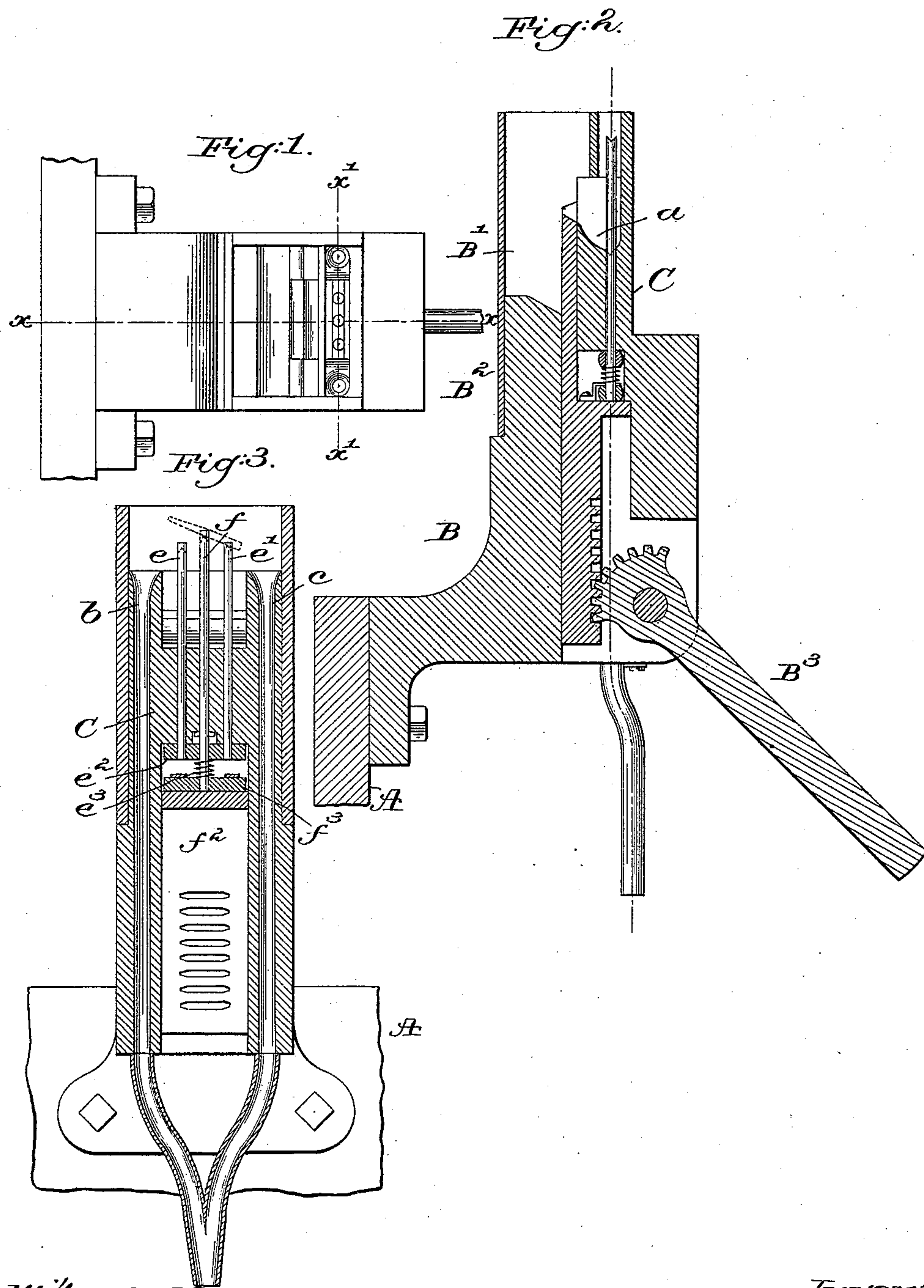


(No Model.)

C. W. GLIDDEN.  
NAIL ASSORTING MACHINE.

No. 541,481.

Patented June 25, 1895.



Witnesses.

Fred S. Gunkel  
Edward H. Allen.

Inventor:

Charles W. Glidden  
By Crosby & Gregory attys.



# UNITED STATES PATENT OFFICE.

CHARLES W. GLIDDEN, OF LYNN, ASSIGNOR TO JAMES W. BROOKS, TRUSTEE,  
OF CAMBRIDGE, MASSACHUSETTS.

## NAIL-ASSORTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 541,481, dated June 25, 1895.

Application filed November 30, 1892. Serial No. 453,642. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. GLIDDEN, of Lynn, county of Essex, State of Massachusetts, have invented an Improvement in Nail-  
5 Assorting Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its objects to improve  
10 and simplify the nail assorting mechanism made the subject of Letters Patent No. 464,196, dated December 1, 1891.

The machine described in said patent has a series of pools into which nails are deposited  
15 horizontally, and from those pools the nails are taken by lifters and cast laterally point first into chutes, the side of the pool at its upper end having lugs against which the ends of the nails bear, the point of each nail first  
20 passing one of said lugs leaving the point end free to drop to the right or left and enter the chute prepared to receive it.

In this present invention each pool has at its opposite ends a chute, so that a nail raised  
25 from the pool will be cast into one or the other of said chutes head first, it entering one or the other of said chutes according to the position of the head.

Figure 1 is a top or plan view of a sufficient  
30 portion of a nail-assorting device to enable my invention to be understood. Fig. 2 is a section in the line  $x$ . Fig. 3 is a section in the line  $x'$ .

A is a suitable upright or bar on which is  
35 secured a block B having at its upper end a hopper B' on which headless nails are thrown in bulk. In this bar slides an elevator B<sup>2</sup>, actuated by, as herein shown, a sector lever B<sup>3</sup>, the teeth of which engage teeth at the  
40 shank of the elevator, and as the elevator rises it lifts a nail and the latter slides therefrom laterally into the pool  $\alpha$  formed in a suitable block or bar C.

The parts so far described are substantially  
45 as in said Letters Patent, the pools being a little longer than the nails being assorted.

At the ends of the pool I have provided  
50 chutes  $b, c$ , into one or the other of which the nails taken from the pool will be cast or discharged. Preferably these chutes will be in the bar C, and they may join in a common

chute or tube  $d$  leading to the point where the nail is to be used or deposited to be driven.

The bottom of the pool is provided with three holes to receive two lifters  $e, e'$ , and a  
55 balancing post  $f$ , all notched at their upper ends so that when the upper ends are drawn down into the pool the nail discharged therein will enter said notches.

The lifters  $e$  and  $e'$  are connected to a cross-  
60 bar  $e^2$  surrounding the balancing post  $f$  loosely and resting on a spring  $e^3$  located between said cross-bar and the balancing post carrier  $f^2$  kept seated, as herein shown, on the slide B<sup>2</sup> by  
65 fingers  $f^3$ .

In operation it will be supposed that a nail is lying in the pool, and that the lifters and balancing post are fully depressed. In this condition the slide B<sup>2</sup> will be lifted and the carrier  $f^2$  and cross-bar  $e^2$  will rise in unison,  
70 the ends of the lifters taking up with them a nail; but as soon as the cross head  $e^2$  is arrested in its ascent, as shown in Fig. 3, the balancing post in its further upward move-  
75 ment travels beyond the upper ends of the lifters  $e, e'$  and lifts the nail, as in Fig. 3, the head end of the nail, however, keeping its bearing on the end of one lifter, and when the balancing post has been raised sufficiently to so position the nail that gravity may as-  
80 sume control of it, then the nail will slide head-foremost off the balancing post and the lifter on which it then rests, and will drop into a chute.

In Fig. 3, the nail will go into chute  $c$ . In  
85 the patent referred to a nail when lifted from the pool by the fingers  $h, h$ , was acted upon by a discharging device, having its upper end shaped to constitute a wedge to act upon one side of the nail and push the same laterally  
90 from the fingers to thus insure the starting of the nail, point first, on its way into the chute, and the nail so discharged entered the same chute.

This invention is not limited to the exact  
95 shape of actuating devices for the lifters and balancing post.

The devices shown may be duplicated side by side as provided for in the said patent.

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



1. In a nail assorting machine of the class having a pool into which the nails are delivered in bulk, the combination of a chute at each end of such pool, and a lifter adjacent  
5 to each chute, with a balancing post interposed between such lifters, movable with them, and having a further movement above the upper ends of said lifters after the lifters have reached the limit of their upward move-  
10 ment, to raise the nail from off the lifters and permit it to drop off from it head foremost, by gravity, into one or the other of the chutes, substantially as described.

2. In a nail assorting machine of the class  
15 having a pool into which the nails are delivered in bulk, the combination of a chute at each end of such pool, and a lifter adjacent to each chute, with a balancing post interposed between such lifters, independent car-

riers for the lifters and the balancing post, 20 means to lift both carriers simultaneously, and means to arrest the ascent of the lifters' carrier while the balancing post carrier proceeds farther upward and raises the balancing post above the lifters, whereby a nail is 25 raised by the lifters and balancing post and thereafter raised off the lifters by the balancing post and permitted to fall by gravity head foremost into that one of the chutes next the head end of the nail, substantially as de- 30 scribed.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES W. GLIDDEN.

Witnesses:

GEO. H. GLIDDEN,  
H. P. FAIRFIELD.