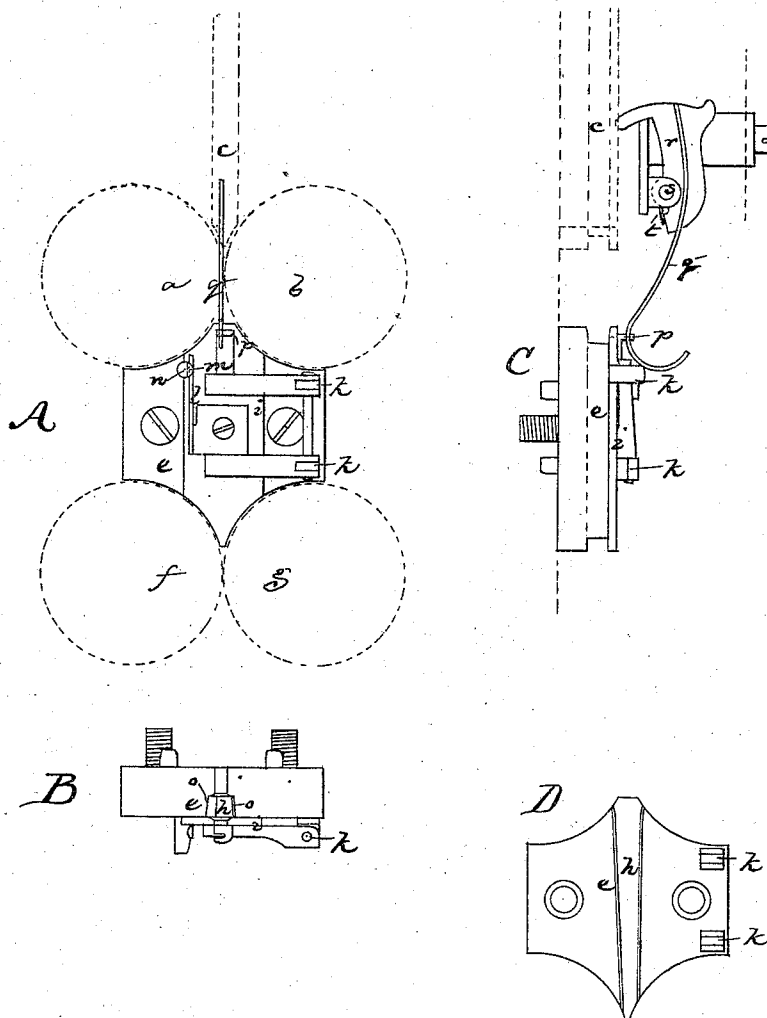


D. TURBAYNE & G. M. WYMAN.

Manufacture of Horse-Shoe Nails.

No. 134,948.

Patented Jan. 14, 1873.



Witnesses.  
M. W. Frothingham.  
L. M. Calmer.

Inventors.  
David Turbayne.  
George M. Wyman.  
By their Attys.  
Crosby & Gould.

# UNITED STATES PATENT OFFICE.

DAVID TURBAYNE AND GEORGE M. WYMAN, OF BOSTON, MASSACHUSETTS,  
ASSIGNORS TO GLOBE NAIL COMPANY, OF SAME PLACE.

## IMPROVEMENT IN THE MANUFACTURE OF HORSESHOE-NAILS.

Specification forming part of Letters Patent No. 134,948, dated January 14, 1873.

*To all whom it may concern:*

Be it known that we, DAVID TURBAYNE and GEORGE M. WYMAN, both of Boston, in the county of Suffolk and State of Massachusetts, have invented, jointly, an Improvement in the Manufacture of Horseshoe-Nails; and we do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of our invention sufficient to enable those skilled in the art to practice it.

In that process in the manufacture of horseshoe-nails in which the blank passes down vertically between two pairs of rolls, head down, the upper pair of rolls first acting upon the shank, and the blank then dropping through a conductor to the lower rolls, which, in turn, pass upon the shank, some trouble is experienced from the fact that a blank is sometimes obstructed in its passage through the conductor which leads from the upper to the lower pair of rolls, the upper rolls continuing to feed blanks down into the obstructed conductor until the walls of the conductor break away or the machine is otherwise broken or injured.

The purpose of our invention is to obviate this difficulty, and we accomplish the desired result as follows: The two opposite side walls of the conductor are formed flaring toward the front, and the front wall we form as a gate secured by a catch, which catch holds the door closed so long as the blanks pass by it one by one in regular succession; but when the blanks collect in the conductor, by reason of one becoming detained from any cause so that the others cannot pass it, the pressure of the other blanks tends to cause the blank to move outward toward the gate, pressing against which they force it open. By means of a connection between the opening door and some point above the upper rolls a stop is made to intercept the further delivery of the blanks to the upper rolls, and thus all injury to the machine is averted.

Our invention consists in forming the hopper or conductor with the gate to be opened by the outward pressure of the nail-blanks, and in combining with this gate an interceptor which is thrown into position by the opening gate to stop further supply of blanks to the rolls.

The drawing represents a hopper or conductor embodying our invention.

A shows the conductor in front elevation. B is a plan of it. C is a side view of it. D is a front view of it, the gate being open.

*a b* denote the two upper rolls, to the action of which the blank is first presented, dropping through a guide-tube, *c*, for said rolls to seize its head and pass upon its shank. As the head of the nail-blank passes from these rolls it enters the conductor *e*, by which conductor it is guided and directed to the action of the lower rolls *f g*. This conductor *e* is a thick solid plate of metal, fitting between the four rolls, as seen at A, and having extending through it a vertical passage, *h*, the dimension of which is such at all points throughout its length that the head of the blank cannot turn around laterally, but must drop through the conductor in the same position that it enters or is presented to the same, by which means the blank, although moving with perfect freedom, must be properly presented in position for the lower rolls to seize it, the passage gradually contracting, so that at its lower end its size is but slightly greater than the size of the nail-head. The side and rear walls of the passage are formed by the solid plate, but its front wall is formed by the gate *i*. This gate swings on hinges *k*, and is held firmly in closed position by a spring-latch, *l*, that enters a notch, *m*, in a pin, *n*, extending from the plate *e*. The side walls *o* of the nail-passage flare from the rear wall to the gate, as seen at B. When a blank enters the passage it drops down through to the rolls below, but if said rolls fail to take it, or if, from any other cause, it is stopped in the nail-passage, the next blank that comes down is forced into the passage, and, becoming jammed in with the other, neither will be taken by the lower rolls; but, as others follow, the flaring sides of the passage cause them or the previous blanks to press outward against the gate, so that the latter is forced open and the nails discharged through the front of the opened passage, thus relieving the conductor-plate without injury to it or to any other part of the machine. At the top of the gate is a projection, *p*, into a slot in which enters a wire, *q*, extending from a hook, *r*, the point of which stands in front of an opening in the nail-tube above the upper rolls. The hook is pivoted on a pin, *s*, and is held back by the shut gate, but when-

ever the gate is forced open the hook is released and its point thrown forward by the stress of a spring, *t*, the point of the hook then entering the nail-tube in front of it and intercepting further descent of the blanks.

We claim—

1. The nail-guiding plate, having the gate held by a spring or other device, and arranged to be opened by pressure of accumulating blanks, substantially as described.

2. The nail-plate, having a passage formed with the flaring sides *o* for pressing the accu-

mulating blanks against the gate, substantially as described.

3. In combination with the gate, the hook or interceptor *r*, operating substantially as shown and described.

Executed this 21st day of August, A. D. 1872.

DAVID TURBAYNE.

GEORGE M. WYMAN.

Witnesses:

FRANCIS GOULD,

S. B. KIDDER.