

(No Model.)

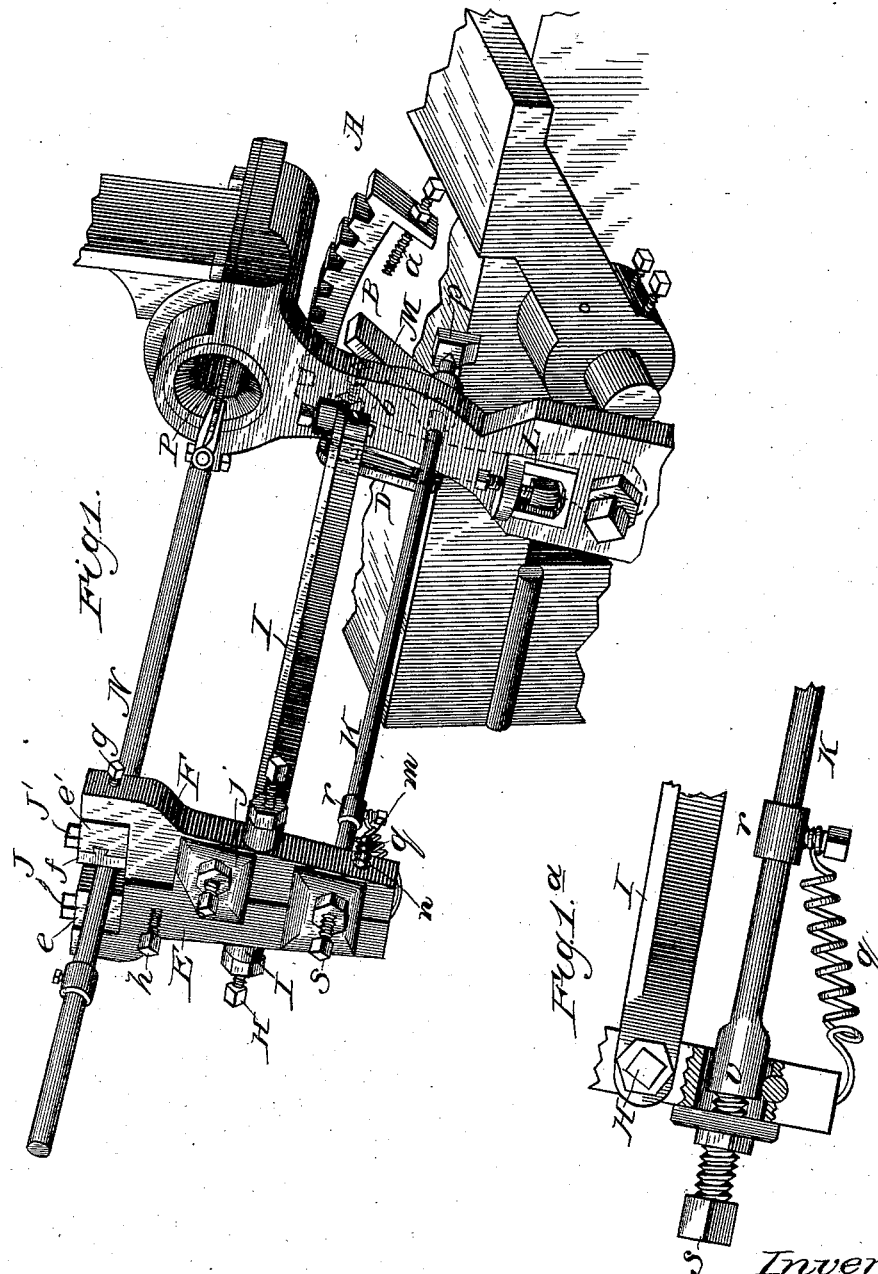
3 Sheets—Sheet 1.

T. LARAMIE.

NAIL PLATE FEEDING MACHINE.

No. 303,649.

Patented Aug. 19, 1884.



Witnesses.
Will R. Omohundro.
Albert H. Adams.

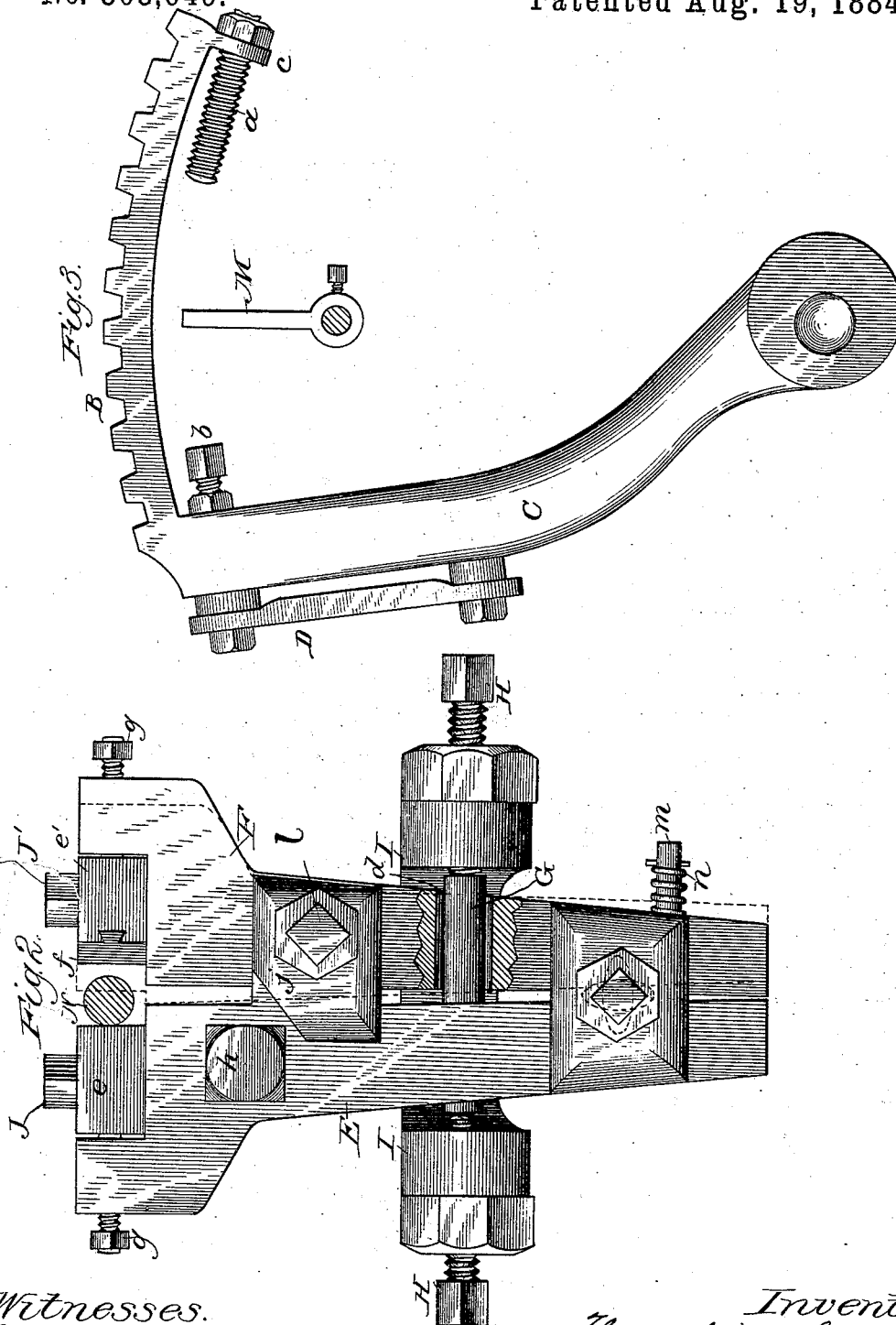
Inventor,
Theophile Laramie.
By, West & Bond.
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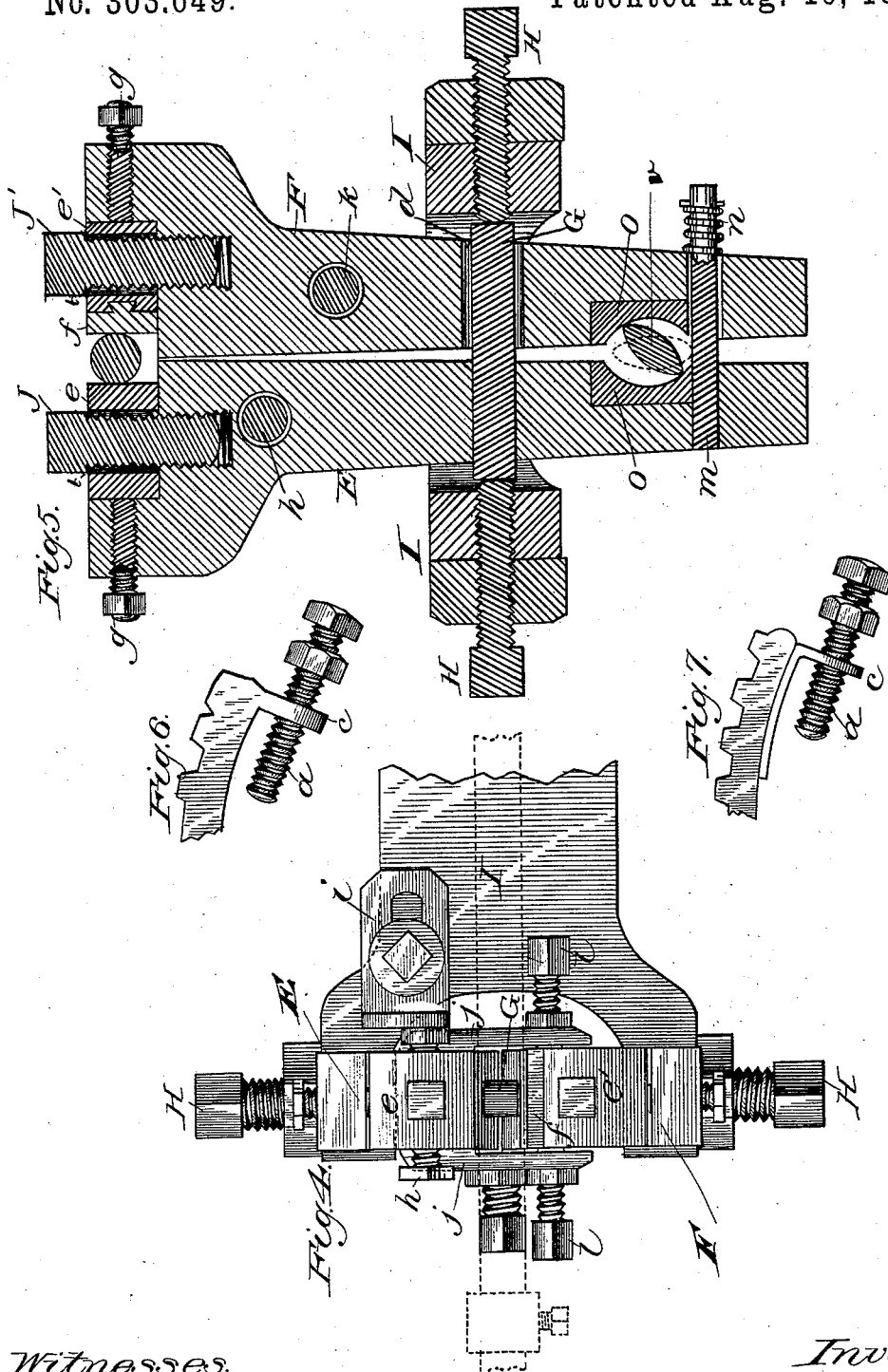
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UNITED STATES PATENT OFFICE.

THEOPHILE LARAMIE, OF SOUTH CHICAGO, ILLINOIS.

NAIL-PLATE-FEEDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 303,649, dated August 19, 1884.

Application filed April 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, THEOPHILE LARAMIE, residing at South Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented new and useful Improvements in Nail-Plate-Feeding Machines, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective showing my feeding devices and a portion of a nail-machine. Fig. 1^a is a detail. Fig. 2 is an elevation of the jaws which grasp the feed-rod. Fig. 3 is an elevation of the rack used to revolve the barrel which turns the nail-plate, having an improvement of my own connected therewith. Fig. 4 is a top view of the jaws, the same being open. Fig. 5 is a vertical section through the jaws. Fig. 6 is a detail, and Fig. 7 is a modification.

The object of my invention is to provide improved devices for feeding nail-plates to machines used in making cut nails.

My improvements consist, first, in providing a pair of jaws to grasp the feed-rod, only one of which jaws opens, the jaws being wholly disconnected at both ends, and combined with other parts, as hereinafter particularly described; second, in new devices for opening and closing the jaws, consisting of a feed-bar working between the lower ends of the two jaws and closing the same, the jaws being opened by the action of a spring; third, in providing the feed-bar with a lever or arm by which the feed-bar is operated; and, fourth, in providing the feed-rack with set-screws, and in the other combinations hereinafter claimed.

My improvements are adapted to be used with various nail-feeding machines now in use and operating upon a similar plan.

In the drawings, the right-hand portion, A, of Fig. 1 represents a part of a nail-machine, all of which is old except as hereinafter specified, to which is attached my devices for feeding the plates to the machine.

B represents the rack which is in use for revolving the barrel which turns the nail-plate, which rack is connected with a swinging arm, C, the lower end of which arm C is pivoted in the usual manner. The only new feature about this rack is the two set-screws *a b*, the

set-screw *a* being supported in a lug, *c*, and *b* being supported either in the arm C or in an attachment, D, connected therewith.

E is one jaw which does not open, and F is a movable jaw.

G is a rod or shaft, one end of which is rigidly secured in the jaw E. The other end passes through an opening, *d*, in the jaw F, which opening is larger than the shaft G.

H are screws which pass through a yoke upon the outer end of a bar, I, which bar is rigidly connected with the machine A in the usual manner. This bar and yoke support the jaws. The ends of the screws H come in contact with the ends of the rod or shaft G, forming pivotal points upon which the jaws have a limited rocking movement. The upper end of each jaw is recessed. The jaw E is provided with a metal block, *e*, held in place by a screw, J, passed through slots *t* in the block and screwed into the jaw E, the head of the screw bearing down on the block. The jaw F is provided with a metal block, *e'*, held by a screw, J', passed through slot *t* in the block and screwed into jaw F. The face of this block *e'* is provided with a piece of wood, *f*.

g are screws to adjust the blocks *e e'*, which are provided with slots *t* for that purpose.

h is a screw which passes through the jaw E, the inner end of which comes in contact with an adjustable gage-plate, *i*, upon the bar I, for the purpose of limiting the rocking movement of the two jaws.

j are two pieces which are secured to the jaw E.

k is a short rod which passes through the jaw F, with the ends of which rod *k* the screws *l* come in contact, the jaw F turning as it opens and closes on this rod or pin *k*.

m is a pin passing through a hole near the lower end of the jaw F, the other end of which is secured in the lower end of the jaw E.

n is a spring arranged to act upon the lower end of the jaw F, so as to move it toward the jaw E, thereby opening the jaw F at its upper end.

o are two pieces of steel—one for each of the jaws E F—the inner faces of such pieces *o* being concave, as shown.

K is a feed-bar, one end of which is oval-shaped, as shown in Fig. 5, such oval portion

being located between the two steel plates *o*. The other end of this feed-rod K passes through and is supported in the swinging arm L of the feeding-machine, which is pivoted near its lower end, as usual.

p is a stop with which the inner end of the bar K can come in contact.

q is a spring, one end of which is secured to the lower end of one of the jaws, and the other end is attached to an adjustable sleeve, *r*, upon the bar K, which is held in any desired position by a set-screw.

s is an adjusting-screw, the inner end of which comes in contact with the outer end of the feed-bar K.

M is an arm or lever near the inner end of the feed-bar K, preferably adjustable thereon, and held in place by a set-screw. This arm M is arranged so that the screws *a b* come in contact with the opposite sides thereof as the rack B moves back and forth.

N is a feed-rod, one end of which is provided with jaws to grasp a nail-plate, P, in the usual manner.

The lug *c* may be cast with the rack, as shown in Fig. 6, or may be made detached therefrom and be secured thereto, as shown in Fig. 7.

The operation is as follows: The jaws are moved back and forth a little by the rocking movement of the arm L, as usual. The devices which give such movement are not shown. A rocking movement is also given to the jaws for the purpose of carrying the nail-plate forward the proper distance, in the usual manner. As the rack B moves back and forth, as usual, the point of the screw *a* and the head of the screw *b* come in contact alternately with the opposite sides of the arm or lever M, which is secured to the feed-bar K, moving such arm M alternately in opposite directions, and thereby giving a rocking movement to the feed-bar K, which movement closes the jaw F every time that a partial rotation is given to the feed-bar K in either direction, which closing is caused by the action of the oval portion *v* of the feed-bar K, which is located between the two jaws and near the lower ends thereof, as shown and described. When this jaw is closed, the feed-rod N will be grasped, and then the upper ends of the jaws will be carried forward, in the usual manner, toward the main machine, which will advance the feed-rod N and the nail-plate P the proper distance. The parts are so adjusted that when the arm M stands vertical the oval part *v* of the feed-bar K will also be vertical, and then the action of the spring *n* will bring the lower ends of the jaws together, opening the jaws at the top and releasing the rod N, so that the

upper ends of the jaws can move back preparatory to again grasping the rod N. The upper ends of the jaws are thrown back by the action of the spring *q*, and as the sleeve *r* is adjustable upon the rod K the tension of this spring can be adjusted at pleasure by moving the sleeve *r*. By making the two jaws E F without any positive connection at either end, and by securing the jaw E upon the shaft G and providing an opening through the jaw F for the shaft G larger than such shaft itself, and by pivoting this jaw F upon the rod or pin *k* and providing the oval *v* upon the feed-bar, I am able to provide for the rocking movement of the two jaws together, and for the opening and closing of the jaw F at the top every time that a rocking movement is given to the feed-bar K in either direction, thereby greatly increasing the rapidity with which the nail-plate can be fed to the machine. When by the movement of the arm L on its pivot the point of the feed-bar K strikes the stop *p*, the other end of K will come in contact with the screw *s* and the upper ends of the jaws will move forward.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. In a nail-plate feeder, two jaws disconnected from each other at both ends, each provided with a suitable recess near its lower end, in combination with a feed-bar having an oval end, *v*, which enters the said recesses in the jaws, substantially as and for the purpose specified.

2. In a nail-plate feeder, two jaws, E F, in combination with a feed-bar, K, provided with an arm or lever, M, through which a rocking movement can be given to the feed-bar for the purpose of closing the jaws, substantially as specified.

3. A rack, B, provided with screws or pins *a b*, adapted to engage with the arm M on the feed-bar K, for the purpose of rocking the feed-bar, substantially as and for the purpose specified.

4. In a nail-plate feeder, two jaws, E F, supported as described, in combination with a rocking feed-bar, K, spring *q*, and adjustable sleeve *r*, all constructed and operating substantially as and for the purposes specified.

5. The jaws E F, recessed at the top, in combination with the blocks *c* and *c'*, one or both of which are provided with a slot, and the screws *g*, for the purpose of adjusting the blocks, substantially as specified.

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Witnesses:

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