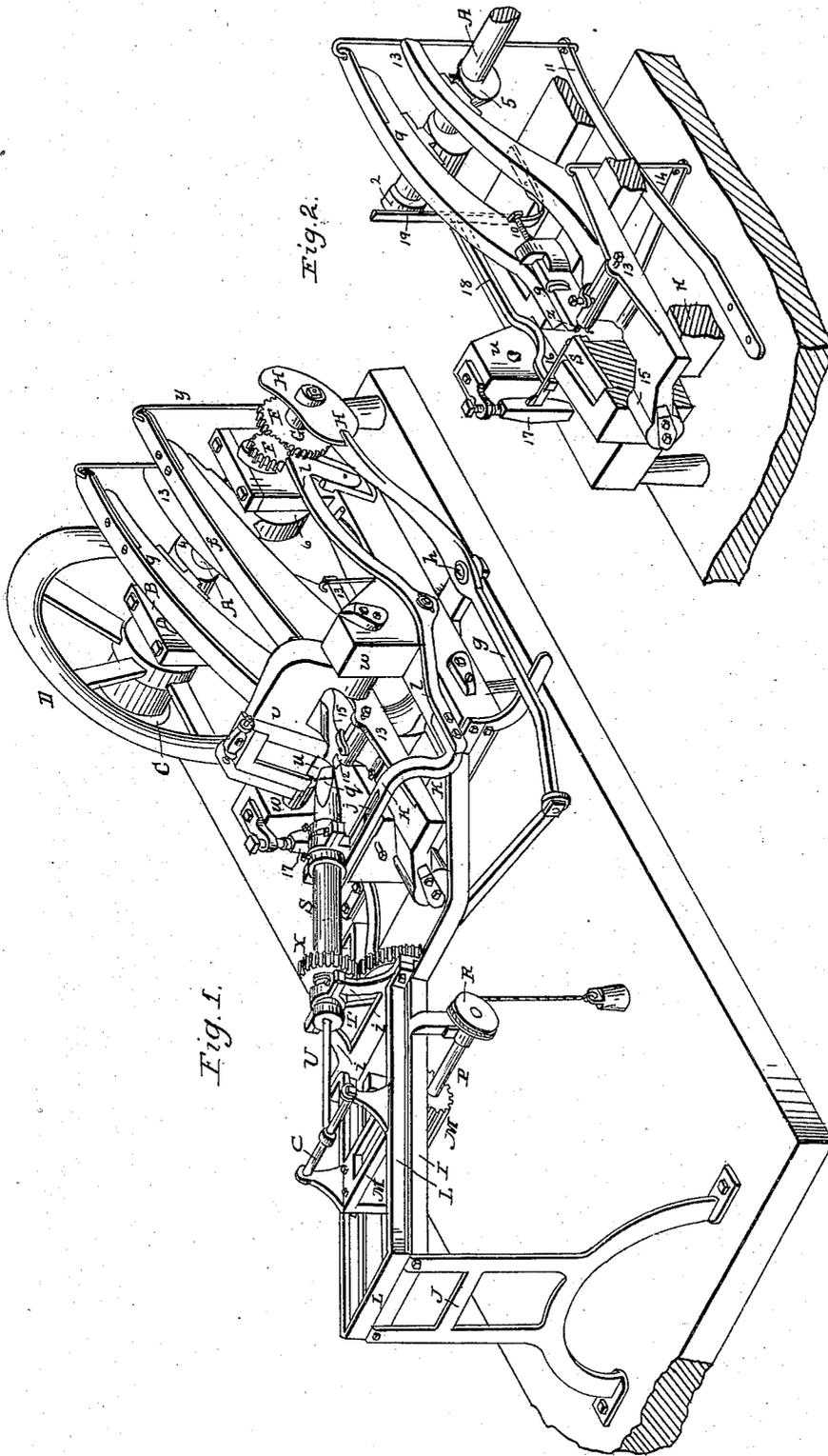


P. A. WILBUR.
Nail Machine.

2 Sheets—Sheet 1.

No. 15,910.

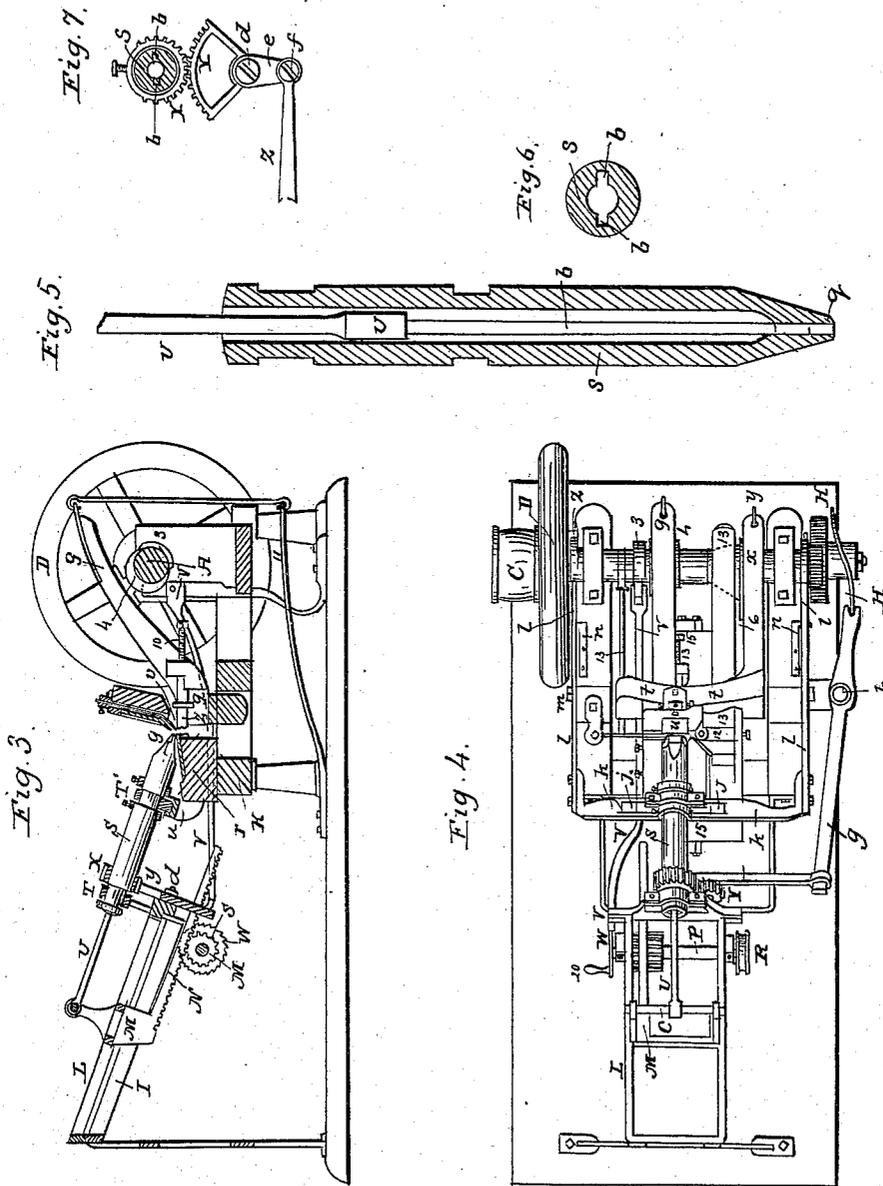
Patented Oct. 14, 1856.



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UNITED STATES PATENT OFFICE.

P. A. WILBUR, OF NEW CASTLE, PENNSYLVANIA.

NAIL-MACHINE.

Specification of Letters Patent No. 15,910, dated October 14, 1856.

To all whom it may concern:

Be it known that I, PERRY A. WILBUR, of New Castle, in the county of Lawrence and State of Pennsylvania, have invented certain new and useful Improvements in Nail-Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1, represents a perspective view of the entire machine. Fig. 2, represents in perspective a portion of the machine with the cutting jaw removed to show the parts underneath it. Fig. 3, represents a vertical longitudinal section through the machine. Fig. 4, represents a top plan. Fig. 5, represents on an enlarged scale a longitudinal section through the tubular nail plate feeder, showing the follower in full. Fig. 6, represents a transverse section through the said tube and, Fig. 7, represents detached portions of the machinery for operating the nail plate feeder.

Similar letters where they occur in the several figures denote like parts in all.

To enable others skilled in the art to make and use my invention I will proceed to describe the same with reference to the drawings.

A represents a shaft suitably supported at or near one end of the machine in pillow blocks B, B, said shaft having upon it a pulley C, around which an endless band driven by any first mover may pass to give motion to the machine, D being a fly or balance wheel on the shaft to steady its motion.

Upon the shaft A are properly disposed seven cams marked respectively 1, 2, 3, 4, 5, 6, 7, (all of which may be seen in Fig. 4,) whose particular functions will be mentioned in connection with the parts which they operate; and upon the extreme end of the shaft A from the pulley C, is affixed a spur wheel E, which takes into and gives motion to a gear wheel F below it, arranged on a shaft G which shaft also carries a cam H for rocking or turning the nail plate feeder, as will be hereafter described.

From the above described parts all the varied movements for feeding, cutting, gripping, heading, and delivering the finished nail, are had.

Upon the block *r* (Fig. 3), is placed one of the shear or cutting blades *s*, and upon

the movable block or stock *t* is placed the other shear blade or cutter *u* which works past the stationary blade *s*, and behind the blade *u*. Adjustably united to the stock *t* is the gage *v* for regulating the width of the blank to be cut from the nail plate. The stock *t* is pivoted or hung by its journals in the pillow blocks *w*, *w*, and there is connected to it, a lever *x* extending rearward, and held to the cam 6, by a spring *y*, so that the blade *u*, shall be forced down by the cam, and raised up by the spring. This severs the blank from the nail plate, and while the succeeding operations are going on, but which follow each other in rapid succession, the tube is drawn back, raised up and turned over the feed having been checked, and then comes forward with the feed apparatus in motion for the next cut.

The blank having been severed from the nail plate is caught by the movable gripping jaw Z and jammed up and tightly held against the stationary jaw 8 (Fig. 3), while it is being headed. The gripping jaw Z is made adjustable in its stock 9 by a set screw 10 so as to adapt it to the catching and holding of different sized blanks. The shaft or stock 9, that holds and operates the gripping jaw Z is hung by its journals to the frame underneath the cutting apparatus, and the lever or arm (9) which is a part thereof extends rearward and is held to the cam 4, by a spring 11, so that the gripper shall receive its motions from said cam and spring. While the blank is thus held in the gripping jaws, the heading tool 12, is brought up against the blank and forms the head thereon. The heading tool 12 is connected to, and made adjustable in the heading lever 13; and the heading lever is held against the cam 5, on shaft A by a spring 14 (Fig. 2,) so as to give it its motion which is a compound one—the cam 5, having a double throw viz; one vertically and at the same time a lateral one, said cam being a frustum of a cone in shape, and eccentrically arranged on the shaft A. The heading lever has upon it two arms 15, standing at right angles to its general longitudinal direction, and by these arms 15, said lever is hung to the frame of the machine. The axis of motion of said lever is nearly parallel with its longitudinal direction, and at right angles to the axis of motion of both the cutting and gripping levers. The nail being completed, and the gripping jaw Z

drawn back, a delivering arm 16, hung to a vertical rock shaft 17, is forced forward by a lever 18 which extends back to a spring 19, to which it is united, and said spring 19, to which it is united, and said spring 19, 5 is operated by the cam 2 on the shaft A so that at proper intervals and as regularly as the nail is finished it is thrown out of the grippers by said arm 16.

A crank handle 20 (Fig. 4), may be arranged in the ratchet wheel W for running 10 back the carriage M, and the follower U, when it becomes necessary to replenish the tube with nail plates.

Having thus fully described the nature of my invention, what I claim therein as new 15 and desire to secure by Letters Patent is—

The arrangement of the cutting, gripping, heading, and delivery apparatus, with regard to the nail plate feeder, so that the whole may be operated from one cam shaft, 20 substantially in the manner set forth.

PERRY A. WILBUR.

Witnesses:

D. W. HOUSTON,

D. B. KURTZ.