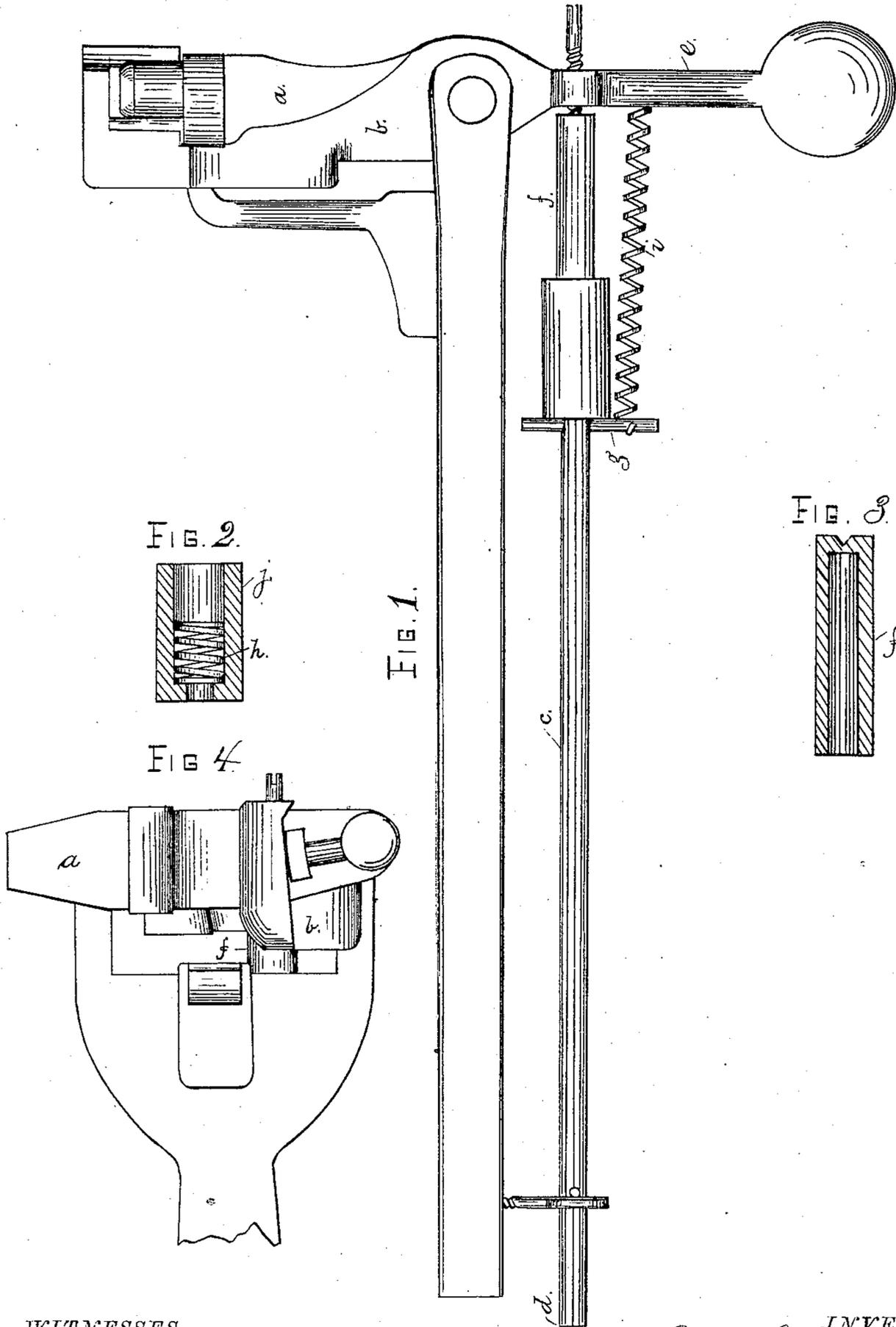


B. F. RICE.  
Nail-Plate Feeders.

No. 157,295.

Patented Dec. 1, 1874.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

BENJAMIN F. RICE, OF EAST WEYMOUTH, MASSACHUSETTS.

## IMPROVEMENT IN NAIL-PLATE FEEDERS.

Specification forming part of Letters Patent No. 157,295, dated December 1, 1874; application filed October 14, 1874.

*To all whom it may concern:*

Be it known that I, BENJAMIN F. RICE, of East Weymouth, in the county of Norfolk and State of Massachusetts, have invented an Improved Feed-Regulator for Nail-Machines; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The object of this improvement is to insure a uniform feeding of the rod or plate from which the nails are made, so that the nails shall be of equal size.

In other methods of feeding, so far as I am aware, the fork fails, at times, to hold the nail-rod with sufficient firmness, the consequence being that some nails would be large and some small, from the same rod.

To overcome this, and to insure a tighter gripe of the fork and an even feed, my invention consists in combining with the push-up rod, and in addition to its retracting-spring, a coiled spring, surrounding the push-up rod at its end which is nearest the fork, such spring being held between a stop on the rod and the end of a thimble or socket, which is held to the fork.

The nail-cutting machine need not be described, it being understood that my invention relates only to the feeding devices, and which are an improvement on those shown in the patent No. 120,190, granted to John C. Gould, October 24, 1871.

Figure 1 represents a side elevation of my improved feed-regulator; Fig. 2, a cross-section of the sleeve with its inclosed spring; Fig. 3, a cross-section of the thimble or socket for the push-rod; and Fig. 4 a top view of the fork-levers.

In the drawing, *a* and *b* are the fork-levers, which, with their connections and action, need

not be particularly described, and *c* is the push-up rod, which, when the feeder is in action, and vibrated in the usual manner, abuts, at its end *d*, against any fixed part of the machine, thereby forcing outward the lower arm *e* of the fork-levers, and causing the upper ends, which gripe the rod or plate to be fed, to move toward the machine.

The push-up rod *c*, it will be seen, does not extend to and bear upon the lever *b*, as has heretofore been the practice, but, on the contrary, enters loosely the bore of a socket or thimble, *f*, but not far enough to touch its bottom; and between the top of this thimble and a stay-pin, *g*, on the push-up rod, is a coiled spring, *h*, surrounding this rod. The ordinary retracting-spring *i* connects the push-up rod with the fork-lever *b*, the stress of this spring being in a direction about the opposite of the spring *h*. If desired, a cap or sleeve, *j*, may surround the spring *h*, by way of protecting, but the parts are effective without this.

It is found, in practice, that this combination of the short spring with the socket serves to insure that the rod or bar from which the nails are to be cut is fed with almost unerring certainty, so that every nail cut is of exactly the same size, a result deemed almost, if not quite unattainable in the former known modes of construction, the difficulty having arisen from the fact that the rod or blank was not held firmly enough.

I claim—

In combination with the push-rod and its retracting-spring, the spring *h* and socket *f*, applied and operating substantially as shown and described.

BENJA. F. RICE.

Witnesses:

M. W. FROTHINGHAM,  
THOMAS HARDEN.