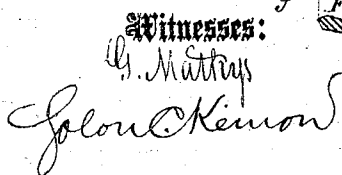


Machines for Feeding Nail-Plates.

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UNITED STATES PATENT OFFICE.

ROYAL C. GRANT, OF MIDDLEPORT, OHIO.

IMPROVEMENT IN MECHANISMS FOR FEEDING NAIL-PLATES.

Specification forming part of Letters Patent No. 136,235, dated February 25, 1873.

To all whom it may concern:

Be it known that I, ROYAL C. GRANT, of Middleport, in the county of Meigs and State of Ohio, have invented an Improved Nail-Plate Feeder, of which the following is a specification:

The invention relates to nail-plate feeders; and consists in improvements that will first be fully described and then clearly pointed out in the claim.

Figure 1 is a side elevation; Fig. 2, a plan view partly broken away; Figs. 3, 5, and 6, transverse sections and detail views; and Fig. 4, a horizontal section giving a detail view.

A represents the frame of the nail-plate feeder, and B the piece on which the nail is severed from plate by a vertically-moving cutter. C is the plate-holder, having the usual spring-jaws *c c*, which are made to clamp the plate *x* by means of a screw, or other suitable means. It is connected to the recessed head *d'* of the plate-carrier D, by means of a link, *d''*, Fig. 5, which is pivoted to said parts by pins or bolts *a* and *c'*, respectively. The pin *c'* may be withdrawn, (to enable the plate-holder to be readily detached from the link,) by means of the short spring-lever *c''*, which is suitably connected therewith. E is a slotted tube, that surrounds and is keyed to the carrier D by plug *d*, inserted in a slot or mortise at *d''*, while it is provided with a fast spur-wheel, *e*, that rotates both. Below, parallel, and fastened to said carrier, is a rack-bar, E, operated by a pinion, *f'*, on the shaft F, Fig. 4, to forward the plate-carrier. On one end of shaft F is a ratchet, G, which is operated by the weighted pawl *h* of lever H. This lever is vibrated by means of slide I and angle-lever J, which latter is operated in turn from the shaft H. The shaft F is also provided with drum K, on which is wound a cord, *k*, to which is appended a weight, *k'*. When the pawl *h* is held up, the weight will rotate shaft F and withdraw the plate-carrier. In order to lift this pawl, when the plate has been fed up, I employ the weighted lever L, rock-shaft M, cord N, spring O, and lever P, but the weighted lever is held up by a spring locking-lever, Q, which is unlocked therefrom by a stud, *e'*, on the side of rack-bar. The spur-wheel *e* on tube E is operated by a spur-wheel, R, on shaft T. There is also a ratchet, J', on

the shaft T, operated by the hook-pawl V of slide I. The end *p* of lever P also acts as a pawl. V' is a fixed stud or post, and W a spring, between which the plate is guided and turned.

The operation is as follows: A number of plate-holders, C, are provided, being supplied with plates, while one is being used in the carrier D. A plate-holder then being fixed in the carrier, power is applied to the machine so as to simultaneously operate a single cutter, rotate the carrier, and feed up the plate. After each nail is cut diagonally from the front end of plate, the latter is turned a half revolution when the plate is ready to be cut again by a knife traveling always in the same plane. By means of the spring or yielding guide W, sufficient lateral play is afforded to the plate in turning to render any withdrawal thereof unnecessary. When the plate shall have been fed up to the given extent, the stud on rack unlocks automatically the feeding-pawl *h* and pawl V, by means of a cam, *r*, on shaft T and the sliding block *r'*, and allows the weight *k'* to retract and stop the carrier. Said cam *r* is seen in dotted lines Fig. 1. The plate-holder C is then removed, another one substituted, and the weighted lever L raised. This is immediately locked by the spring-lever Q. The feeder is now ready to advance and gradually feed up another plate.

It will be perceived that by means of the link *d''*, recessed head *d'* of plate carrier, groove *c'* in plate-holder, and pins *a c'*, the plate-holder is connected to the carrier by a universal joint, which enables it to yield slightly in any direction in which the plate is pressed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The spring W combined with pin *v'*, beddie B, and a plate-holder provided with mechanism to turn it, as and for the purpose described.

2. The mechanism R *e* T V I J, arranged substantially as described, for revolving the tube E a half revolution, as set forth.

3. The lever P combined with pawl *p* and ratchet G, as described, so that the end of said lever will serve as an elevator to the carrier-pawl and a detent to the ratchet, at the times and in the manner set forth.

4. The mechanism L M N O P, substantially as described, for throwing out the feeding-pawl *h*, as set forth.

5. The combination, with the mechanism for throwing out the feeding-pawl, of the spring-lever Q and stud *c'* on rock-bar, as and for the purpose set forth.

6. The bed-die B provided with guide-pin *e'* and spring-guide W, combined with a plate-holder, C, and rotary carrier D, coupled by a union-joint, as described, so that the simple turning of the plate on the bed and

against the said spring and guide will enable plate to clear the knife.

7. The slide I provided with stop *i*, the lever H, weighted pawl *h*, and the detent-pawl *p*, combined with the ratchet G, as described, so that the plate will be drawn back at the time and in the manner set forth.

R. C. GRANT.

Witnesses:

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