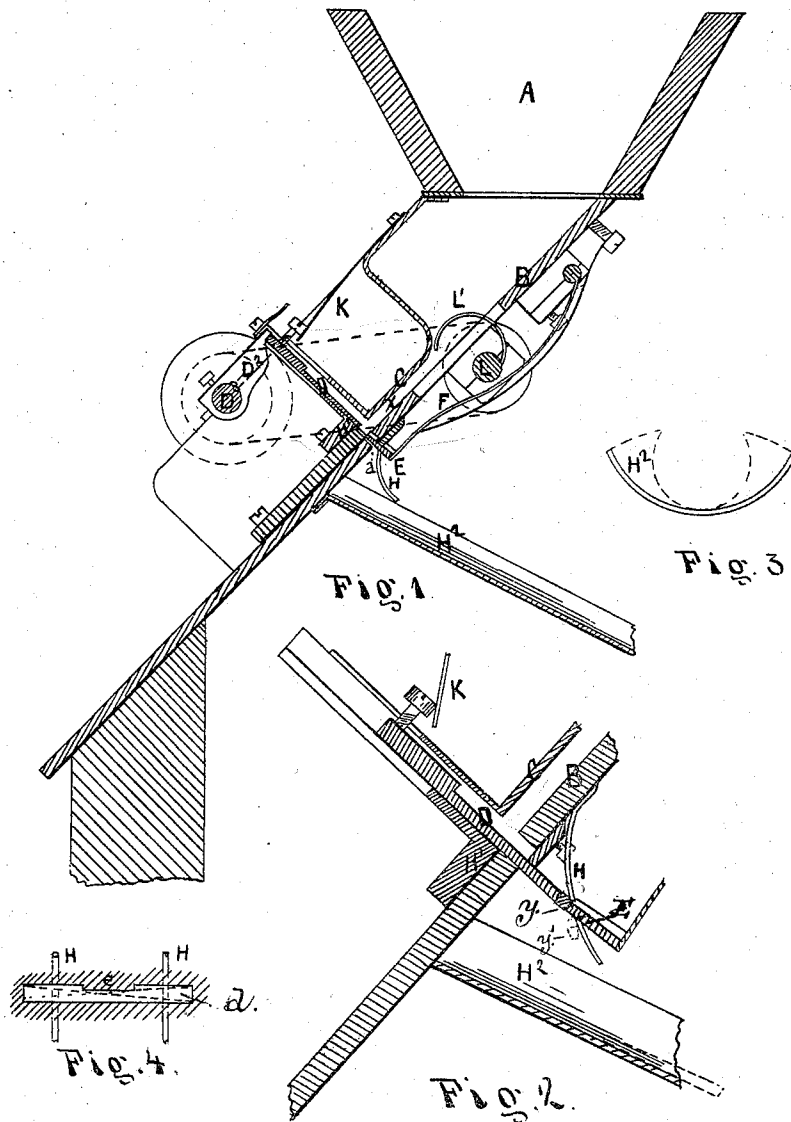


**C. M. CHASE.**  
**Nail Distributing Machines.**

No. 134,852.

Patented Jan. 14, 1873.



WITNESSES.

*Franklin Parker*  
*J. L. Newton*

INVENTOR

*Charles M. Chase*  
*per William Edson atty.*

# UNITED STATES PATENT OFFICE.

CHARLES M. CHASE, OF BOSTON, ASSIGNOR TO E. L. BAKER, OF NEW BEDFORD, MASSACHUSETTS.

## IMPROVEMENT IN NAIL-DISTRIBUTING MACHINES.

Specification forming part of Letters Patent No. 134,852, dated January 14, 1873.

*To all whom it may concern:*

Be it known that I, CHARLES M. CHASE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Improvement in Nail-Distributing Machines, of which the following is a specification:

### *The Nature of the Invention.*

The nature of my invention consists, first, in arranging with a slide, which connects with the hopper in which the nails are placed, a series of wires to stir the nails sufficiently to cause them to fall one by one between the ejecting-jaws; second, in the form of the opening in the slide through which the nails fall; third, in the arrangement of the ejecting-jaws, and also in minor points, which may best be understood by reference to the drawing and specification.

### *Description of the Drawing.*

Figure 1 is a vertical section of my machine. Fig. 2 is an enlarged section, showing the ejecting-jaws. Fig. 3 is a transverse section through the delivery-trough. Fig. 4 shows the form of the opening in the slide.

### *General Description.*

A represents a hopper, into which the nails are first placed. B is an inclined slide, through which some spring-wires  $L'$  act, these stirrers being made fast to the revolving spindles L. C is a plate located, as shown, in Figs. 1 and 2—that is, so placed as to leave only a shallow opening between it and the slide B to prevent more than one nail at a time from presenting itself to the jaws D and E. The lower jaw E works through a narrow opening,  $d$ , in the slide B. The shape of this opening is shown more particularly in Fig. 4. This opening is contracted in the center at  $e$ , Fig. 4, so that, though the opening at each end is as wide as the head of a nail, the latter can have no lateral movement when within the opening, and is thus brought into the exact position desired between the jaws D and E. The lower jaw E is attached to a lever-arm, which is borne upward by a spring, F, the latter serving to restore the jaw to its normal or resting position after it has been pushed outward to deliver or discharge a nail. The upper jaw D is held up

by a spring, K, and is caused to move downward by the action of the cam  $D^2$  on the shaft  $D^3$ , Fig. 1. Immediately below the opening  $d$  two stationary curved horns or discharging-guides, H, are placed as shown in Figs. 1, 2, and 4, these guides crossing the line of the opening, so as to deflect the nail laterally in its passage downward, and force it from between the jaws D and E. This opening  $d$  should be about the length of, though a trifle longer than, the nails which are to pass through it, while the horns H are placed near the ends of this opening, but near enough to each other to insure that the nail shall bear against both horns, when the jaws carry it down to them. Both of the jaws D and E are narrow enough to play freely between these horns. The delivery-trough  $H^2$  is formed as shown in sectional view in Fig. 3—that is, its curvature in cross-section at its top is of much larger radius than its curvature in cross-section at its bottom end, the dotted curved line in this figure indicating such lower end, and the full lines indicating the upper end.

The operation of my machine may be described as follows: The nails to be distributed are placed in the hopper A, from which they fall down the slide or incline B, ledges on either side of the opening, in which the wires  $L'$  work when revolving, serving to guide and support the ends of the nails and to aid in presenting the nails properly to these wires and thence to the narrow passage  $a$  leading to the jaws D and E. As the wires  $L'$  revolve they cause the mass of nails resting on them to arrange themselves horizontally in a group, and one by one they fall into the narrow passage  $a$ , the foremost nail resting on the lower jaw E and against the part  $H'$  and immediately under the lower edge of the upper pushing-jaw D, so that when the latter is pressed down it forces the nail through the opening  $d$ , and causes the lower jaw to recede, the nail being held and carried between both jaws, as shown in Fig. 2, in which the nail is shown in cross-section at  $y, y'$  indicating the nail after the horns H have caused its discharge from the jaws upon their further downward movement. Upon such discharge the nails drop into the trough  $H^2$ , being, when they drop, in a position transverse or crosswise of the trough.

The shape of this trough, as above described, having a gradually-narrowing breadth and increasing depth, necessarily compels the nail to turn and assume a position with one end downward, the head or weightier end becoming, by reason of gravity, such forward end, so that they all leave the trough head first.

I claim as my invention—

1. The combination of the wires L' with the slide B, operating substantially as described, and for the purpose set forth.

2. The combination of the jaws D and E

with the horns H, substantially as described, and for the purpose set forth.

3. The opening *d* of the shape described, for the purpose set forth.

4. In a nail-distributing machine, the trough H<sup>2</sup>, when formed as described, and for the purpose set forth.

CHARLES M. CHASE.

Witnesses:

FRANK G. PARKER,  
A. S. GREELEY.