

No. 712,866.

F. O. TOBEY.

Patented Nov. 4, 1902.

NAIL CONTROLLING MECHANISM FOR NAILING MACHINES.

(Application filed Nov. 23, 1898.)

(No Model.)

Fig. 1.

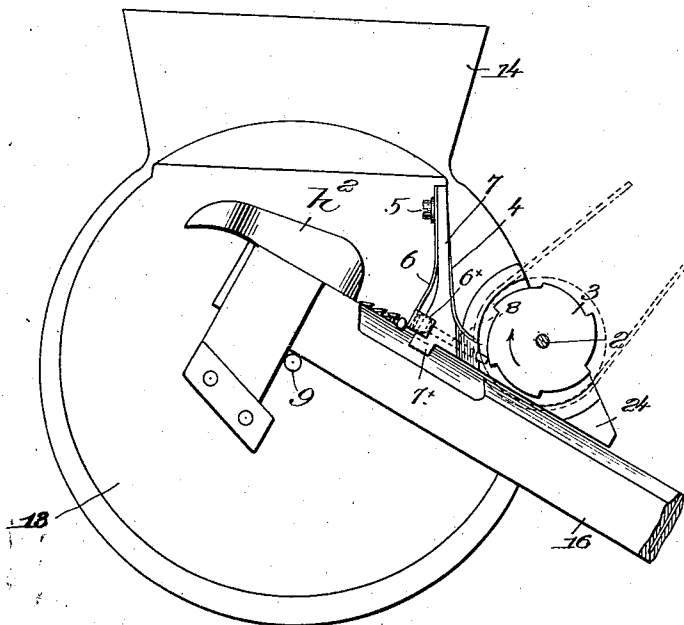


Fig. 2.

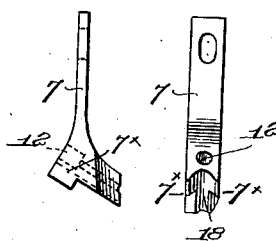
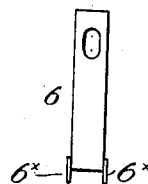


Fig. 3.



Fig. 4.



Witnesses:  
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Inventor:  
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# UNITED STATES PATENT OFFICE.

FRANKLIN O. TOBEY, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR, BY  
MESNE ASSIGNMENTS, TO THE UNITED SHOE MACHINERY COMPANY,  
A CORPORATION OF NEW JERSEY.

## NAIL-CONTROLLING MECHANISM FOR NAILING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 712,866, dated November 4, 1902.

Application filed November 23, 1898. Serial No. 697,234. (No model.)

*To all whom it may concern:*

Be it known that I, FRANKLIN O. TOBEY, of Somerville, county of Suffolk, State of Massachusetts, have invented an Improvement in Nail-Controlling Mechanism for Nailing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

In that class of nailing-machines employing loose nails having heads, said nails being fed into and conducted down a slot of a roadway to the point where the nails are to be driven by any usual driver, difficulty is experienced in keeping the roadway full of nails. The under sides of the heads of the nails rest on the top of the roadway, and the nails properly lodged with their bodies in the slot of the roadway in their descent down the roadway pass under a cap-plate located close to the top of the roadway, said cap-plate co-operating with the tops of the heads of the nails, so that they remain in the roadway. The roadway fails to be properly filled because of the fact that at times nails become improperly lodged on the top of the roadway, so that they cannot pass under the cap-plate, and hence all the nails back of the improperly lodged nails are arrested and cannot enter properly the roadway.

United States Patent No. 289,103, dated November 27, 1883, shows a device which is moved in the direction of the top of the roadway to detach or kick off any overriding nails. The invention herein to be described is an improvement upon the mechanism shown in said patent, my improved mechanism being capable of being actuated more rapidly and with less power and friction.

Figure 1 in elevation shows a sufficient portion of a nailing-machine of well-known construction with my improvements added to enable my invention to be understood. Fig. 2 shows the gage forming the upper end of the cap in two views. Fig. 3 shows the sliding pin to be described, and Fig. 4 shows the striker detached.

The stationary plate 13, forming part of the nail-receptacle, said plate having a hopper

14 through which the nails are poured into the pot, the roadway 16, its cap 24, the apron 17, on which the nails lifted by the usual shelves of the pot drop preparatory to entering the slot of the roadway, and the shaft 9, on which said roadway rests, are and may be as indicated by like letters in United States Patent No. 490,624, dated January 24, 1893, and therefore need not be herein more fully described. The cap-plate 24, as herein shown, is provided with a shaft 2, to which is secured a wheel 3, having a series of cam-shaped teeth. This shaft in practice may have attached to it a belt-pulley, so that said shaft may be rotated by a belt driven from any suitable moving part of the nailing-machine, as in said Patent No. 490,624.

The plate 13 has a shoulder 4, to which, as herein shown, may be attached by a set-screw 5 a block 7, the lower end of which constitutes a gage, and said screw may also hold in place at one side of said gage a striker 6, shown as a sheet-metal spring. The lower end of the gage terminates near the upper edge of the roadway and has a groove 18 of a size and shape to permit the passage under it of the head of the nail being used, and said gage, as herein shown, is provided with a guideway or hole 12 to receive a device shown as a sliding pin 8, which is moved to actuate the striker, said pin, as shown, having at one end a head. (See Fig. 3.) The sheet-metal plate of which the striker is composed may be bent, as shown in Fig. 1, to constitute a spring, the normal tendency of which is to move toward the shoulder 4, the free end of the striker having, as herein represented, two wings 6<sup>x</sup>, which overlap the side walls 7<sup>x</sup> of the gage, said side walls extending below the top of the raceway and preventing the passage beyond them of any nails having heads of greater diameter than it is intended shall slide down the raceway from the gage then in use. The small end of the pin projects through the guideway or hole 12 and the striker acting on the head of said pin keeps its small end in the line of travel of the wheel 3, so that the teeth of said wheel as the latter is rotated act on the said pin and cause it to vibrate the spring striker rapidly.

The drawing shows the small end of the pin in contact with the back of a tooth of the wheel, the pin having been moved for substantially its full extent to the left and as having taken the striker with it, and a little farther movement of the wheel will let the pin drop onto the back of the next tooth. The upper end of the roadway is shown as having a few nails hanging properly in its slot, and in front of them is a nail cross-lodged or improperly mounted on the roadway, so that its head cannot pass under the gage and slide down the roadway, and consequently such nail has to be discharged before the nails which have entered the slot properly and behind it can travel with their heads through the groove at the under side of the gage and thence down the roadway under the cap-plate 24. The striker in its movement by the cam and pin acts against the improperly-lodged nail and kicks it off the top of the roadway.

The operator may readily change the gage and substitute for it one having a groove of the proper size and shape to permit the passage of the head of the nail to be used. I have found my invention well adapted to use with so-called "Hungarian" nails.

The pin 8 constitutes what may be designated as "intermediate" means between the cam and the striker to actuate the striker as the cam is rotated.

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

1. In a nailing-machine, a roadway, a striker in the form of a spring, means to hold one end of said striker in a fixed position with relation to the roadway, and means to actuate the striker to remove nails improperly lodged in the roadway.

2. In a nailing-machine, a roadway, a gage located at or near the top of the roadway and shaped to permit the passage between it and the top of the roadway of only the head of a nail, combined with a striker made as a spring, a sliding pin to act on the striker, and a cam to move said pin, substantially as described.

3. In a nailing-machine, a roadway, a gage located at or near the top of the roadway and shaped at its under side to permit the passage beyond it of the head of a nail hanging properly in the roadway; combined with a striker made as a spring, a headed pin, to act on said striker, a cam to act upon and move said pin and striker, substantially as described.

4. In a nailing-machine, a roadway, a gage notched at its end next said roadway for the passage of the heads of nails thereunder on their way down said roadway, a striker in the form of a spring, one end of said spring being fixed to the framework of the machine, and

means to actuate the striker, substantially as described.

5. In a nailing-machine, a roadway, a stationary gage notched at its lower end to embrace the roadway, said gage having a groove for the passage of the heads of nails entering said roadway, a striker fixed at one end with relation to the framework of the machine, a rotating cam occupying a position above said roadway, and intermediate means between said cam and said striker to actuate the same and cause the striker to throw off nails improperly lodged upon the roadway, substantially as described.

6. In a nailing-machine, a roadway, a gage terminating at or near the top of the roadway and shaped to permit the passage under and beyond it in the raceway of the head of a nail hanging properly in the roadway, combined with a striker made as a spring held fixedly at one end with relation to the framework of the machine, and means to actuate said striker intermittently, said striker returning into its normal position due to the yielding nature of the striker, substantially as described.

7. In a nailing-machine, a roadway to support the heads of a series of nails, an adjustable gage grooved at its under side to permit the passage under it and between it and the upper side of the roadway of only such nails as have heads small enough to pass through the said groove, said gage having wings which extend below the top of the raceway.

8. In a nailing-machine, a roadway, a gage occupying a fixed position above the slotted top of said roadway, the under side of the gage being grooved to permit the passage between it and the top of the roadway of only the head of a nail, said gage having wings depending below the top of the roadway supporting the heads of the nails.

9. In a nailing-machine, a roadway, a gage occupying a fixed position above the slotted top of said roadway, the under side of the gage being grooved to permit the passage between it and the top of the roadway of only the head of a nail, said gage having wings depending below the top of the roadway supporting the heads of the nails, a striker, means to hold one end of said striker in fixed position with relation to the roadway, and means to actuate said striker to remove nails improperly lodged in the roadway in front of the gage.

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

FRANKLIN O. TOBEY.

Witnesses:

GEO. W. GREGORY,  
EDITH M. STODDARD.