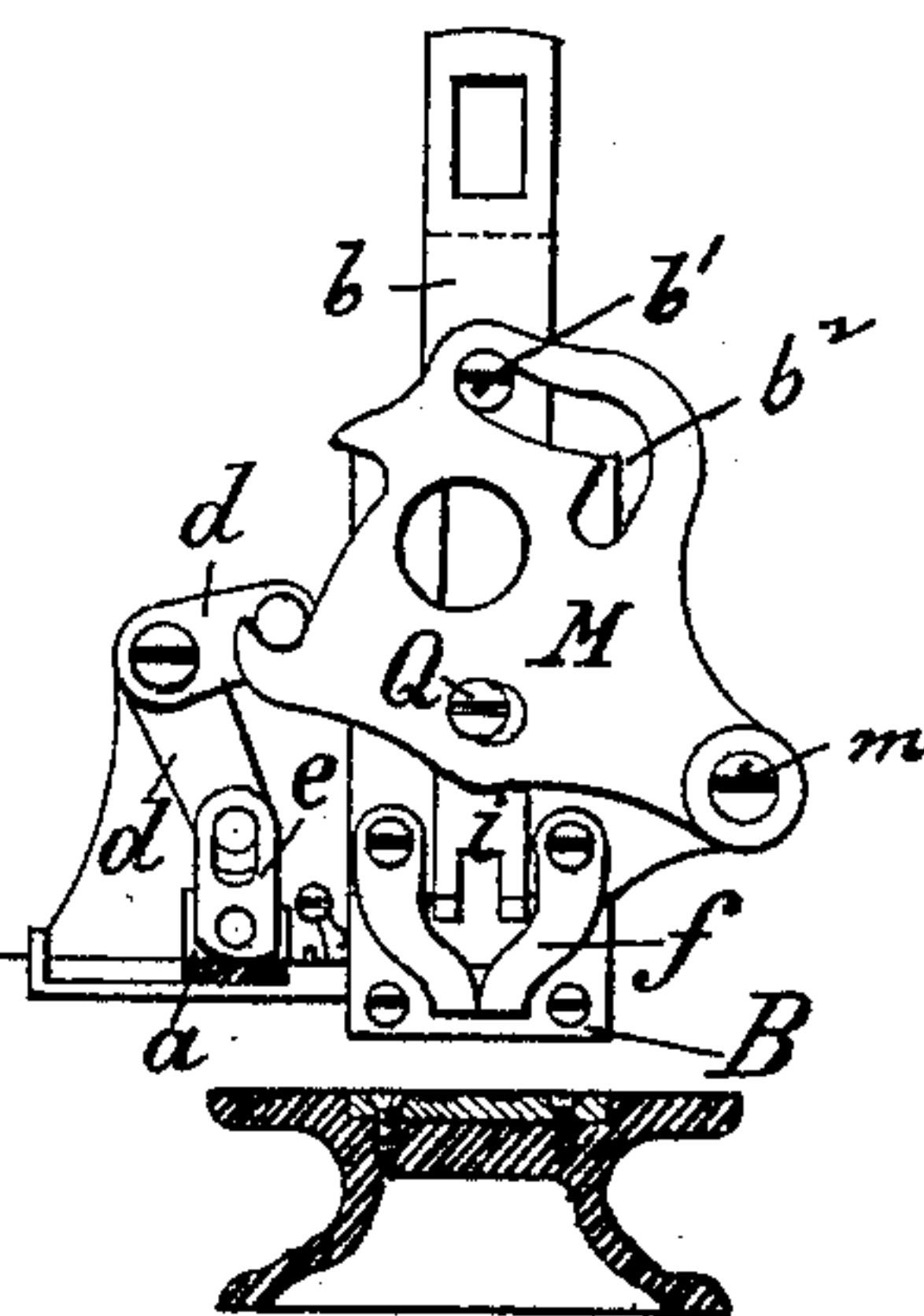


Fig. 12.

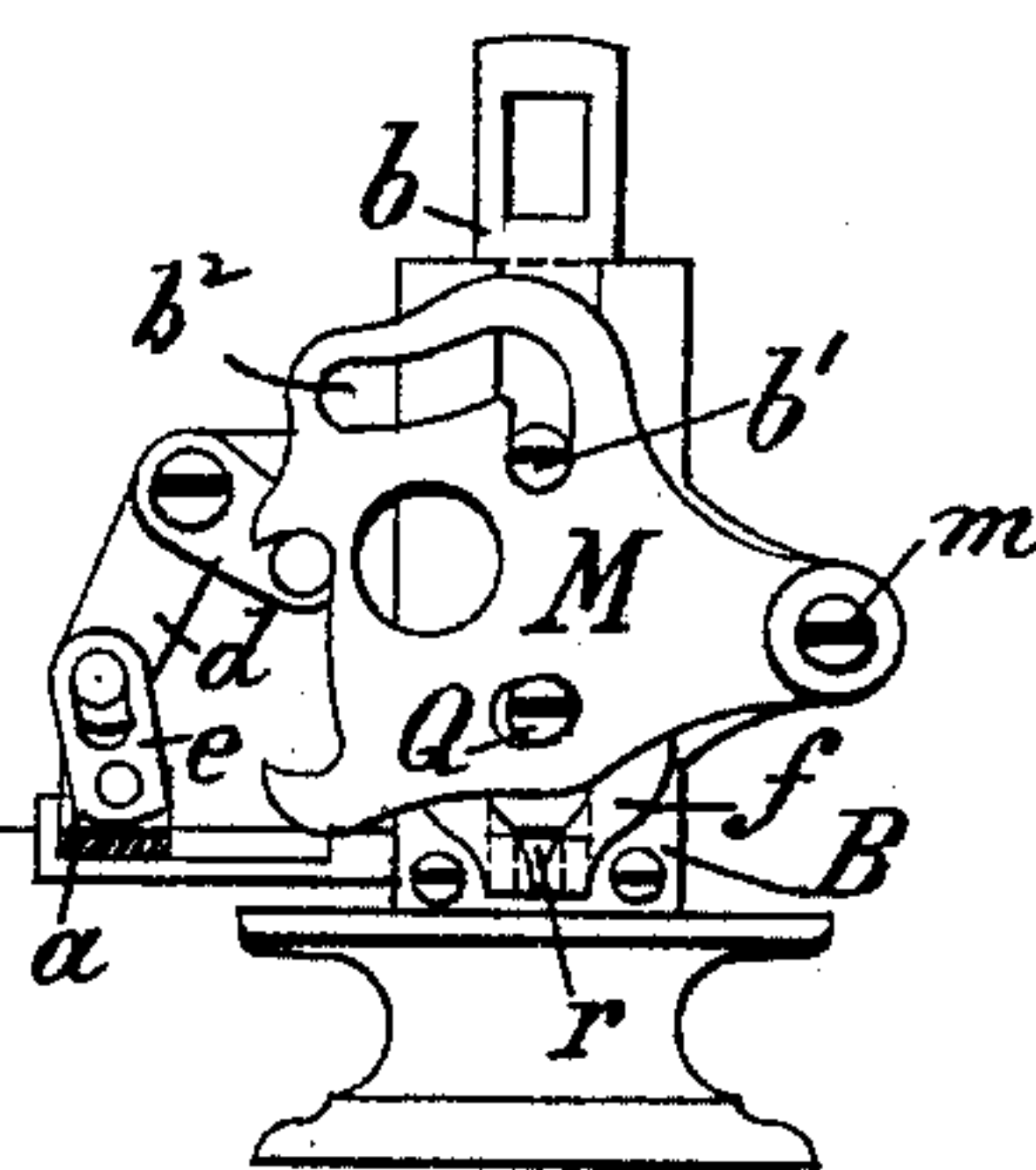


Fig. 14.

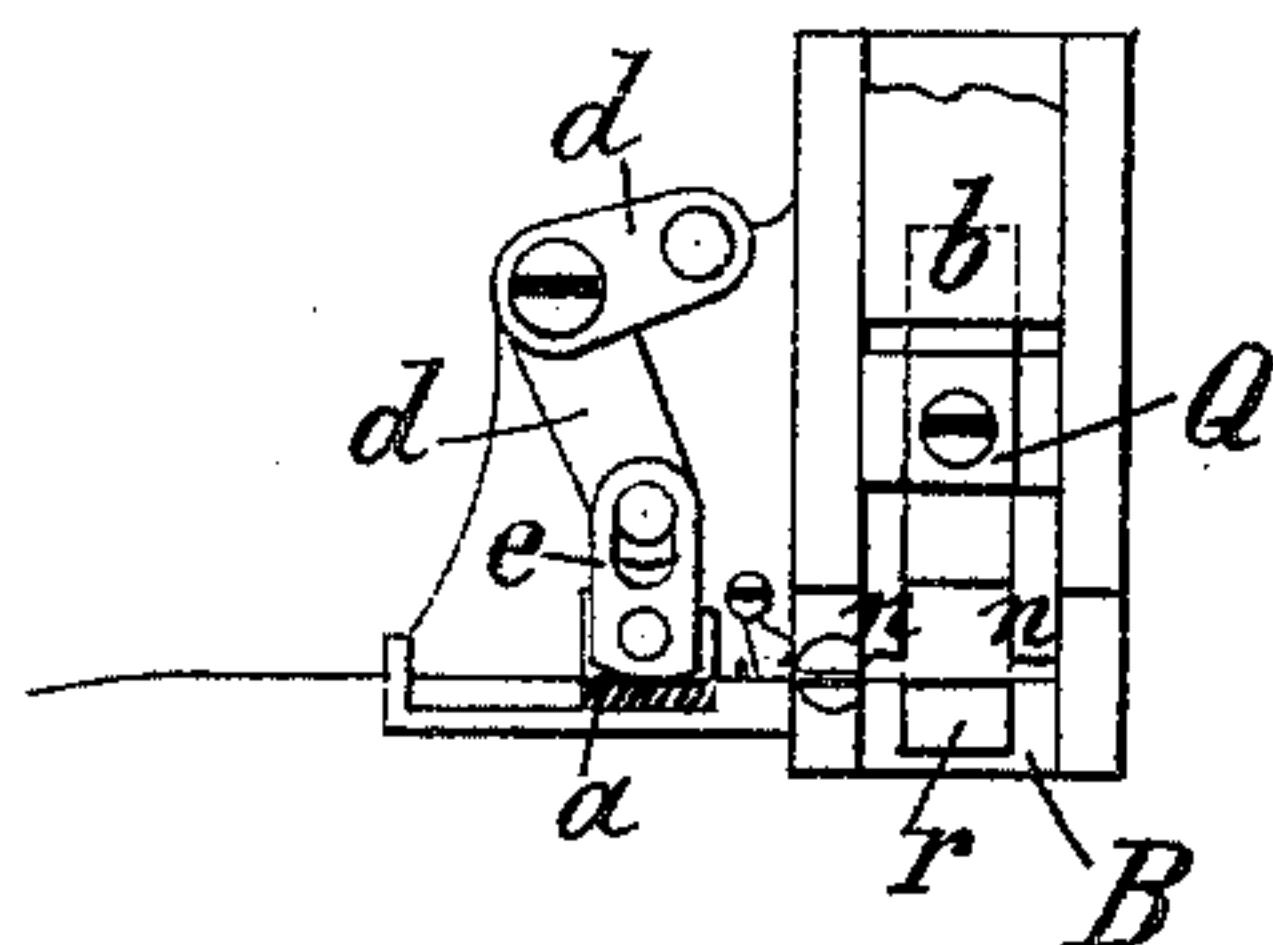
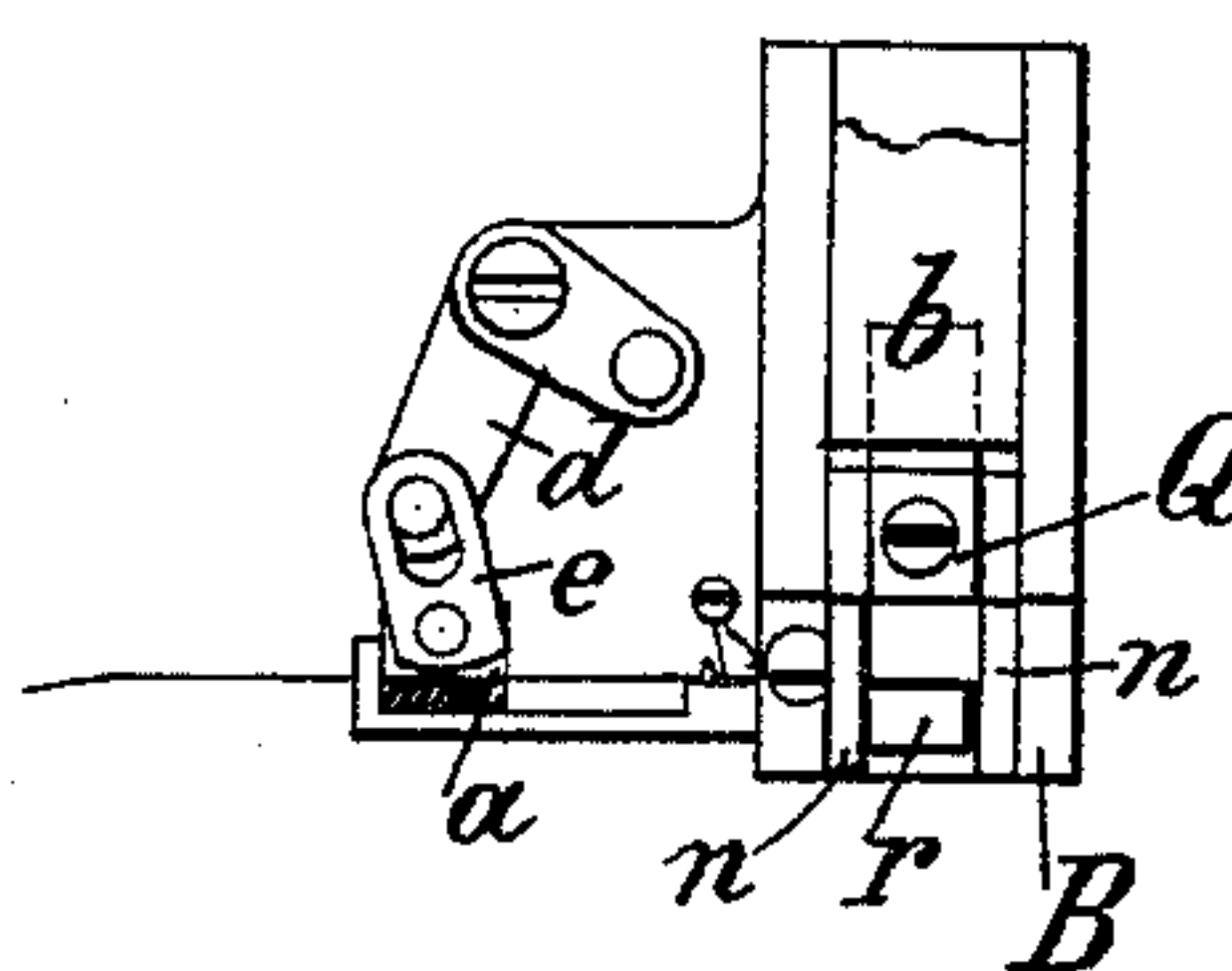


Fig. 13.



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UNITED STATES PATENT OFFICE.

CARL ERNST PREUSSE, OF REUDNITZ, LEIPSIC, SAXONY, GERMANY.

BOOK-STAPLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 399,555, dated March 12, 1889.

Application filed May 5, 1887. Serial No. 237,293. (No model.) Patented in Germany January 26, 1886, No. 36,510, and May 18, 1886, No. 37,744.

To all whom it may concern:

Be it known that I, CARL ERNST PREUSSE, a subject of the King of Saxony, Germany, residing at the city of Reudnitz, Leipsic, in the Kingdom of Saxony, Germany, have invented certain new and useful Improvements in Book-Stapling Machines, (for which Letters Patent have heretofore been granted to me in Germany, dated January 26, 1886, No. 36,510, and May 18, 1886, No. 37,744,) of which the following is a specification.

This invention relates to certain new and useful improvements in the book-stapling machine for which United States Letters Patent No. 298,117 were issued to me on the 6th day of May, 1884; and this invention relates especially to the mechanism for shifting the wire, the construction of the operating-lever and the block, mandrel, or die over which the pieces of wire are bent.

The invention consists in the combination, with the driver-slide, of improved mechanism for feeding the wire for shifting the mandrel and the hand-lever for operating the machine.

The invention also consists in the construction and combination of parts and details, as will be fully described and set forth hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved book-stapling machine. Fig. 2 is a front elevation of the driver-slide and wire-shifter, parts being in section. Fig. 3 is a side view of the same. Fig. 4 is a front view of the same, showing the parts in different positions, parts being in section. Figs. 5, 6, and 7 are detail front views of the same, parts being broken out and others in section. Fig. 8 is a detail front view of the cutter and shaper. Fig. 9 is a side view of the same. Fig. 10 is a perspective view of a modification of my improved machine. Fig. 11 is a front end view of the same, parts being in section. Fig. 12 is a front view of the same, the parts being in different positions and some being in section. Figs. 13 and 14 are detail front views of the driver-slide, cutter, and feeder in different positions, parts being in section.

Similar letters of reference indicate corresponding parts.

The driver-slide and the devices for cutting and bending the wire are constructed the same as in my patent, No. 298,117, referred to above.

The wire is fed by the following mechanism: When the machine is closed—that is, when it has just driven a staple—the feeder-slide *a* has the position shown in Figs. 4 and 5. If the machine is opened—that is, started to make and drive a fresh staple—the driver-slide *b* rises and raises the link *c*, pivoted to the top of the driver-slide *b*, the lower end of said link being provided with a slot through which a pin on one end of a pivoted angle-lever, *d*, passes, a pin on the opposite end of said angle-lever passing into a slot in a cam-piece, *e*, pivoted to jaws on the top of the feeder-slide *a*, over which slide the wire is passed. The slide *Q* is provided with two blades, *n*, which serve to cut off the wire, and also to bend the same over the die, block, or mandrel *r*, which is pressed by two springs, *f*, into the slot for the driver-slide in the plate *B*. The slide *Q* is provided with a notch or recess for receiving one end of the angle-lever *p*, pivoted on arms of the fixed frame, and provided in its upper end with a pin which passes into an inclined slot, *q'*, of an arm, *q*, on the driver-slide *b*. The slide *Q* is provided with a downwardly-projecting fork, *i*, having its lower ends beveled to act on bevels *k* of the block or mandrel *r*.

The curved lever *A* is pivoted at *o*, and to its lower end, at the front of the machine, the handle-section *A'* is pivoted, which is held approximately in line with the lower shank of the lever *A* by the spring *s*.

The clinching-anvil *g*, which serves to press over or clinch the ends of the staple, is drawn downward by a spring, *W*, secured to a pin on the anvil and a fixed pin on the frame, and pressed upon an end of a short lever, *t*, pivoted on the frame of the machine, the other end of said lever being below the handle part *A'* of the lever *A*.

The operation is as follows: The ascending driver-slide *b* moves the feed-slide *a* to the right, and at the same time the cam-lever *e* is inclined, so that its cam end does not grip the wire passed over the slide. The descending driver-slide *b* swings the cam-lever *e* into a

vertical position, so that its cam end firmly grips the wire on the slide *a*, which is moved to the right, thereby feeding the wire under the cutter, whereby the wire is cut and bent over the mandrel to form a U-shaped staple. The beveled ends of the fork *i*, acting on the bevels *k* of the mandrel *r*, force said mandrel out of the path or slot for the driver-slide in the plate B, so as to permit said driver to act on the staple. When the slide Q rises, the springs *f* press the mandrel *r* back into the path of the driver-slide, ready for forming the next staple.

The machine is operated by pressing down the handle-piece A' of the lever A. The spring *s* is of such power that when the handle A' is pressed down sufficiently to cut the wire, form the staple, drive it through the paper, &c., said spring does not permit the handle A' to turn on its pivot; but when more power is exerted the handle part A' turns down on its pivot and bends the spring *s*, and at the same time said handle part A' acts on one end of the lever *t*, causing the other end to force upward the clinching-anvil *g*, the upper end of which clinches the ends of the staple that has been forced through the paper.

In place of providing the construction shown in Figs. 1 to 6 for feeding the wire, the construction shown in Figs. 10 to 14 may be used. It consists of a lever-plate, M, pivoted on the end of the machine and having a slot, *b*², into which a pin, *b*', on the driver-slide is passed, whereby said lever-plate M is swung on its pivot *m*. Lugs on the plate M act on the pin on the angle-lever *d*, and said plate M also operates the slide Q.

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

1. In a book-stapling machine, the combination, with a driver-slide, of a wire-feeding

slide, a cam-piece on said feeder-slide, and mechanism, substantially as herein shown and described, connecting said cam on the feeder-slide with the driver-slide, substantially as set forth.

2. In a book-stapling machine, the combination, with a driver-slide, of a slide having blades, a mandrel provided with bevels, a fork on the slide having the blades, which fork has beveled ends that act on the bevels of the mandrel, springs for holding said mandrel, and mechanism for operating the slide having the blades from the driver-slide, substantially as herein shown and described.

3. In a book-stapling machine, the combination, with a driver-slide, of a wire-feeder slide, a cam-piece on said feeder-slide, a slide having blades, a mandrel, a slide having blades and fork with beveled ends acting on the mandrel, springs for holding the mandrel, mechanism for operating the feeder-slide from the driver-slide, and mechanism for operating the slide having the blades from the driver-slide, substantially as herein shown and described.

4. In a book-stapling machine, the combination, with mechanism for driving staples, of a lever for operating the said mechanism, a handle part pivoted on said lever, a spring held on the lever and handle section, a pivoted lever having one end below said handle part, and a sliding anvil resting on the other end of said lever, substantially as herein shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL ERNST PREUSSE.

Witnesses:

LOUIS F. RUISOLD,
F. L. MITKWITZ.