

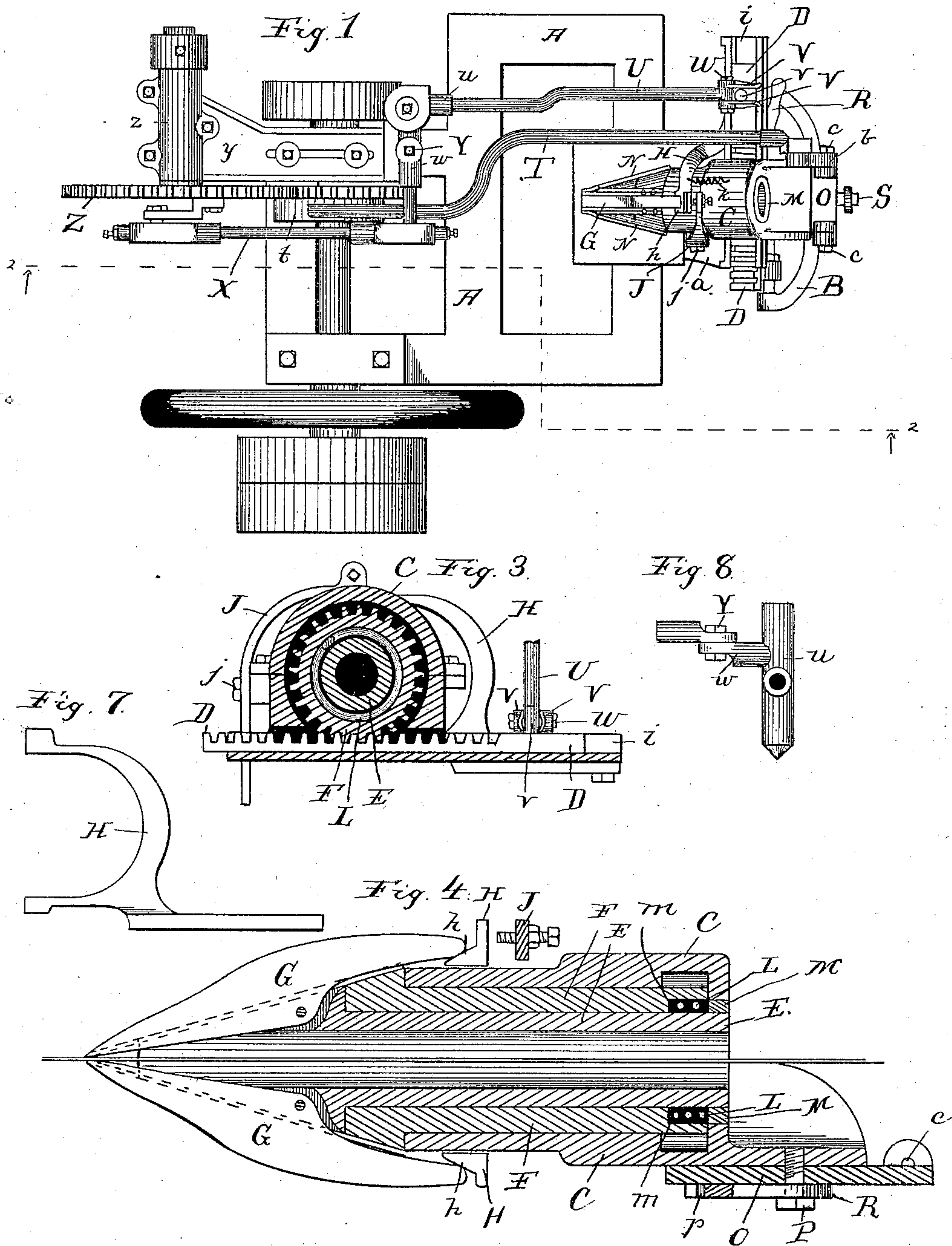
(No Model.)

2 Sheets—Sheet 1.

J. C. GOULD.
NAIL PLATE FEEDER.

No. 368,827.

Patented Aug. 23, 1887.



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UNITED STATES PATENT OFFICE.

JOHN C. GOULD, OF CHICAGO, ILLINOIS.

NAIL-PLATE FEEDER.

SPECIFICATION forming part of Letters Patent No. 368,827, dated August 23, 1887.

Application filed August 16, 1886. Serial No. 210,962. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. GOULD, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Nail-Plate Feeders, of which the following is a specification.

In this invention the nail-plate, instead of being fed by the impulses imparted through the medium of the "nipper-rod," so called, by which the plate is clamped and supported from behind, is fed by devices seizing it in front of the barrel-nose and in close proximity to the knives. This enables me to dispense with the nipper-rod entirely, to simplify the feeding devices, and to render the machine more compact. Herein lies the main feature of my present invention; but there are other features, which are fully set forth in the drawings, and described in the following description, wherein—

Figure 1 is a plan of my improved feeder. Fig. 2 is a vertical section thereof on the line 2 2 of Fig. 1. Fig. 3 is a vertical cross-section, and Fig. 4 is a central longitudinal section, of the barrel and plate gripping devices. Fig. 5 is an under view of the barrel box or casing. Figs. 6, 7, and 8 are detached details of parts of the machine. Figs. 3, 4, 5, 6, 7, 8 are enlarged.

Similar letters of reference indicate like parts throughout the several figures.

In said drawings, A represents the table of the machine.

a is a supporting-bracket upon which the saddle B is pivoted in the usual manner, and b is an upright standard adjustably secured to the saddle and supporting the barrel from pivots c. The barrel is housed or confined in the boxing C, and is oscillated by the rack D in the usual manner; but it differs from the ordinary barrel in several respects, and chiefly in that it is made in two parts—viz., of an interior tube or cylinder, E, and a sleeve, F, surrounding said tube E. The latter carries upon its forward end a pair of pivoted gripping-levers, G, adapted to grip the nail-plate just in front of the nose of the barrel, as clearly shown at Fig. 4. For purposes presently to be explained the tube E is permitted a slight longitudinal movement in the sleeve.

H is a forked arm carrying wedges h at each end of the fork and pivotally secured to the under side of the rack-race i. The wedges h, when positioned, lie immediately above and below the barrel.

J is a lever pivoted at its center j to the barrel-case and in such position that it will, when the barrel is swung forward, come in contact with a stop, K, located upon the stationary knife-block or other stationary part of the machine. The upper end of this lever is also adapted to come in contact with the end of arm H, and by reason of the increased motion of such upper end of the lever force the wedges of the arm into contact with the rear ends of the gripping-levers, and thus actuate the latter. This results, first, in tightening of the grippers upon the nail-plate, and next in pushing the grippers with the now firmly gripped plate forward the width of a nail-blank. Of course the tube E is also carried forward in this movement, and as soon as the wedges have been withdrawn, which occurs immediately upon the completion of each cutting operation, either in obedience to spring k or by reason of the reaction which takes place upon the cessation of the pushing force of lever J, the tube and the grippers move back to their normal position under the power of spring L, confined between the ring M, secured to the tube, and the shoulder m, formed in the sleeve F. The springs N at the side of the barrel-nose serve to center the plate as it is presented to the knives.

In feeding-machines where nipper-rods are used it is customary to devolve some portion of the duty of giving the feed the right direction upon the rods; but as such rods are dispensed with in my present invention I make the rear end of the barrel itself laterally adjustable for this purpose. I do this by providing the plate O, by which the barrel is connected to the standard-pivots c, with an elongated slot, o, for the passage of the attaching-bolt P and a pin, p, so that the lever R, centered upon said bolt as a fulcrum and engaging said pin, may be used to shift the barrel as required. This movement of the rear end of the barrel should be as nearly as may be in the arc of a circle having the center of the cutting-point (as x, Fig. 5) as its center, and the forward end of the barrel should

not be moved from its position, and to insure this I provide arc guide-slots *r* in the barrel, (or plate,) and the plate (or barrel) with pins *s*, traveling in said slots.

5 *S* is a spring-actuated arm pivoted to the saddle *B* or upright *b*, and provided with an enlargement or disk, serving as a holder or receptacle, at its free end, as shown. This device I employ to throw the nail-plates into the barrel, thereby relieving the operator of the risk
10 attending that operation. When it is to be used, it is pulled down against the power of the spring, a nail-plate is placed with its end resting against the holder, and the hand withdrawn, when it flies up and throws the plate
15 into the barrel.

T is the arm for swinging the barrel to and from the knives in obedience to the cam *t*, as in machines now in use.

20 *U* is the rack-actuating lever, joined to the oscillating piece *u*. The lower end of the lever *U* is provided with adjustable ears *V*, which set down at either side of the pin *v*, attached to the rack. The adjustable feature mentioned is
25 obtained by securing the ears to the lever by a bolt, *W*. This enables me to adjust the ears whenever required and to keep them in proper position for right work through all the various changes and adjustments to which the machine
30 is subject.

The arm *w*, connecting the oscillating piece *u* to the pitman *X*, I make in two parts, united by a bolt, *Y*. This enables me to adjust remote parts of the machine by separating the parts of
35 this arm or loosening said bolt, and is a convenience of importance. The gear *Z*, by which the rack-reciprocating devices are actuated, sometimes requires to be changed to a higher or lower plane, as I find by experiment.
40 To permit this the arbor-box *z* of said gear is made vertically adjustable on its supporting-bracket *y*, as shown in Fig. 6.

By gripping the nail-plate at the nose of the barrel instead of the rear end, as heretofore

has been the custom, I am enabled to cut the plate entirely up and prevent any waste, except
45 fractional widths. Instead of making the joint described in the arm *w*, said joint might be made in the lever *U* with the same result.

I claim—

1. In a nail-plate feeder, the combination, with the barrel, of grippers alternately seizing and releasing the plate and extending to and acting upon the plate in front of the barrel, and wedges or equivalent means for actuating said
50 grippers, substantially as specified.

2. In a nail-plate feeder, the combination, with the barrel, of rigid or non-springing grippers pivoted upon the barrel, and means for actuating said grippers to seize the nail-plate, sub-
55 stantially as specified.

3. The combination of the barrel made in two parts, the grippers, and the wedges for actuating the grippers, substantially as specified.

4. The combination, in the barrel, of the longitudinally-movable tube *E*, the sleeve *F*, surrounding said tube, the grippers, and the spring
60 *L*, arranged and operating substantially as specified.

5. The combination, with the grippers, of the forked arm *H*, carrying the wedges, and the lever *J*, substantially as specified.

6. In combination with the barrel of a nail-plate feeder, a spring-actuated arm for forcing the nail-plates into the barrel, substantially as
75 specified.

7. The combination of the rack, the rack-actuating lever *U*, the oscillating piece *u*, and the arm *w*, when the latter is made in two parts, substantially as specified.

8. The gear *Z*, vertically adjustable, as set forth, in combination with the parts connecting it with the rack, substantially as specified.

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Witnesses:

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