

A. WHITTEMORE.

Improvement in Machines for Making Barbed Staples.

No. 126,660.

Patented May 14, 1872.

Fig. 1

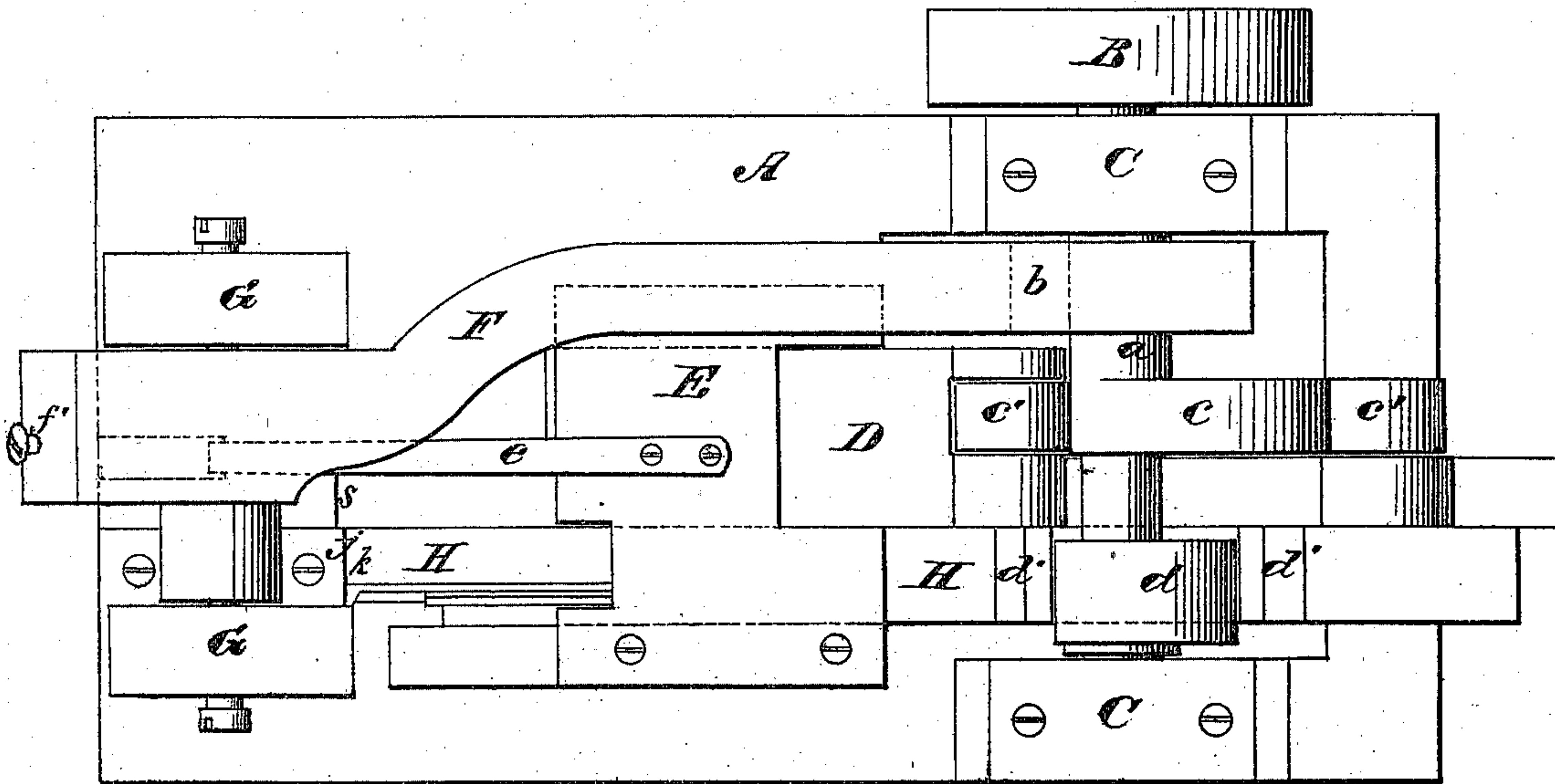
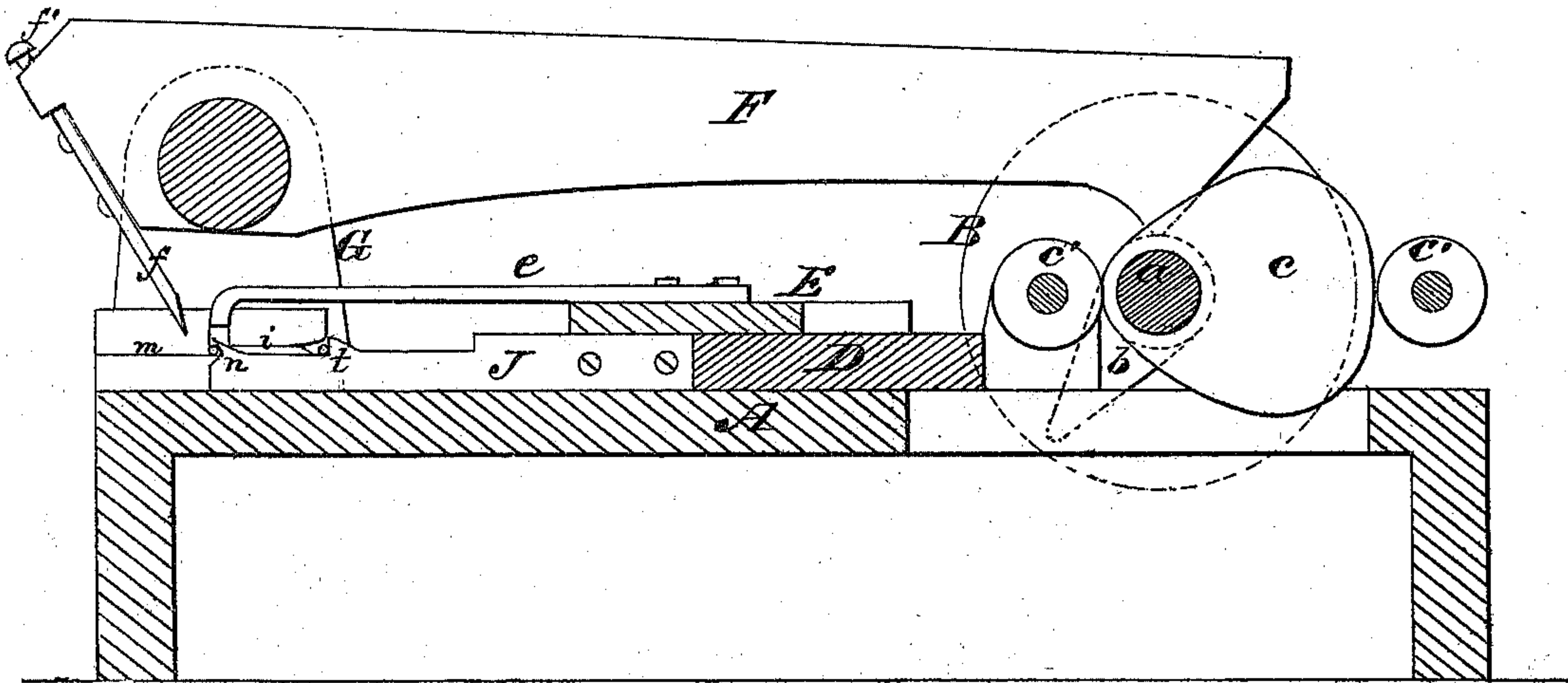


Fig. 2



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Fig. 3

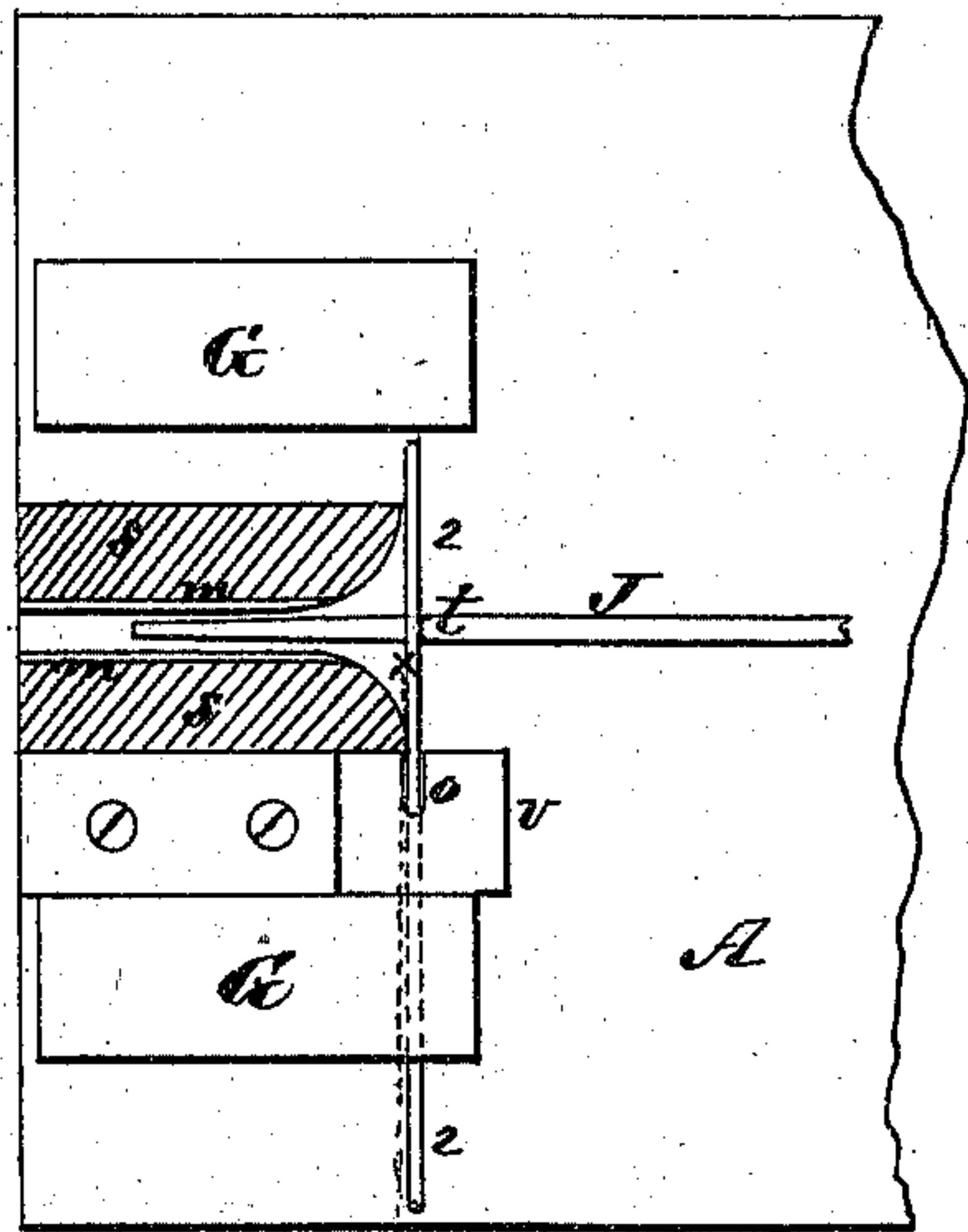


Fig. 3

Fig. 4

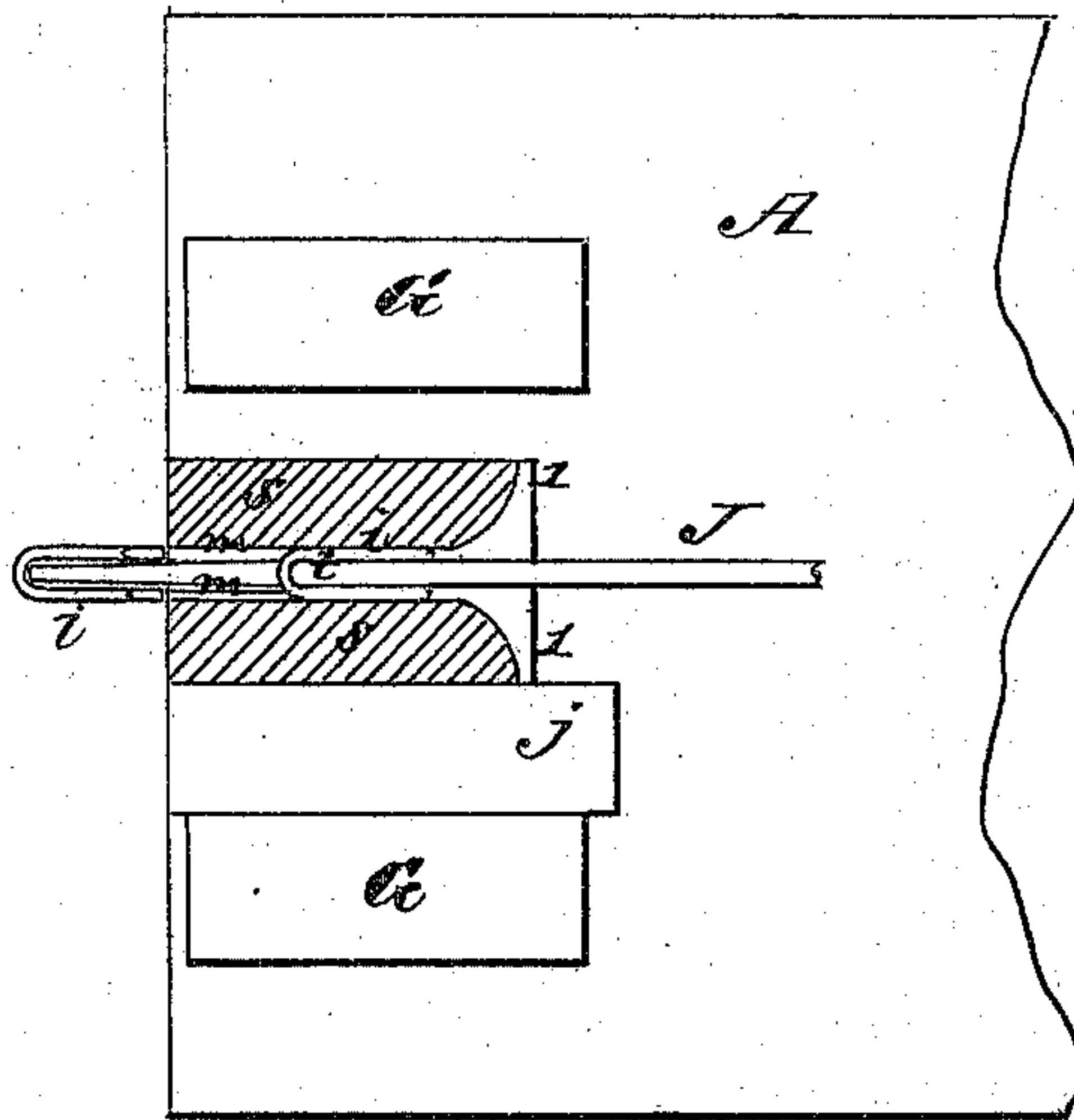


Fig. 6

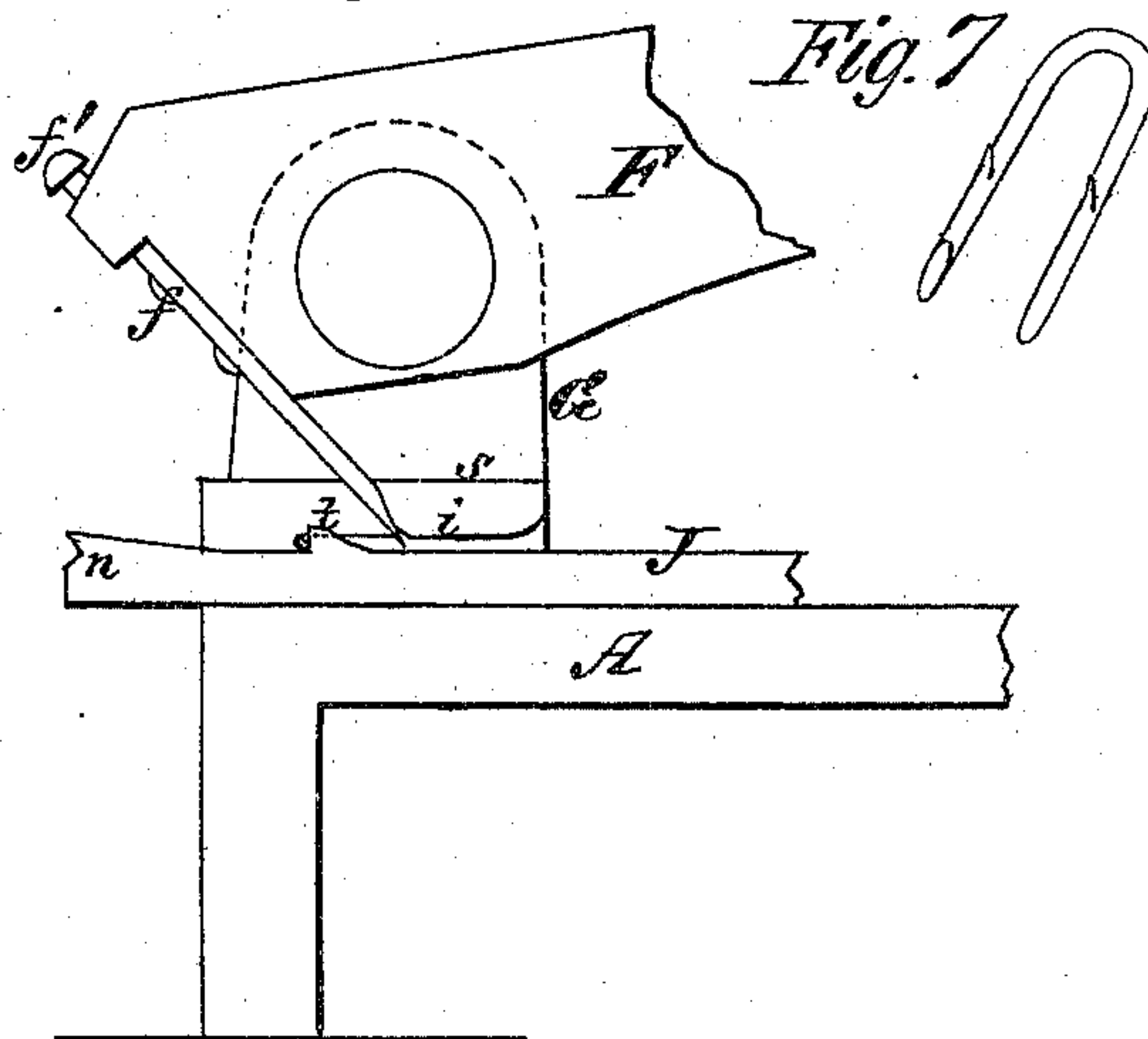
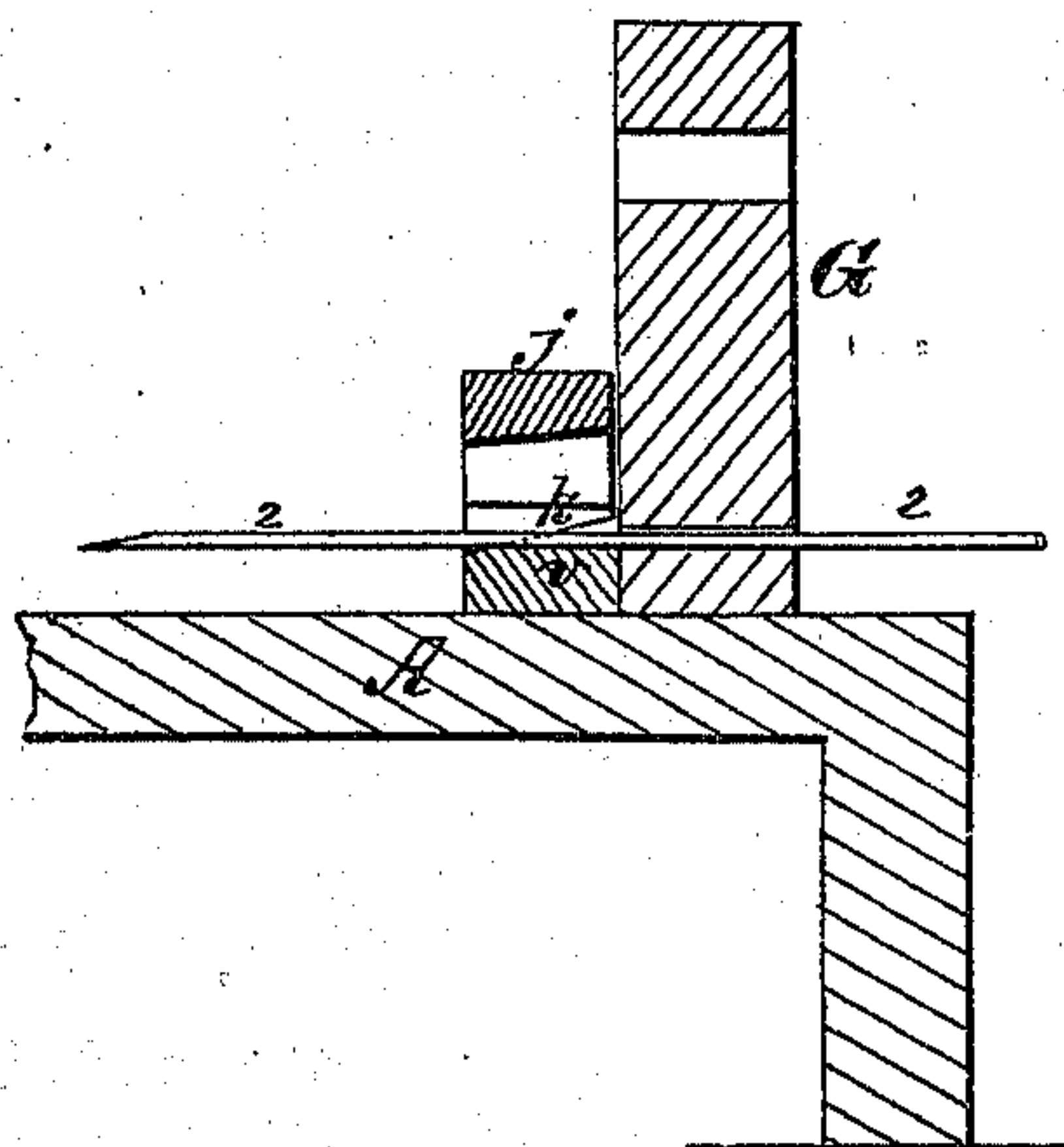


Fig. 7

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UNITED STATES PATENT OFFICE.

AMOS WHITTEMORE, OF CAMBRIDGEPORT, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR MAKING STAPLES.

Specification forming part of Letters Patent No. 126,660, dated May 14, 1872.

To all whom it may concern:

Be it known that I, AMOS WHITTEMORE, of Cambridgeport, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Machinery for Making Barbed Staples; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, Plate 1, is a top view of the machine complete. Fig. 2, Plate 1, is a section taken longitudinally and vertically through the machine. Fig. 3, Plate 2, is a view in detail of the bending and discharging rod and the oblique cutter, showing a wire in position for commencing the bending operation. Fig. 4, Plate 2, is a similar view of the same parts shown by Fig. 3, indicating the operations of the bending and discharging rod. Fig. 5, Plate 2, is a section taken in the vertical plane indicated by dotted line *x*; Fig. 3. Fig. 6, Plate 2, is a view in detail, showing the operation of the barbing-tool on a staple. Fig. 7, Plate 2, is a perspective view of a barbed staple with beveled points.

Similar letters of reference indicate corresponding parts in the several figures.

In the accompanying drawing, *A* represents the horizontal bed of the machine, and *a* the main driving-shaft, carrying on one end a belt-wheel, *B*. The shaft *a* extends transversely across the bed *A*, near one end thereof, and has its bearings in pillar-blocks *C C*; and on this shaft there are three cams, *b*, *c*, and *d*. The cam *c* operates upon anti-friction rollers *c' c'*, and communicates a rectilinear reciprocating motion to slide *D*, which is held in place by a guide, *E*, and which carries a bending and discharging tool, *J*. The cam *d* operates upon toes *d' d'*, and communicates a right-line motion to a slide, *H*, which is held in place by the guide *E*, and which carries a beveled cutter, *k*, (see Fig. 5.) The cam *b* communicates a vibrating motion to a lever, *F*, to which an oblique barbing-cutter, *f*, is applied, which cutter may be adjusted endwise by means of a set-screw, *f'*. The bending and discharging tool *J* is a flat plate set edgewise, and secured to the slide *D* so as to work between two shouldered blocks or benders, *s s*, as shown in Figs. 3 and 4. These blocks are arranged

beneath the axis of the lever *F*, and are secured to the bed *A*, with a narrow space between them and ledges *m m* formed on their inner surfaces, on which the staples *i* are supported while being barbed, as shown in Fig. 6. Transversely across those ends of the blocks which are nearest the guide *E* grooves *l l* are made, which are in the same plane as the shoulders *m m*, and which are rounded, as shown in Figs. 3 and 4. It is into these grooves that the wire *2* is fed when brought in position for being bent, as shown in Fig. 3. The bending-shoulder *t* is rounded transversely, and rises above the plane of the grooves *l* and shoulders *m*, so as to hold the staple firmly between the blocks *s s* during the descent of the barbing-cutter *f*. The extremity of the tool *J* is notched, as shown at *n*, so that when the tool is drawn back to its fullest extent this notched end *n* will get behind the crotch of a staple, and thus discharge the staple from the machine during the succeeding bending stroke, as indicated in Fig. 4. Directly over the tool *J* is a spring, *e*, which is secured to the guide *E*, and extended forward far enough to allow its hooked and notched end to dip into the space between the blocks *s s* above the shoulders *m m*, as shown in Fig. 2. The bifurcated end of this spring will press upon the staple and hold it down upon the shoulders *m m* at the point where it is left by the bending portion *t*, so that it will not be carried back by this bending portion. This spring also adjusts the curved end of the staple in front of the notched end of the tool *J* when the latter terminates its back stroke, so the staple will always be discharged by the tool *J*.

The wire *2* is wound upon a reel, and, by means of feeding devices which I have not shown in the drawing, it is fed into the position for being bent into the form of a staple. Previously, however, to the operation of the bending device *t* on the wire, the latter is cut off the proper length by the following device: On the inner side of one of the standards *G* is a block, *v*; that portion of which, which extends in rear of the blocks *s s*, presents a beveled surface, the inclination of which is toward the blocks *s s*. Through this beveled portion of the block *v* a hole, *o*, is made, which is in the same plane as the grooves *l l*, and through this hole the wire *2* is fed. By means of an

oblique cutter, *k*, on the slide *H* the wire is cut into proper length for bending, and at the same time the ends of the wire are left beveled pointed, so that in driving the staples the legs thereof will spread out in opposite directions.

The cutter *k* is held down upon its inclined and perforated bed *v* by means of a piece, *j*, which is bolted upon the cutter-block, as shown in Figs. 1 and 5.

What I claim as new, and desire to secure by Letters Patent, is—

1. The bending and discharging tool *J*, in combination with the bending and supporting die *s s*, substantially as and for the purpose set forth.

2. The barbing-cutter *f*, in combination with the bending and supporting die *s s* and the bending-tool *J*, substantially as described.

3. The combination of the spring *e* with the die *s s* and bending-tool *J*, substantially as and for the purpose described.

4. A device with bender *t* formed on it, as described, in combination with the die *s s*, formed with shoulders *m m* and a groove, *l*, substantially as described.

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Witnesses:

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