

No. 744,282.

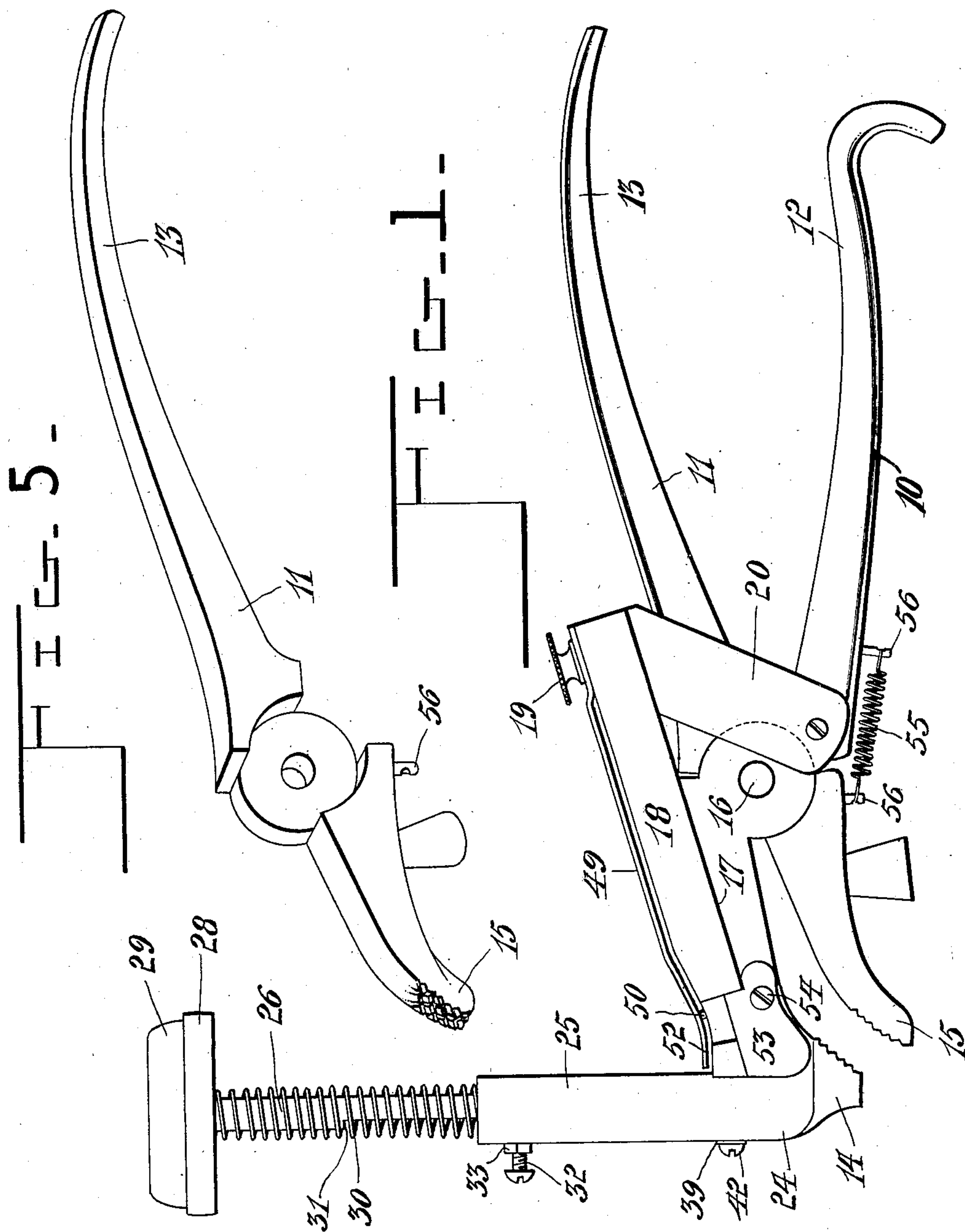
PATENTED NOV. 17, 1903.

S. BEAUREGARD.
TACK DRIVER.

APPLIOATION FILED SEPT. 11, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses:

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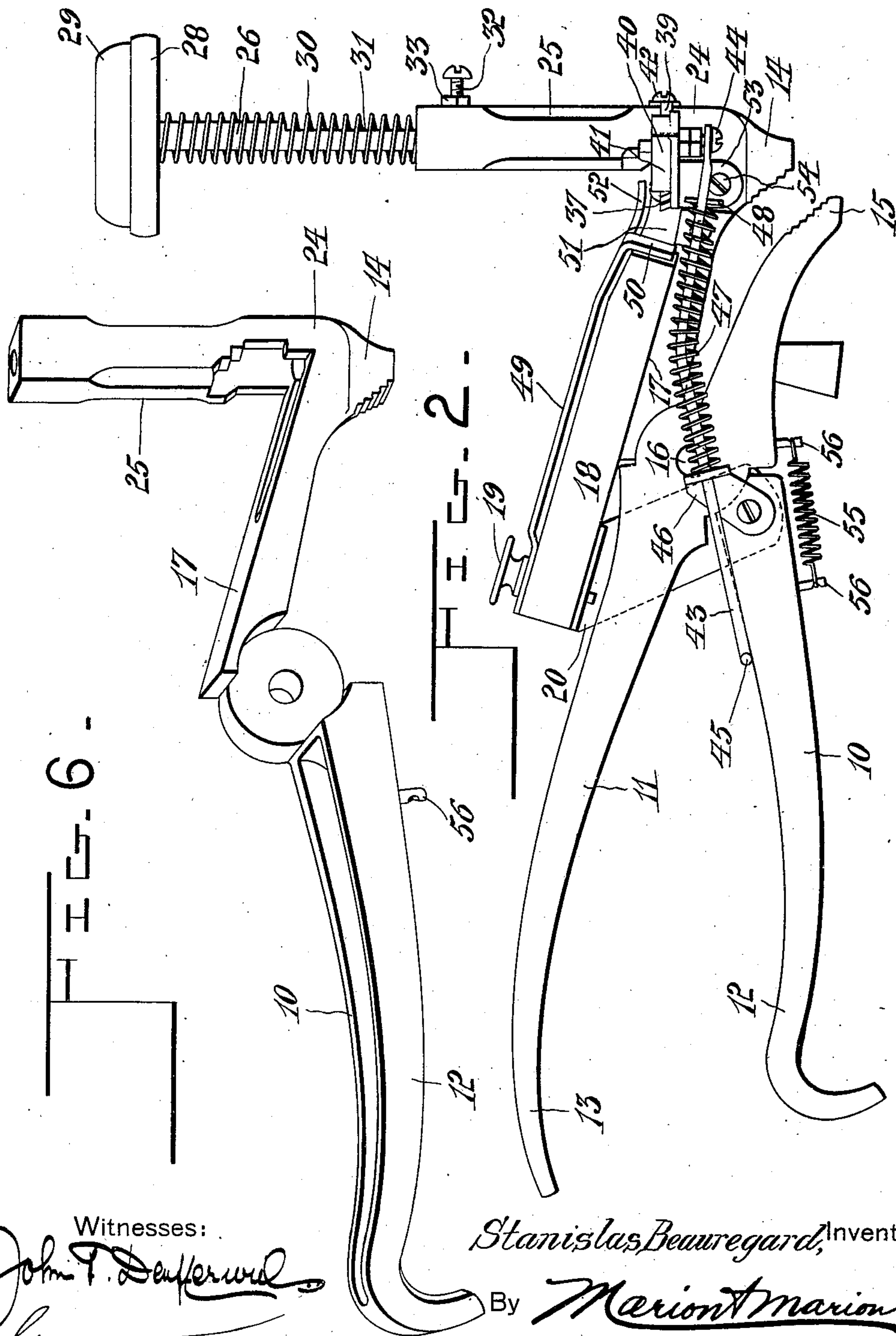
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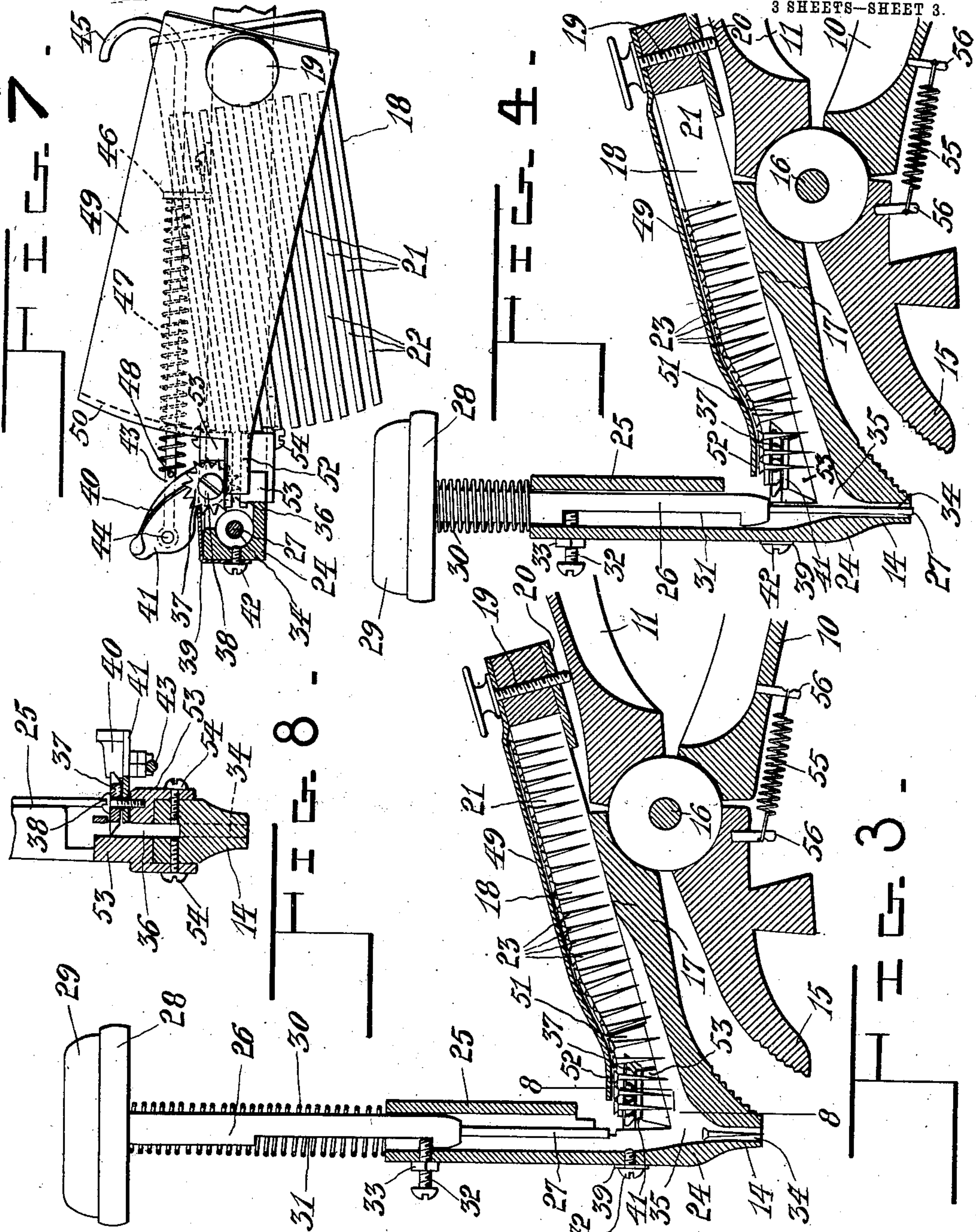
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UNITED STATES PATENT OFFICE.

STANISLAS BEAUREGARD, OF ST. HENRI, CANADA, ASSIGNOR TO JOSEPH ADAM, OF MONTREAL, CANADA.

TACK-DRIVER.

SPECIFICATION forming part of Letters Patent No. 744,282, dated November 17, 1903.

Application filed September 11, 1902. Serial No. 122,917. (No model.)

To all whom it may concern:

Be it known that I, STANISLAS BEAUREGARD, a subject of the King of Great Britain, residing at St. Henri, county of Hochelaga, Province of Quebec, Canada, have invented certain new and useful Improvements in Tack-Drivers; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved tack-driver of that kind which is used in combination with lasting-tools for fixing the uppers of boots and shoes to the last.

The object of my invention is to provide a handy tool which is adapted to hold a large quantity of tacks and to enable them to be fed down regularly and uniformly one at a time as required when driven into place.

My invention consists, substantially, in providing a tack-holder having a plurality of parallel slots forming a species of grid the bars of which are open at one end, and the tacks being placed in these slots in a row are caused to slide down the same one at a time by a ratchet-escapement. Further, I provide means for shifting the tack-holding plate so that the successive slots come alternately opposite the feed-slot of the machine, in which is located said ratchet-escapement, and I provide means for retaining the tacks in all the slots which have not yet come into use and been emptied.

My invention further consists in the construction and combination of parts hereinafter described, and more particularly set forth in the claims.

In the accompanying drawings I have shown the most approved form of my improved tack-driver, and herein—

Figure 1 is a side elevation of my improved machine from the left side. Fig. 2 is a side elevation from the right side. Fig. 3 is a longitudinal central section through the head of the tool, showing the apparatus in position for driving a tack. Fig. 4 is a similar view to Fig. 3, showing the positions of the parts after the driving of the tack. Fig. 5 is a perspective view of one jaw of the lasting-tool. Fig. 6 is a similar view of the other jaw car-

rying the tack-driving head. Fig. 7 is a plan view of the head of the machine, the plunger-tube being shown in section; and Fig. 8 is a vertical transverse section taken on the line 8 8 of Fig. 3.

The same numerals of reference denote like parts in all the figures of the drawings.

The apparatus in its main portions consists of a pair of jaws 10 11, forming a lasting-tool and which have at their rear ends handle-arms 12 13 and at their forward ends nose-pieces 14 15, having serrated surfaces adapted to grip the leather of a shoe-upper in the ordinary manner. These jaws are pivoted together on a transverse pin 16. The upper side of the jaw 10, whose head end is on the upper side of the tool, is flattened, as shown at 17, to form a guide-rest for the forward end of the oscillably-mounted tack-holder 18, which is clearly shown in Fig. 7 and is of rectangular form, pivoted at its rear end upon a pin 19, which secures it to a bracket-arm 20, bolted to the base of the handle 12 of the jaw 10, as shown. This tack-holder is slightly deeper or thicker than the length of the tacks, and it has formed therein a plurality of longitudinal parallel slots 21, so as to form the holder 18 after the manner of a grid open at its lower end and between the bars 22 whereof are adapted to rest the tacks 23, supported by their heads and having their points depending through the slots 21, as shown.

The forward end of the jaw 10 carries the tack-driving head 24, which has rising therefrom a cylindrical tube or casing 25, in which is reciprocally mounted a plunger 26, having a reduced stem 27 on its lower end adapted to strike and drive a tack. This plunger 26 has on its upper end a head 28, provided with a cushion 29 to prevent injury to the hand or fist, and it is supported normally in its raised position by a compression-spring 30, coiled about the stem of the plunger and abutting against the lower side of the head 28 and the upper end of the tube 25, respectively. On the side of the plunger is a groove 31, in which engages the stop-screw 32 in the side of the plunger-casing, which is secured against coming out by a lock-nut 33. The lower end of the driving-head has a vertical tube 34, into which the tacks are adapted to

successively drop, and it is of just sufficient size to guide them steadily therein, the upper end of the tube being flared into a converging chamber 35, as shown. Communicating with this chamber 35 is a longitudinal slot 36, which extends between the forward end of the tack-holder 18 and the chamber, so as to form a continuation of the slots 21 between the bars thereof and to carry the tacks located between said bars through the slot 36 successively. At the side of the slot 36 is located a toothed ratchet escapement-wheel 37, pivoted on a screw 38 and operated by a stationary and movable pawl, designated, respectively, 39 and 40, the latter being pivoted on an oscillating piece 41, loosely rotatable on the screw 38 and being of a resilient nature, so as to be held always in contact with the teeth. The pawl 39 is likewise of a resilient nature and is held in place by means of a screw 42, secured to the front of the tack-driving head. Connected with the piece 41 is a hand-bolt 43, which is pivoted thereto at 44 and has at its rear end a hook 45, adapted for the engagement of a finger of the hand holding the lasting-tool, while the other hand depresses the plunger 26. The rear end of the bolt 43 is guided by a bracket 46, and it is held in its projected position by a compression-spring 47, resting, respectively, against the forward side of the bracket 46 and against the transverse pin 48, driven into the side of the bolt 43. The arrangement is such that when the bolt 45 is pulled to the full extent of its movement the pawl 40 will cause the ratchet-wheel to be turned until one tooth thereof has passed the pawl 39, when the spring 47 will return the bolt to its original position. The turning of the ratchet escapement-wheel at the same time causes one tack to pass down the slot 36 and drop into the chamber 35, whence it falls into the tube 34 and is ready for driving. When, therefore, it is desired to drive a tack, it is only necessary for the hand holding the tool to pull the bolt 43 for an instant, thus setting the tack in position and immediately thereafter depress the plunger 26.

The tack-holder 18 is provided with a cover-plate 49, which is likewise pivoted upon the screw 19 and whose lower end is turned over at right angles, as shown at 50. It will be seen that the lower end of the tack-holder is made in the shape of a circular arc concentric with its pivot, so that the ends of the slots 21 shall always form an immediate continuation with the slot 36 when opposite the latter. The angular flange 50 of the cover-plate extends over the ends of all of the slots 21 when the machine is filled, and its left-hand edge is adapted to strike against the outer face 51 of that part of the head in which is formed the slot 36, so that the cover-plate cannot pass beyond this portion. In this position also the slot 36 will be covered by the tab or extension 52 on the lower corner of the plate 49, which covers said slot.

The operation of the instrument is as follows: It is first held in such a position that the upper surface of the tack-holder will be either level or slant backwardly, so that tacks may be readily placed in the slots, into which then will fall naturally with the head up and points downwardly of their own accord. When all the slots have been filled, the cover-plate is turned on its pivot until the tack-holder is completely covered, and the latter, with its cover-plate, is then turned about the same pivot until the first of the slots 21—that is to say, the left-handmost slot—comes opposite the slot 36 in the head of the tool. The tacks in this slot 21 will then slide down until the lowermost tack strikes the ratchet-escapement 37, and the instrument will then be in position to drive tacks continuously until all the tacks in the said slot 21 have been exhausted, whereupon the tack-holder is turned slightly until the next slot 21 comes opposite the slot 36, and the same operation is repeated. As the tack-holder is turned the cover is held stationary and prevented from following, and this continues until the tacks in all the slots have been successively exhausted. The tack-holder is clamped in position during use by the screw 19, which fits in a threaded socket on the bracket 20, and thus enables the holder and cover to be jointly secured to the latter as firmly as may be desired.

I preferably form the chamber 35 open at its upper side, and the slot 36 is formed by two separate lug-pieces 53, which are of the form clearly shown in Fig. 8 and are secured to the sides of the driving-head by screws 54.

At 55 is shown a spring attached to two posts 56, embedded in the two opposite members 10 and 11 of the apparatus for holding them apart except when squeezed together to grasp the leather.

While I have shown in the accompanying drawings the preferred form of my invention, it will be understood that I do not limit myself to the precise form shown, for many of the details may be changed in form or position without affecting the operativeness or utility of my invention, and I therefore reserve the right to make all such modifications as are included within the scope of the following claims or of mechanical equivalents to the structures set forth.

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

1. A tack-driver comprising a plunger adapted to drive the tacks, a movably-mounted block constituting a tack-magazine, and comprising a plurality of slots, there being an opening through which the tacks may be delivered to said plunger, and means for securing said block so that said slots may align successively with said opening.

2. A tack-driver comprising a head, a plunger mounted therein and adapted to drive tacks, said head having a channel there-

through adapted to pass tacks to said plunger, a toothed wheel the teeth whereof project across said channel and are adapted to receive tacks respectively therebetween, a
 5 pawl cooperating with said teeth to advance said toothed wheel, a second pawl cooperating with said teeth to prevent a reverse movement of said toothed wheel, means for actuating said first pawl, a block having a plurality of slots therein and constituting a tack-
 10 magazine, and means for alining said slots successively with said channel.

3. A tack-driver comprising a tack-driving head having a channel-way therein through
 15 which the tacks are adapted to be fed, means for feeding one tack at a time through said channel-way, a tack-holder movably mounted at the rear of said channel-way and having a series of parallel longitudinal slots in which
 20 the tacks are adapted to be placed and means whereby said slots may register successively with the end of said channel-way to feed the tacks therethrough, substantially as described.

25 4. A tack-driver comprising a tack-driving head having a channel-way therein through which the tacks are adapted to be fed, means for feeding one tack at a time through said channel-way, a tack-holder mounted at the
 30 rear of said channel-way and having a series of parallel longitudinal slots in which the tacks are adapted to be placed, means whereby said slots may register successively with the end of said channel-way to feed the tacks
 35 therethrough, a cover-plate pivotally secured to said tack-holder and covering the same, and a flange extending around the edge of said cover-plate to protect the lower ends of the slots in said tack-holder, substantially as
 40 described.

5. A tack-driver comprising a tack-driving head having a channel-way therein through
 45 which the tacks are adapted to be fed, means for feeding one tack at a time through said channel-way, a tack-holder mounted at the rear of said channel-way and having a series of parallel longitudinal slots in which the
 50 tacks are adapted to be placed, means whereby said slots may register successively with the end of said channel-way to feed the tacks therethrough, a cover-plate pivotally secured to said tack-holder and covering the same,
 55 and a flange extending around the edge of said cover-plate to protect the lower ends of the slots in said tack-holder, said cover-plate having a forwardly-extending tab adapted to cover the upper side of said channel-way, substantially as described.

6. A tack-driver comprising a tack-driving
 60 head having a tubular recess therein into which a tack is adapted to fall and which is adapted to hold it in position, a plunger adapted to descend upon the head of said tack and set the same, said tool having a longitudinal
 65 channel-way formed therein and communicating with said chamber, a tack-holder comprising a block pivoted on a stationary bracket-

arm carried by the driving-head, said tack-holder having a series of parallel longitudinal slots open at their lower ends and communicating with said channel-way, and an
 70 escapement mounted in said channel-way adapted to feed one tack at a time, substantially as described.

7. A tack-driver comprising a head having
 75 a tubular recess therein into which a tack is adapted to fall and which is adapted to hold it in position for driving, a plunger adapted to descend upon the head of said tack and set the same, said tool having a longitudinal
 80 channel-way formed therein and communicating with said chamber, a tack-holder comprising a block pivoted on a stationary bracket-arm carried by the driving-head, said tack-holder having a series of parallel longitudinal
 85 slots open at their lower ends and communicating with said channel-way, a toothed wheel mounted at the side of said channel-way and whose teeth project thereinto so as to feed the tacks successively and singly there-
 90 through, a spring-pawl mounted upon the driving-head and engaging with the teeth of said wheel to prevent backward motion, an oscillable piece 41 loosely mounted on the pivot of said ratchet-wheel, a movable pawl
 95 40 engaging with the teeth thereof to advance the same by one tooth at a time, a hand-bolt 43 having means at its rear end for adapting it to be drawn to advance said ratchet-wheel, and a spring operating on said bolt to hold
 100 the same normally in its forward position.

8. A tack-driver comprising a driving-head having a chamber therein adapted to receive
 105 a tack and hold it in position for driving, a plunger reciprocally mounted in said head and adapted to set said tack, said head having a longitudinal slot adapted to feed the tacks therethrough, a toothed wheel
 110 mounted at one side of said slot and having its teeth projecting thereinto so as to adapt it to feed tacks successively and singly therethrough, a pawl mechanism operated by a hand-bolt at the side of the tool, a tack-holding
 115 block 18 pivotally mounted at its rear end on a stationary part of said driving-head, said block having a series of longitudinal slots therethrough in which the tacks are adapted to be placed and open at their lower
 120 extremities, a pivot-screw 19 adapted to secure said tack-holding block in the position in which it is set on said driving-head, and a cover-plate pivotally mounted on said screw, substantially as described.

9. A tack-driver comprising a driving-head having a chamber therein adapted to receive
 125 a tack and hold it in position for driving, a plunger reciprocally mounted in said head and adapted to set said tack, said head having a longitudinal slot adapted to feed the tacks therethrough, a toothed wheel mounted
 130 at one side of said slot and having its teeth projecting thereinto so as to adapt it to feed tacks successively and singly therethrough, a pawl mechanism operated by a hand-bolt

at the side of the tool, a tack-holding block 18 pivotally mounted at its rear end on a stationary part of said driving-head said block having a series of longitudinal slots there-
5 through in which the tacks are adapted to be placed and open at their lower extremities, a pivot-screw 19 adapted to secure said tack-holding block in the position in which it is set on said driving-head, a cover-plate pivotally
10 mounted on said screw, a flange on the lower end of said cover-plate covering the lower ends of the tack-holding slots and adapted to strike against the side of the head to prevent it from following the oscillation of said tack-
15 holding block, and an extension on the corner of said cover-plate adapted to extend over and cover said channel-way in the driving-head, substantially as described.

10. In a tack-driver, a tack-driving head comprising a solid piece having a chamber 35 20 formed therein into which a tack is adapted to be dropped and a tubular passage-way 34 at the lower end of said chamber adapted to hold and guide said tack, a plunger-tube in which the plunger of the tool is adapted to 25 reciprocate, and a pair of blocks 53 screwed to the side of the driving-head and partially covering said chamber 35 and having a slot 36 between the same through which tacks are adapted to be fed, substantially as described. 30

In witness whereof I have hereunto set my hand in the presence of two witnesses.

STANISLAS BEAUREGARD.

Witnesses:

J. A. MARION,
T. MYNARD.