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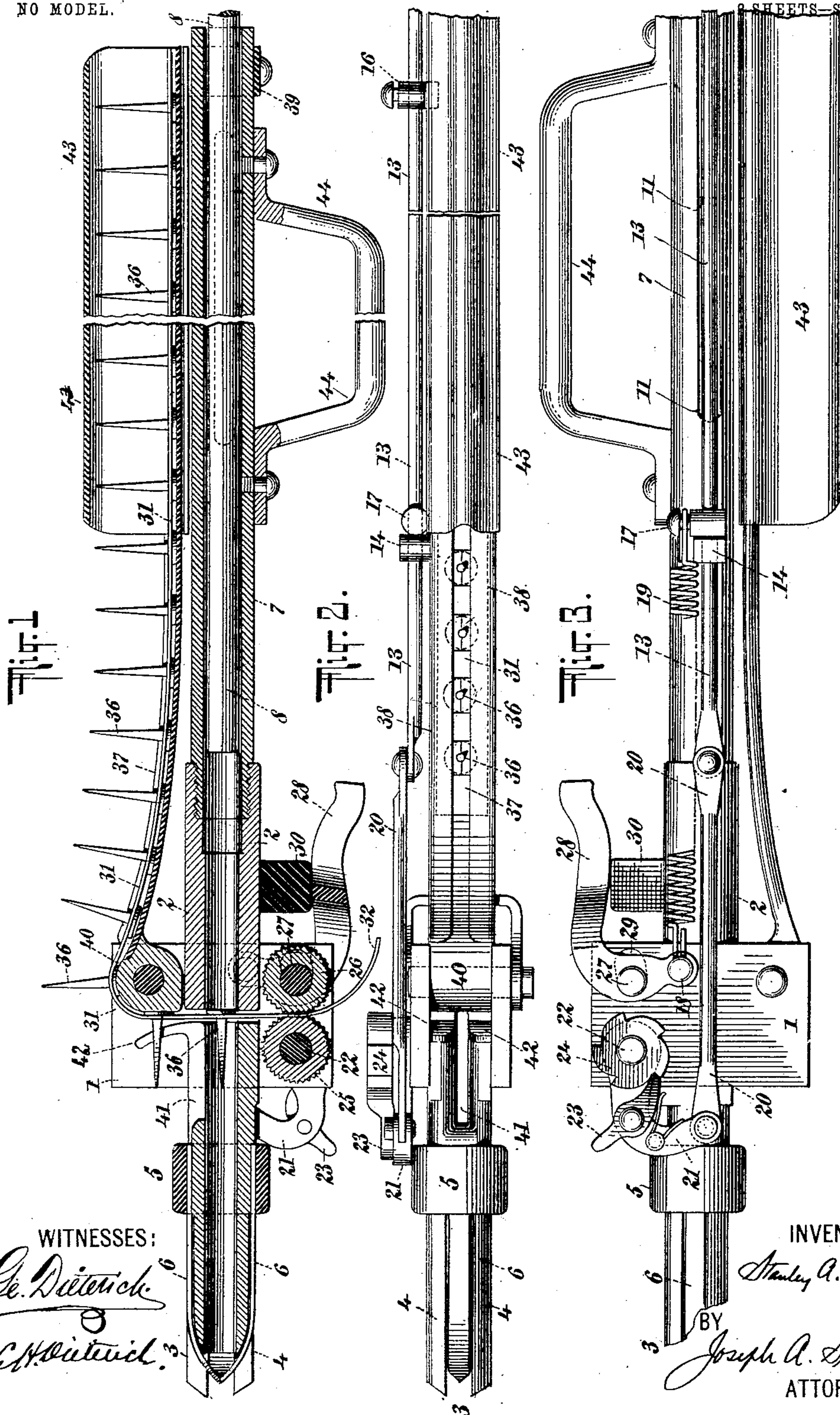
S. A. COHEN.

NAIL OR TACK DRIVING IMPLEMENT.

APPLICATION FILED FEB. 18, 1903.

NO MODEL.

~~2 SHEETS—~~SHEET 1.



UNITED STATES PATENT OFFICE.

STANLEY A. COHEN, OF NEW YORK, N. Y.

NAIL OR TACK DRIVING IMPLEMENT.

SPECIFICATION forming part of Letters Patent No. 750,605, dated January 26, 1904.

Application filed February 18, 1903. Serial No. 143,910. (No model.)

To all whom it may concern:

Be it known that I, STANLEY A. COHEN, a citizen of the United States, residing in the borough of Manhattan, New York city, county and State of New York, have invented new and useful Improvements in Nail or Tack Driving Implements, of which the following is a specification.

This invention relates to that class of tack or nail driving implements in which the tacks and nails are fed automatically from a tape or strip of paper into position for the impact of the plunger by means of which they are driven home.

The object of my invention is to provide a tack or nail driver which is simple in construction and accurate in operation. It is especially adapted for driving tacks and nails rapidly in places not adapted to the use of an ordinary hammer or into material which is above the operator—as, for instance, a ceiling.

In the drawings, Figure 1 is a central longitudinal section on the line 1 1 of Fig. 6, showing the tack in position ready for the impact of the plunger, the plunger being partially withdrawn. Fig. 2 is a top view corresponding to Fig. 1. Fig. 3 is a side view of the same, showing the feed mechanism. Fig. 4 is a central longitudinal section showing a tack just entering the material into which it is to be driven. Fig. 5 is a horizontal section showing the tack driven home, the plunger being in contact therewith at the end of its stroke. Fig. 5^a is a continuation of Fig. 5, the lines *a a* when brought together constituting a complete figure. Fig. 6 is a section view on the line 6 6 of Fig. 4. Fig. 7 is a bottom view of the tape carrying the tacks. Fig. 8 is an enlarged side view of a portion of the same. Fig. 9 is a top view of the same, showing the stamping on the paper tape.

Referring to the drawings, in which like numerals refer to like parts throughout, 1 is the frame of the implement, composed of two metal plates held together by bolts, as indicated. Secured between the two plates 1 is the tube 2, which at its lower end terminates in the fork 3, having the four tines 4. Just above the tines 4 the annular collar 5 secures the four spring-claws 6, which normally extend

between tines 4 and meet at the central point. Securely screwed into the other end of tube 2 is the guide-tube 7. The plunger 8 moves within tubes 2 and 7 and has at its lower end the contacting point 9 and at its upper end the weighted knob 10. In the side of tube 7 is the slot or spline 11, engaged by the key or pin 12, Fig. 5, on plunger 8. The rod 13 extends beside tube 7 through guides 14 and 15, which are secured to tube 7 beyond the extremities of slot 11. The lug 16 is fastened by a screw to rod 13 near its outer end. It extends into slot 11 and is adapted to be engaged by key 12 in its outward movement, Fig. 5, and to contact with the end of slot 11 at the end of its outward travel. Secured to rod 13, near its lower end, is the pin 17. Between pin 17 and pin 18 is the spring 19, tending to hold rod 13 in its lower position. The link 20 is connected to rod 13 and to lever-arm 21, which is hung on pinion 22, extending through frame 1. Lever-arm 21 carries the spring-pressed pawl 23, which is adapted to engage ratchet 24 on pinion 22.

Fast on pinion 22, between the two plates of frame 1, is the fluted feed-roller 25, Figs. 1 and 2. The fluted roller 26 is carried free on pinion 27, which is journaled at either end in the forked lever 28, which is adapted to move about pinion 18 as a fulcrum, carrying with it pinion 27, which moves in the slots 29 in the two plates of frame 1. Between the lever 28 and tube 2 is placed the soft-rubber block 30, adapted to press normally the lever 28 outward and fluted roller 26 into engagement with feed-roller 25.

A paper strip 31, which is best shown in Figs. 7, 8, and 9, has the end 32 free from tacks. At regular distances along the strip 31 cuts are made in the form indicated in Fig. 9, where the two cuts 33 transverse of the strip are connected by the cut 34, so that the flaps 35 are formed. The tacks 36 are inserted in the center of the cuts 34, so that at the impact of the plunger tending to carry the tacks through the paper strip the flaps will part and release the tack.

The guide 37 for paper strip 31 is folded, as indicated at 38, Fig. 2, to form an open slot through which the tacks 36 project. It

is secured to tube 7 at its outer end by the collar 39 and at its inner end terminates in the path 40 between the plates of frame 1, around which the paper strip 31 is threaded
 5 through the implement. The slot 41 in tube 2 permits the entrance of the tacks 36 to position to be driven. The guide-jaws 42 extend from both sides of slot 41. The shield 43, Figs. 1 and 4, is adapted to slide over
 10 guide 37. The handle 44 is secured to tube 7, as shown in Figs. 1 and 3.

The operation of the implement is as follows: The tacks 36 are first positioned in the paper strip, as indicated in Figs. 7, 8, and 9.
 15 The shield 43 is then removed by sliding it from the implement, when the plunger 8 is withdrawn to its outermost limit. The paper strip 31 is then drawn along its path in guide 37 until its end 32, free from tacks, extends beyond the guide. The forked lever 28 is then
 20 pressed by the finger against the resiliency of rubber block 30, withdrawing the fluted roller 26 from engagement with feed-roller 25 and allowing the free end 32 of paper strip 31 to be passed between rollers 25 and 26 and drawn
 25 along until the first tack 36 is in position in the path of plunger 8, as indicated in Fig. 1. The shield 43 is then replaced, covering the greater part of the tacks 36 and protecting
 30 them and the hands of the operator. To drive and feed the tacks at any angle or direction desired, the operator grasps with one hand the handle 44 and places the fork 3 in position where it is desired the tacks to be
 35 driven. With the other hand the operator then impels the plunger 8, with its weighted knob 10, against the tack 36, which under the influence of the blow leaves the paper strip 31 and is driven ahead of the plunger 8, past the
 40 fork 3 and claws 6, into the selected spot, as indicated in Figs. 4 and 5.

As the paper strip 31 is already prepared with the cutting or stamping 33 34, which may extend through the paper or only partially break it, the flaps 35 part at the advent
 45 of the plunger 8, which pierces the paper strip 31 without removing any of it. When the tack 36 in its rapid course reaches the spring-jaws 6, they serve to guide and center its path so that it will enter the material in line with the
 50 direction in which the implement is pointed. If it is desired to drive the tack with one blow, the claws 6 part at the advent of the head of the tack and the plunger 8. If, however, more than one blow is necessary or expedient for driving the tack, the spring-claws 6 serve to keep the implement centered in position for succeeding blows, even though the aperture of the fork 3 is larger than the head
 55 of the tack. The spring-claws 6 also steady the tack as it enters the material, so that it goes true and without bending. If more than one blow is needed to drive the tack, the plunger 8 is partially withdrawn while the
 60 implement is still in position, the spring-

claws 6 engaging the shank of the tack; but for the second and succeeding blows on the same tack the plunger must not be withdrawn beyond the point where the key 12 contacts
 70 with the lug 16 on rod 13. Keeping this precaution in mind, as many blows as desired may be imparted to the tack without operating the feeding mechanism.

Before the second tack is driven the plunger must be withdrawn to its full limit until
 75 stopped by the end of slot or spline 11. As the plunger is withdrawn the key 12 contacts with lug 16, so as to draw rod 13 outward against the resiliency of spring 19. The link 20 then pulls lever-arm 21, so that the spring-
 80 pressed pawl 23 thereon, which is in engagement with ratchet 24, as best shown in Fig. 3, revolves the same and its pinion 22 to turn the fluted roller 25 thereon a part of a revolution. As the fluted roller 26 is pressed against
 85 fluted feed-roller 25 by the action of forked lever 28 and rubber block 30 the revolution thereof serves to draw the paper strip 31 between the rollers 25 and 26 and along its path just the distance necessary to place the next
 90 tack in position in the path of plunger 8. When plunger 8 is released from its extreme position either to drive the tack or to rest idle, the spring 19 pulls rod 13 and moves lever-arm 21 and its spring-pressed pawl 23
 95 back into engagement with the following tooth of the ratchet 24, which remains idle until after the tack is driven plunger 8 is withdrawn again to its limit to actuate again the feed device, as before explained. 100

While the drawings show the implement equipped with a paper strip for the delivery of tacks, nails may be fed and driven by the employment of like means and the slot 41 lengthened to admit any desired size of nail or tack.
 105 For larger sizes the shield 43 should be made higher than indicated. I do not limit myself to any particular paper or fabric for the strip 31, carrying the tacks or nails. It should, however, be sufficiently stiff and fibrous to retain
 110 the tacks or nails upright when the cuts 33 34 extend through or substantially through the material.

What I claim as new, and desire to secure by Letters Patent, is— 115

1. In a tack or nail driving implement a guideway, a driving-plunger adapted to be reciprocated therein, a paper or fabric strip adapted to carry the reserve supply of tacks or nails, rollers between which the strip is
 120 led and devices for revolving the rollers to feed a tack into position in the path of the driving-plunger at every full stroke thereof.

2. In a tack or nail driving implement a driving-plunger; a strip carrying the tacks or
 125 nails; an automatic feeding mechanism engaging said strip at a point beyond the path of the driving-plunger so that the strip is free from the tacks or nails where engaged for the feeding. 130

3. In a tack or nail driving implement a driving-plunger; a strip carrying the tacks or nails; automatic feeding mechanism engaging said strip at a point where it is free from
5 nails and means for disengaging the feeding mechanism at will.

4. In a tack or nail driving implement a driving-plunger; automatic feeding mechanism and a strip carrying the tacks or nails perpendicular to said strip and having lines
10 stamped or cut therein so that the tacks or

nails will be released by the impact of the driving-plunger without carrying away any portion of said strip.

In testimony whereof I, STANLEY A. COHEN, 15
have signed my name to this specification in the presence of two subscribing witnesses, this 16th day of February, 1903.

STANLEY A. COHEN.

Witnesses:

MINNIE KAUFFMAN,
JOSEPH A. STETSON.