

JOHN C. GOULD.

NAIL PLATE FEEDING MACHINE.

No. 119,228.

Patented Sep. 26, 1871.

FIG. I.

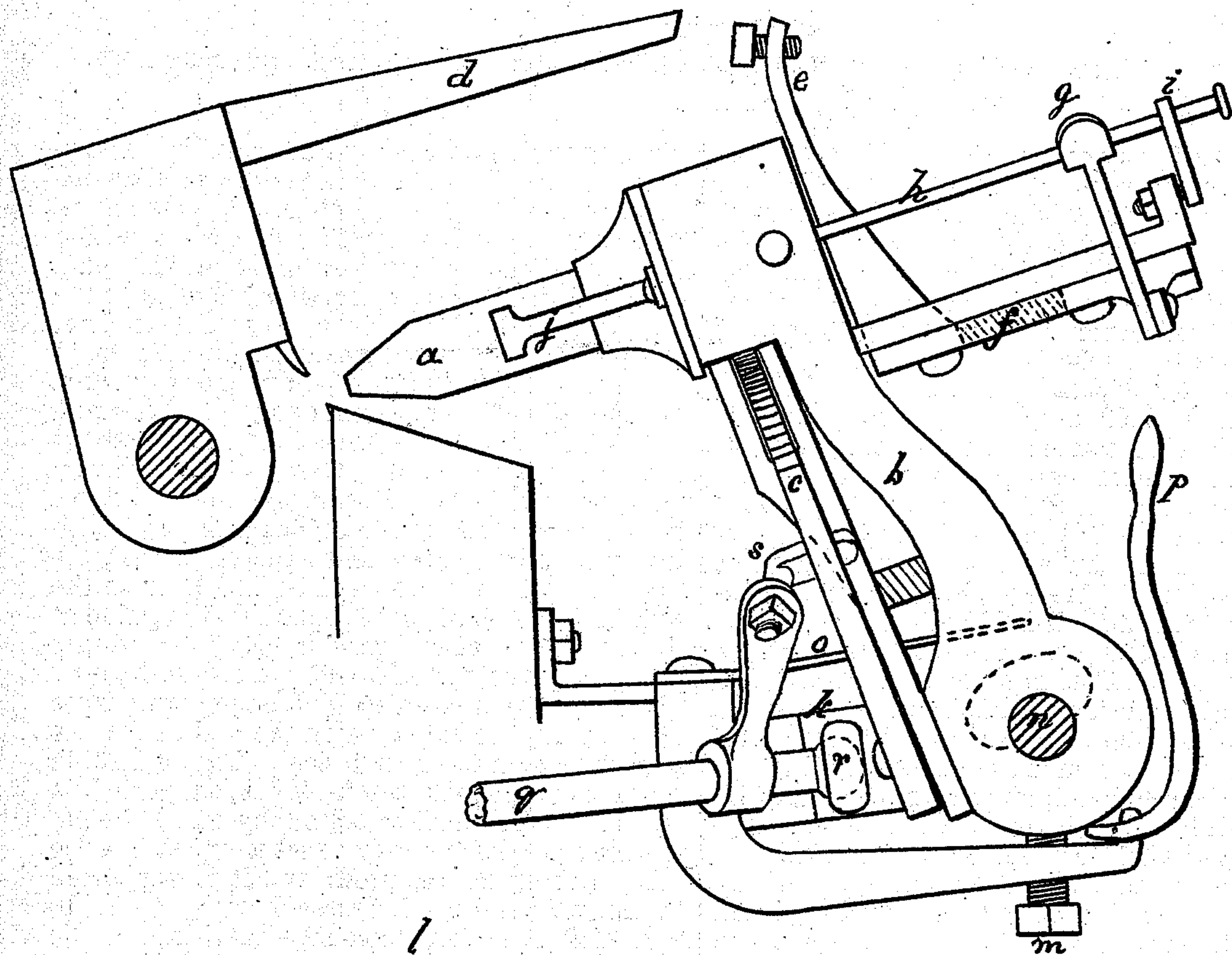
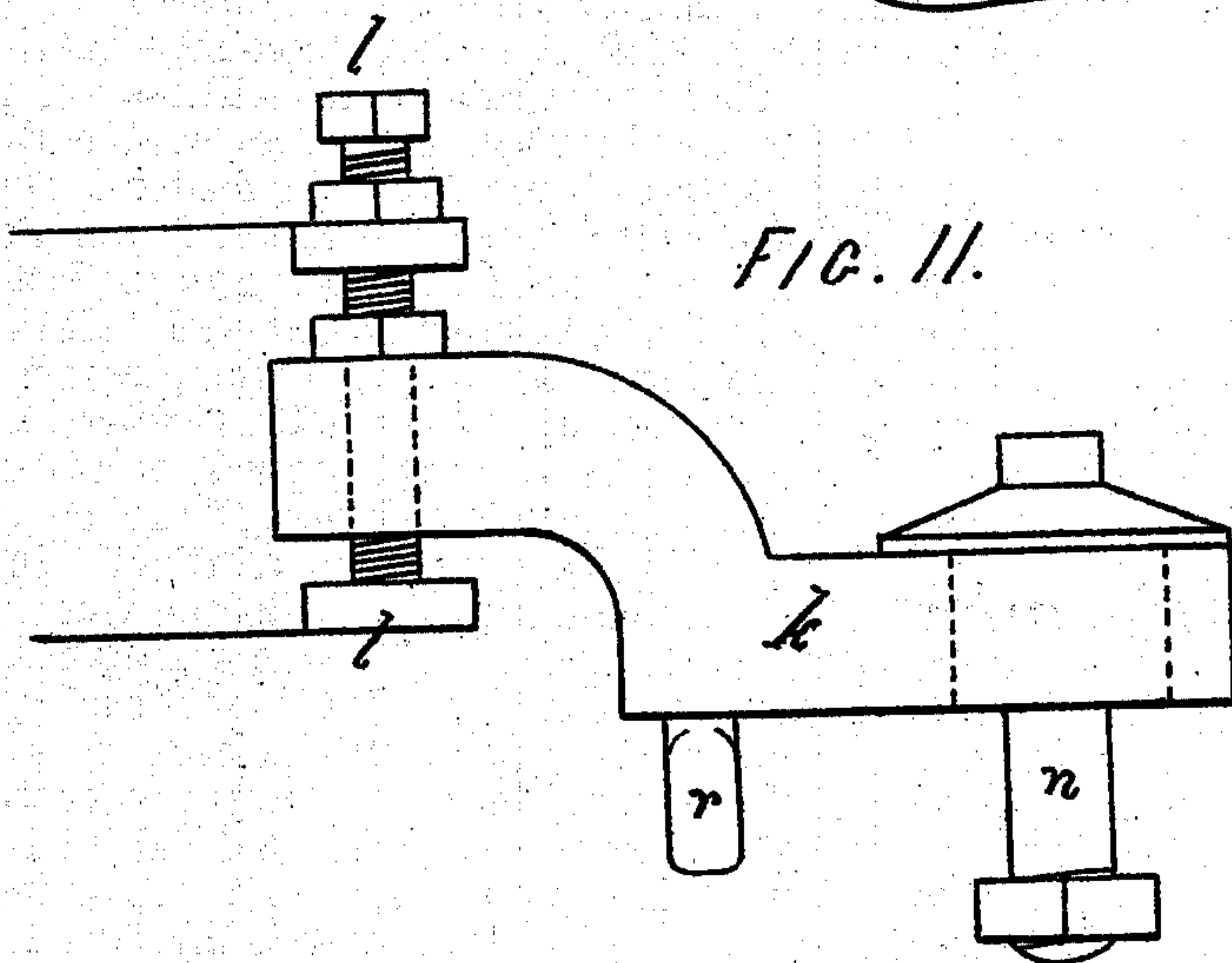


FIG. II.



WITNESSES.

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IMPROVEMENT IN NAIL-PLATE-FEEDING MACHINES.

Specification forming part of Letters Patent No. 119,228, dated September 26, 1871; antedated September 9, 1871.

To all whom it may concern:

Be it known that I, JOHN C. GOULD, of Oxford, in the county of Warren and State of New Jersey, have invented certain new and useful Improvements in Nail-Plate-Feeding Machines, of which the following is a specification:

The said invention relates to the self-acting nail-plate-feeding machine described in the Letters Patent No. 87,924, issued to me on the 16th day of March, 1869, in which the nose-piece and the nail-plate are carried on a vibrating arm and turned over at each nail by the action of a segmental rack, and the feed is obtained by means of an arm attached to the head carrying the upper knife, which strikes a lever on its descent and causes the nose-piece to slip back on the nail-plate while the latter is held between the knives. The plate is held by the nose-piece and no nipper-rod is used. The improvements constituting the present invention include the use of the nipper-rod and fork-springs or rollers commonly employed; and consist in arranging the mechanism to obtain the feed by slipping the gripe on the nipper-rod while the plate lies in the nose-piece and is held by the knives, and in various means of adjustment for safety against breakage, and by which the feed may be conveniently regulated without interfering with the heavy parts of the machine.

To enable others skilled in the arts to which it appertains to make and use my invention, I will proceed to describe its construction and operation with reference to the drawing.

Figure 1 is an elevation of the feed-machine in connection with the knives of a nail-making machine, and Fig. 2 is a plan of the adjustable bracket on which the feeder is carried.

The nose-piece *a* and the nail-plate are carried by the arm *b*, in which they are turned over at the cutting of each nail by the segmental rack *c* in the ordinary manner, similar to that described in the said patent. The feed of the plate is obtained by the arm *d* on the head carrying the upper knife, striking against the bolt on the arm *e* of the slide *f* that carries the fork-springs *g* when the upper knife has descended far enough to catch the plate, so that the fork-springs are forced back on the nipper-rod *h* while the plate is held by the knives. When the nose-piece is thrown back from the knives to be turned over, a spring is arranged within the slide, as indicated by dotted

lines, or in any other way that may be convenient, to bring the slide back to its original position, as shown in the drawing, and thus to present an additional projection of the plate from the nose-piece for the formation of another nail. As the spring has the whole time occupied by the vibration of the feeder for its action, it need not be so strong to insure certainty of action as would be required if it had to operate more quickly. When the plate has been cut to the end the ring at the end of the nipper-rod comes in contact with the support *i* and prevents any further projection of the plate. The nose-piece may be cast in one piece with the pinion or gearing by which it is turned by the segmental rack *c*, and it is fitted loosely into the socket at the head of the arm, and the plate is held against the guide at the head side of the machine by the spring *j* bearing on the opposite side of the nose-piece. The point of the nose-piece where the plate passes through may be cut away in the middle for the admission of air to keep it cool. The adjustable bracket *k*, on which the feeder is supported, is hung on a screw-bolt, or bolts *l*, by which the entire feed mechanism may be set to one side or the other, as may be required; and it is supported at the outer end by the screw-bolt *m*, by which, in a similar manner, the entire machine may be either raised or lowered. These two adjustments of the bracket, therefore, enable the nailer to easily and quickly set the feeder in any direction. The bolt *n*, upon which the feeder works, lies in a semi-cylindrical bearing in the bracket, which is enlarged above and at each side, as shown by the dotted line, so that when an unusual strain is thrown upon the machine by the butt of a plate getting between the knives, or any other cause, the feeder is lifted out of the bearing on the bracket as a measure of relief. In small machines the spring *o* holds the feeder down, but in heavier ones the same spring may be better applied to enable it to lift more easily. The handle *p* is used to lift the feeder from its bearing when it is desired to stop the cutting without stopping the nail-machine. This handle may be made heavy enough to counterbalance the feeder, so that when the feeder is lifted from its bearing by an obstruction the weight of the extended lever prevents it getting back again until replaced by the nailer. To admit of the various changes that have been described in the position

of the feeder, without causing the rock-shaft *q*, from which the turning motion of the plate is derived from the nail-machine, to bind in its journals unless very loosely fitted, the end of the shaft next the feeder is carried by the adjustable bracket with a ball-and-socket joint, *r*, so that the operating end of the shaft is carried with the bracket in its adjustments, and requires no special adjustment of its own. The arm of the rock-shaft by which the motion is communicated to the segmental rack *c*, does not gear into it directly, but has an adjustable piece, *s*, secured to it by screws, by which the motion of the rack may be carried more or less toward either one side or the other, as may be required.

I claim as my invention—

1. The adjustable bracket *k*, in combination with the bolt *l* and the set-screw *m*, and the arm that carries the nose-piece, the bracket being

hinged to the frame and the arm hinged to the bracket, substantially as described, and from which it may be lifted and moved either from or toward the machine, substantially as described.

2. The hand-lever *p*, in combination with the subject-matter of the first clause of the claim.

3. The ball-and-socket joint *r*, in combination with the said adjustable bracket, the shaft *q*, the lever that operates the segment *c*, and also the segment *c*, in the manner described.

4. The combination of the arm *d*, the arm *e*, spring *f*, fork-spring *g*, and nipper-rod *h* for slipping the gripe of the fork-springs or rollers back on the nipper-rod for the feed while the plate is held by the knives, substantially as described.

JOHN C. GOULD.

Witnesses:

W. K. HALL,
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