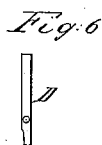
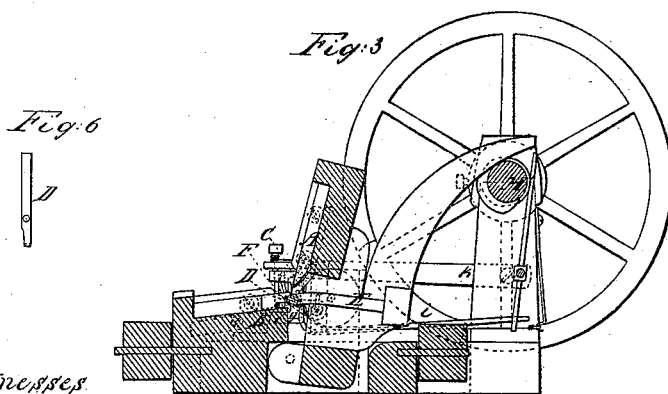
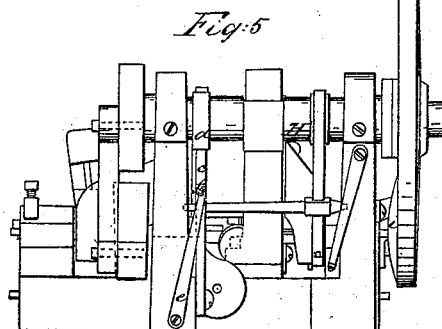
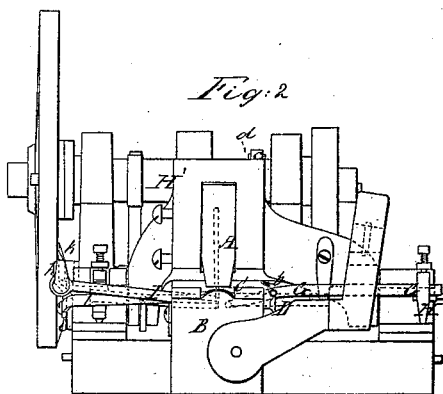
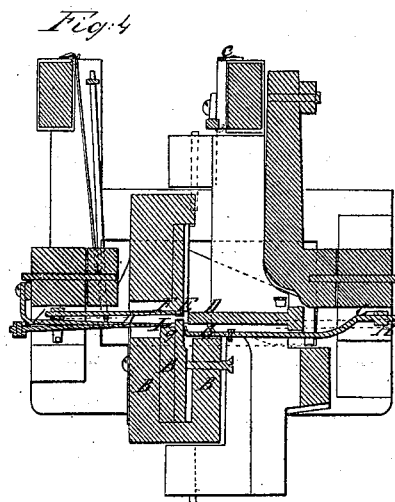
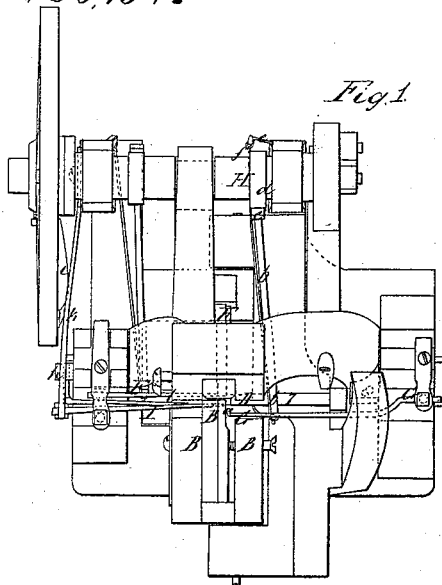


N. & N. Leonard,

Making Cut Nails

N^o 53,154.

Patented Mar. 13, 1866.



Witnesses
Fredrick Curtis
G. H. Washburn

Inventors
N. Leonard, and N. N. Leonard
by their attorney
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UNITED STATES PATENT OFFICE.

NATHL. LEONARD AND NATHL. N. LEONARD, OF NORTH DIGHTON, MASS.

IMPROVEMENT IN TACK AND NAIL MACHINES.

Specification forming part of Letters Patent No. 53,154, dated March 13, 1866.

To all whom it may concern:

Be it known that we, NATHANIEL LEONARD and NATHANIEL N. LEONARD, of North Dighton, in the county of Bristol and State of Massachusetts, have invented an Improved Machine for Making Tacks; and we do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a front elevation, and Fig. 3 a longitudinal section, of it. Fig. 4 is a horizontal section taken through the header. Fig. 5 is a rear end view, and Fig. 6 an edge view, of the back griper or die.

Our invention consists in the application to the common tack-machine of a mechanism for preventing displacement of the tack-blank between its holding-dies preparatory to the heading of it.

And our invention further consists in combining with the mechanism for making a tack a mechanism for discharging it from the gripping-dies after it may have been completed.

Our machine, with such appliances, is calculated to make with great accuracy very small tacks.

In order to explain our invention it will not be necessary to describe the construction and operation of the common tack-making machine, which in principle is essentially like the well-known Reed nail-making machine. It will suffice for us to refer to those parts with which our invention is directly connected.

In the drawings, A denotes the movable knife or cutter, B and B' the stationary bed-dies, on which the stationary cutter is usually placed.

C is the gage, D the header, E the movable die or griper, F the tack-point holder, all of them being arranged and supplied with operative mechanism as in most tack-cutting machines.

The blank-retainer or device for preventing displacement of the tack-blank consists of a bent arm, G, projecting from an upright shaft, H, and having a small finger or projection, *a*, extending from its inner end, the same being as shown in Figs. 1 and 2. It is arranged in front of the header D, and while the movable cutter is in the act of severing a tack-blank from the strip of metal from which the tacks are to be made this blank-retainer is put in

operation so as to cause its finger *a* to move toward and stop directly underneath that portion of the head end of the blank which projects laterally beyond the dies, and is for being converted into a head. During the advance of the header the blank-retainer is moved out of its way or path.

The blank-retainer receives and supports the blank preparatory to the advance of the movable die or griper, and thus prevents the blank from either dropping out of its horizontal position or being turned laterally, the blank being held near its point by the point-holder F.

For operating the said retainer G in one direction—viz., away from the header—there is a pitman, *b*, extending from the retainer to an upright lever, *c*, whose fulcrum is at its lower end, and whose upper arm or part rests against the periphery of a cam, *d*, fixed on the driving-shaft H' of the machine.

A spring, *e*, connected to the frame of the machine and to the retainer by a wire, *f*, serves to effect the necessary movements of the retainer in the opposite direction.

The stationary bed-die B is formed beveling on its front end, in manner as shown at *g* in Fig. 4, the same being in order that the point of the tack may project in front of this bevel in a manner to enable the tack-discharger I, which is wedge-shaped at its inner end, to pass between the bevel *g* and the tack and separate it from the dies B B'. This tack-discharger I is jointed at its rear end to one end of a stiff spring, K, which projects from one of the posts of the machine and abuts against a stop, *h*. A cam, *i*, fixed on the fly-wheel, meets the spring K at the proper time, and so moves it as to move the discharger in a manner to cause it to effect the discharge of the tack from the dies. A spring, *l*, arranged as shown in Fig. 4, serves to press the discharger I against the bevel *g*.

With the blank-retainer and the tack-discharger combined with an ordinary tack-making machine such machine will be able to make much smaller and more delicate and better formed tacks than it can without them. Therefore they, with their operative mechanism, are valuable and important additions to it.

What we claim in the above-specified machine as our invention is as follows:

1. The combination of the tack-retainer G and its operative mechanism with the mechanism for making the tack—that is, for severing it from the strip of metal and for holding it and heading it—the whole being substantially as described.

2. The combination of the bevel *g* and the discharger I and its operative mechanism, as

described, with mechanism for making the tack, as explained.

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