

A. S. LIBBY.
Sole Nailing-Machines.

No. 138,666.

Patented May 6, 1873.

Fig. 4

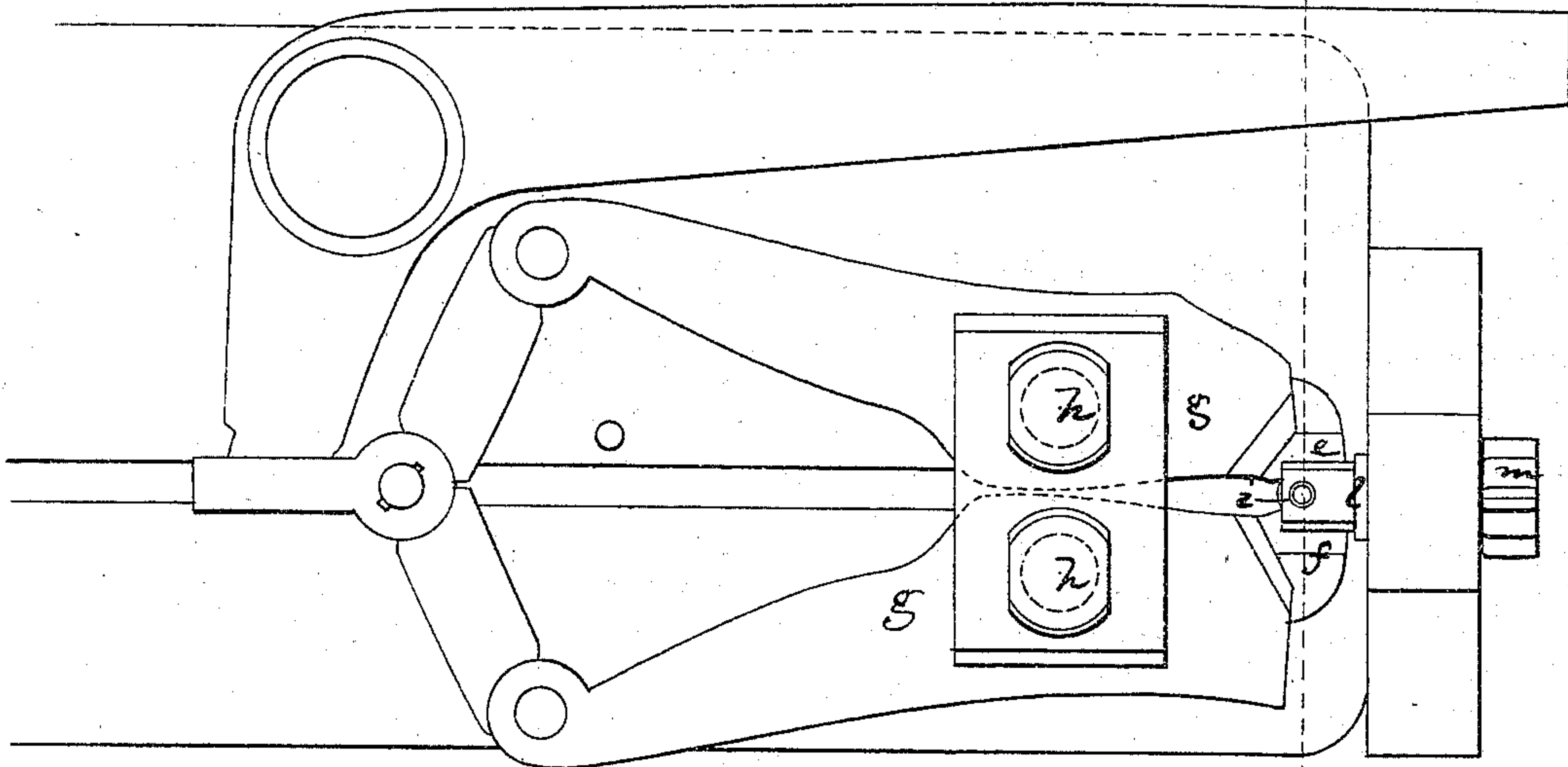


Fig. 2.

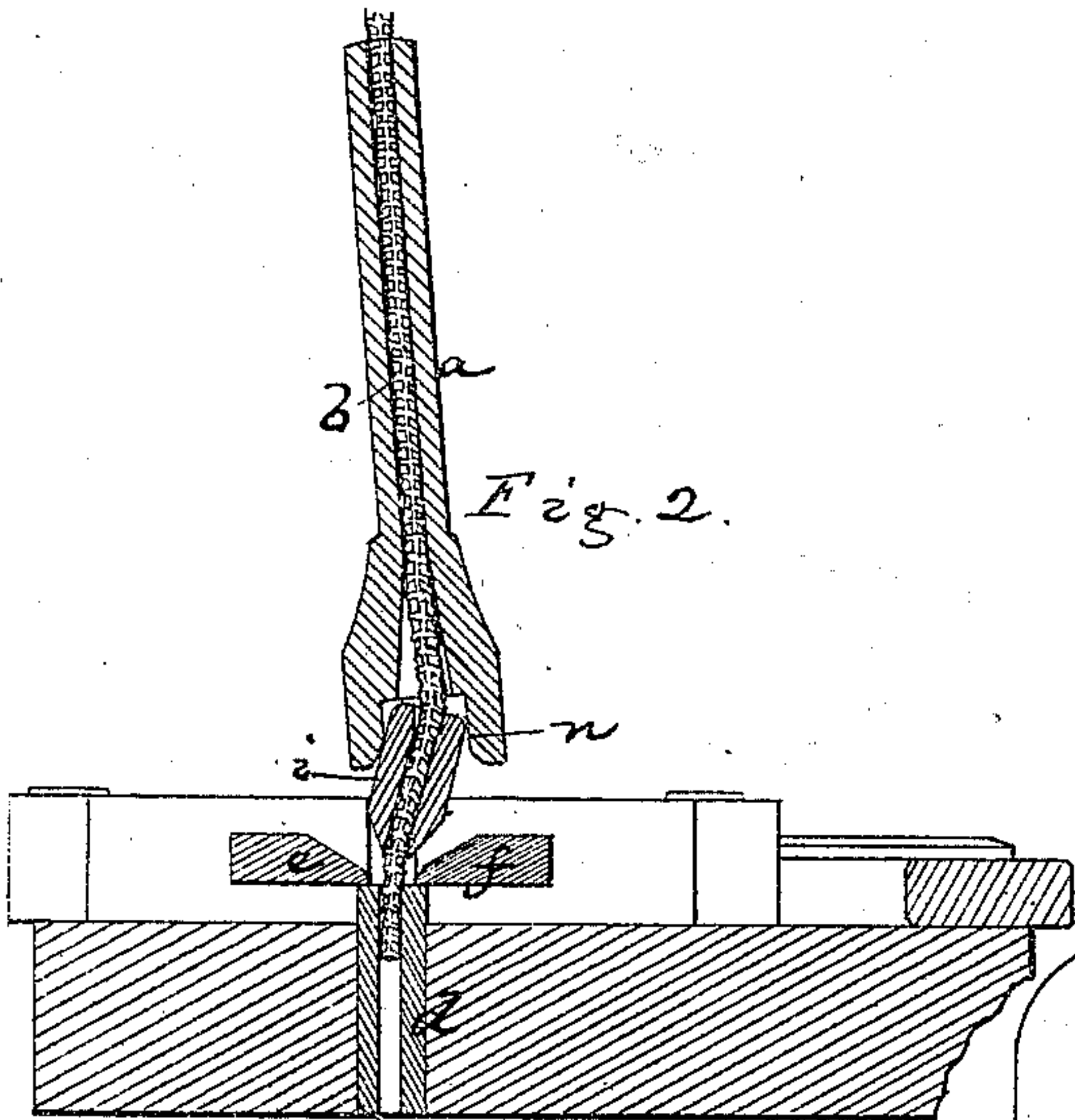


Fig. 3.

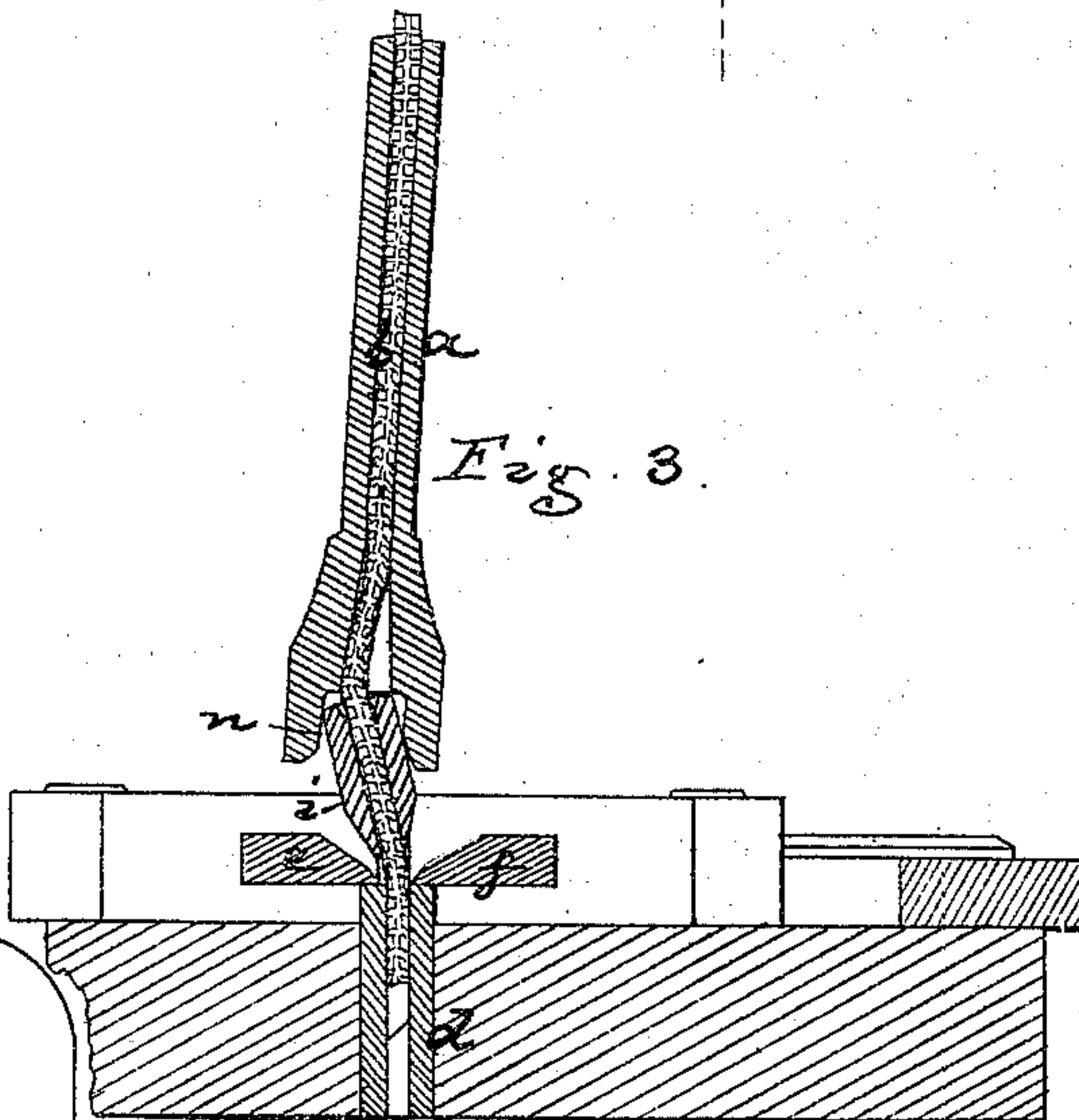


Fig. 5

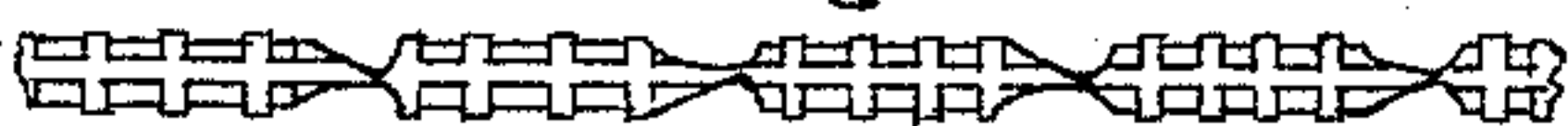
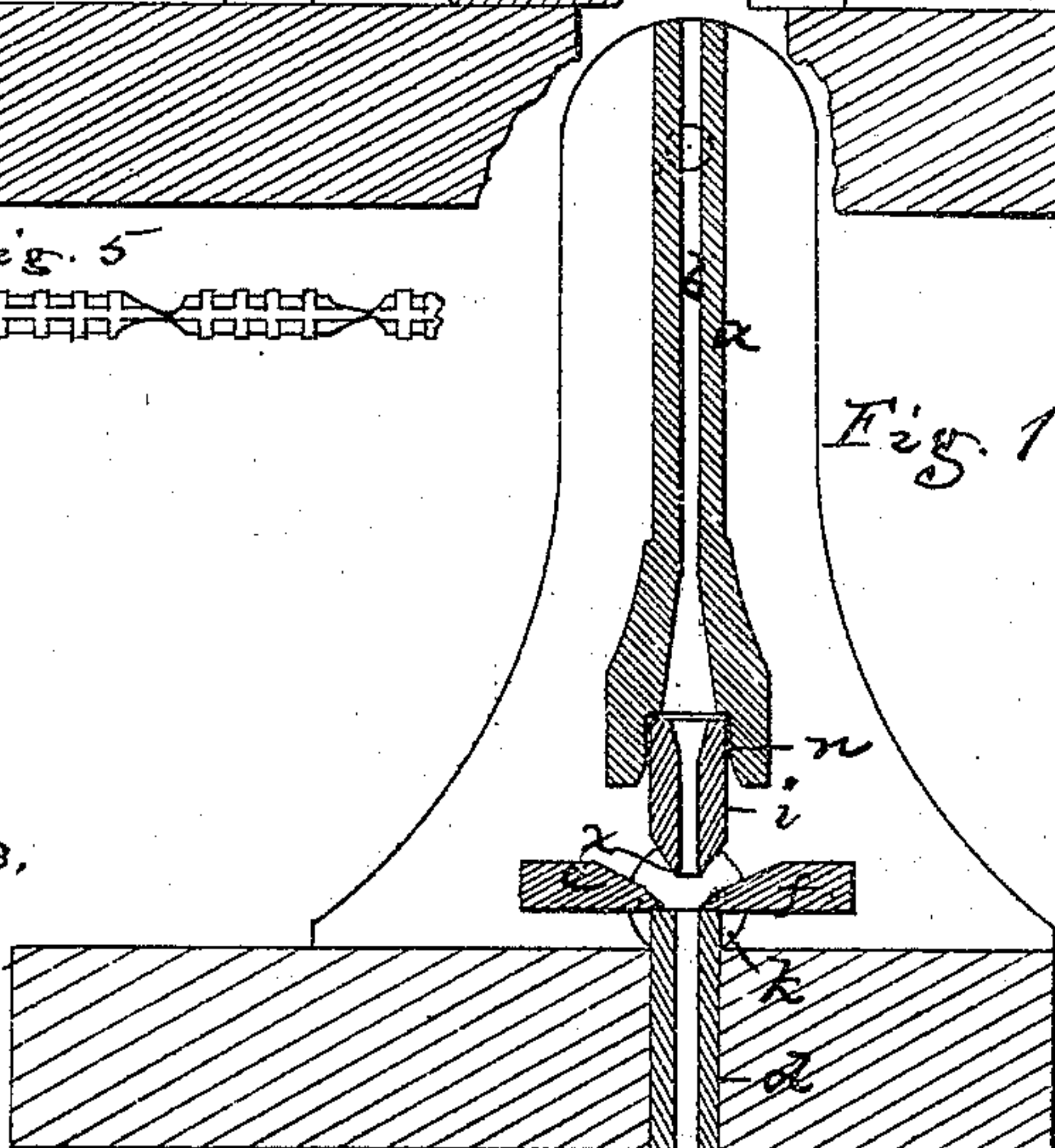


Fig. 1.



Witnesses,
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UNITED STATES PATENT OFFICE.

ASA S. LIBBY, OF LAWRENCE, MASSACHUSETTS.

IMPROVEMENT IN SOLE-NAILING-MACHINES.

Specification forming part of Letters Patent No. **138,666**, dated May 6, 1873; application filed April 2, 1873.

To all whom it may concern:

Be it known that I, ASA S. LIBBY, of Lawrence, in the county of Essex and State of Massachusetts, have invented an Improvement in Sole-Nailing Machines; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

In sole-nailing machines like those shown in United States Letters Patent, Nos. 76,150 and 122,985, the nails cut from the wire are formed side-pointed, each nail having its point formed on or toward the side opposite to the direction of the point formed before it. These alternately-opposite side-points are generally formed by two pairs of cutters or cutting-edges, one pair forming the points in one direction, and the other pair the points in the opposite direction.

In my present invention I dispense with the double cutting or pointing mechanism, and effect the side-pointing with one pair of cutting-edges, by bending the wire at the severing-point for each nail, bending it in one direction for one point, and in the opposite direction for the next point, the result being that the alternate or successive points are then cut in alternately opposite directions. If the points are to be all formed toward the same side, the wire needs only to be bent in one direction for each action of the cutters, but the nails are generally to be pointed in opposite directions, so that one point will cause the nail to turn in one direction, and the next point will cause its nail to turn in the opposite direction.

My invention consists, primarily, in combining with the cutters for severing and pointing the wire, mechanism by which the wire is bent and so presented with relation to the cutters and for their action, that the point formed by the cutters is at or toward one side of the nail.

The drawing represents a nail-cutting mechanism, (of a sole-nailing machine,) embodying my invention.

Figure 1 shows a cross-sectional elevation

in line with the nail-tube. Figs. 2 and 3 show, respectively, the position of the parts for two successive cuts. Fig. 4 shows a plan of the cutters. Fig. 5 shows a portion of the wire with the successive cuts, the nails being left adhering, but by so slight union that the movement of the tube in which the wire is presented to be driven, will sever the nail.

a denotes the piece containing the passage *b*, through which the wire passes to the cutters. *d* denotes the tube into which the wire passes from the tube *a*. *e f* denote the cutters, fixed to levers *g*, which are pivoted at *h*, and are driven in to cut the wire, and outward to open them, by any suitable mechanism. When driven in their cutting-edges enter the wire upon opposite sides thereof, and meet, or so nearly meet, as to sever, or practically sever, the end part projecting below the cutters.

If the tube *a* is vertical at the time of the cutting operation, the cutters will form a perfectly V-shaped point at the bottom of the wire over them, and a flat head upon the wire or nail below; but for the purpose of this invention I make the tube *a* in two parts, and pivot the lower part *i* upon a pin, *k*, making the foot of the piece *i* tapering thus, V, with the point *x* nearly in axial line with the center of the pin *k*, the pin and piece *i* being preferably formed as one. The pin *k* swivels in a suitable bearing, *l*, and by turning it, by means of a lever-arm, *m*, fixed to the outer end of the pin, or by any other suitable mechanism, it is brought to the position seen at Fig. 2, or Fig. 3, bending the wire below the point *x* at the top of the tube *d*, this being done before the cutters act, or when the wire is in position for the nail to be cut. The pin *k* being first swung in one direction the point will be thereby formed on one side of the wire, and being next swung in the opposite direction the point will be formed upon the opposite side, as seen at Figs. 2, 3, and 5.

The tube or piece *a* may be jointed to the piece *i* by making the tube *a* with a fork, *n*, to straddle the top of the piece *i*, the tube-piece *a* being pivoted at *l*.

By this method of severing and pointing the nails they may be much more readily side-pointed than by using cutters or cutting-edges, which have to be moved to bring them into position to effect side-pointing.

I claim—

1. The swing-tube *i*, in combination with the tubes *a* *d*, and cutting mechanism, substantially as described.

2. The improved mode of presenting the wire for the action of the cutters, substantially as described.

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Witnesses:

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