(No Model.) 6 Sheets—Sheet 1.

I. FRÉCHETTE.

HAND LASTING TOOL.

No. 594,241. Patented Nov. 23, 1897.

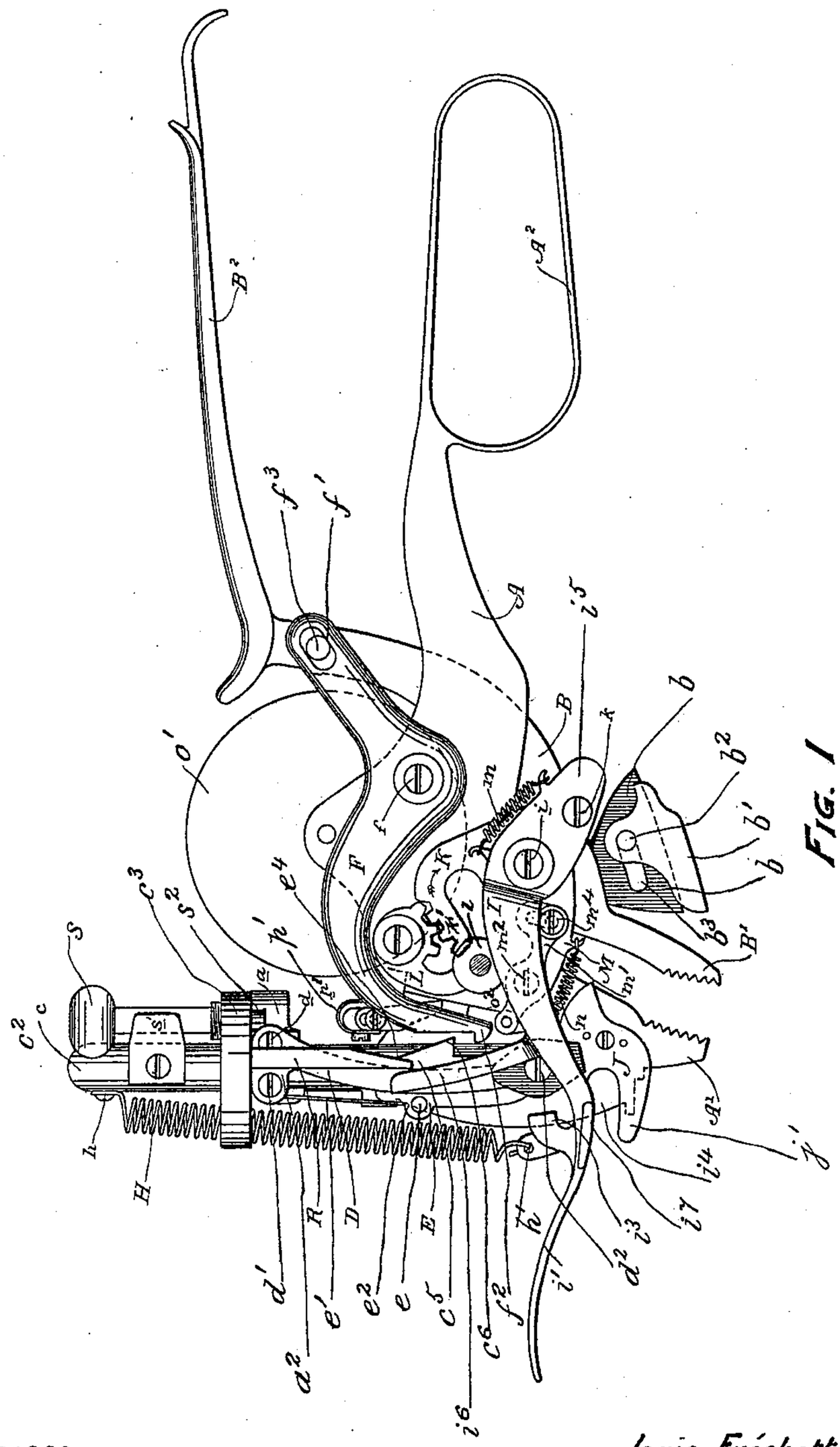

FIG. 1

Witnesses
Alp. Walter
H. Durie

Inventor
Isaie Fréchette
Per: J. Emile Vanier
Attorney

(No Model.) 6 Sheets—Sheet 2.

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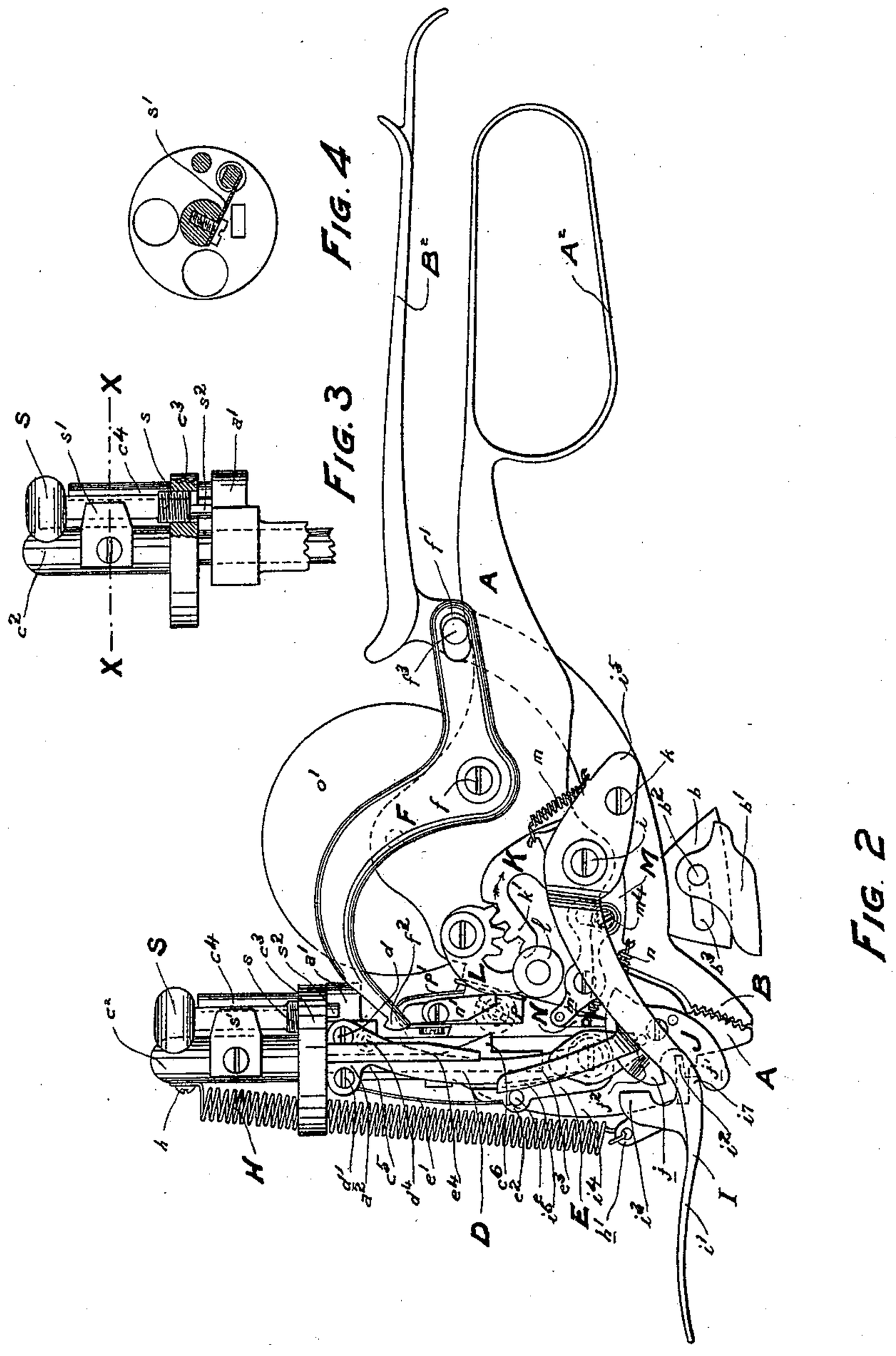

Witnesses

Alp. Walker.

H. Durieux

Isaie Fréchette

Inventor

Per: J. Emile Vanier

Attorney

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I. FRÉCHETTE.

HAND LASTING TOOL.

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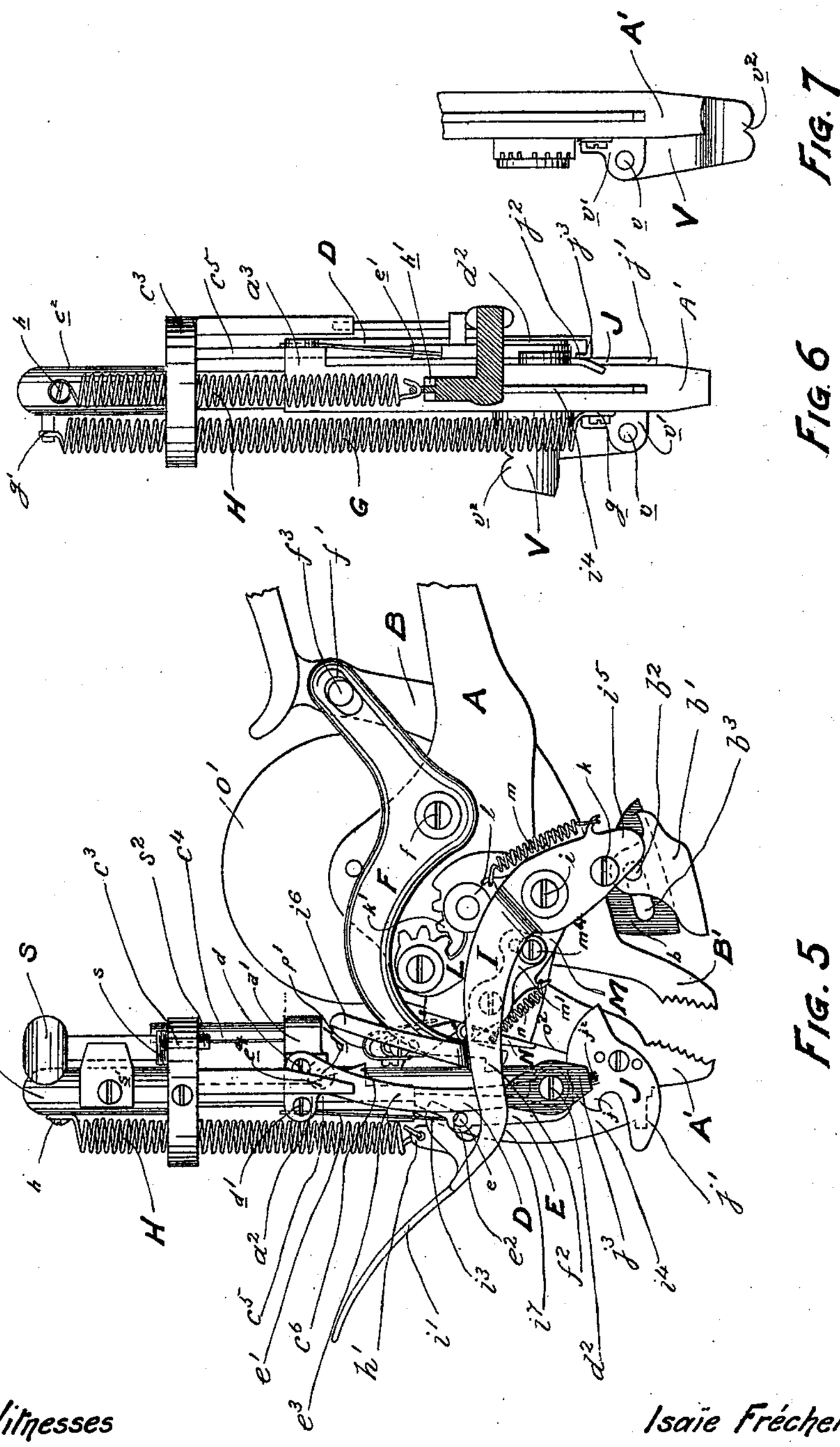

FIG. 7

FIG. 6

FIG. 5

Witnesses

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(No Model.) 6 Sheets—Sheet 4.

I. FRÉCHETTE.

HAND LASTING TOOL.

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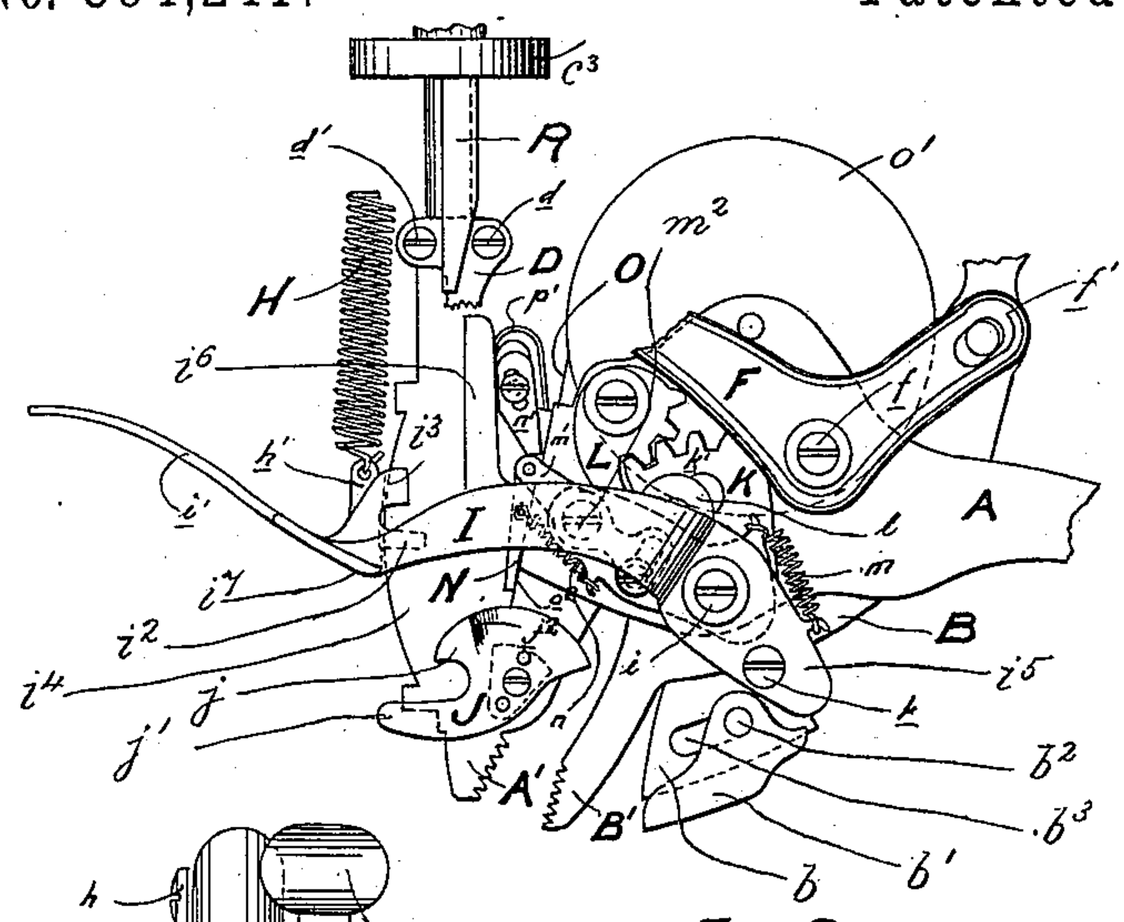

FIG. 8

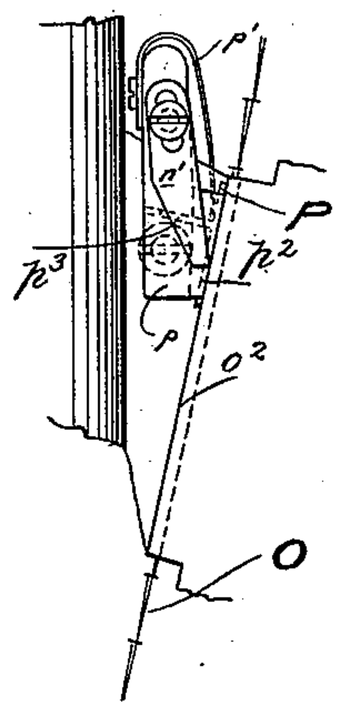

FIG. 9

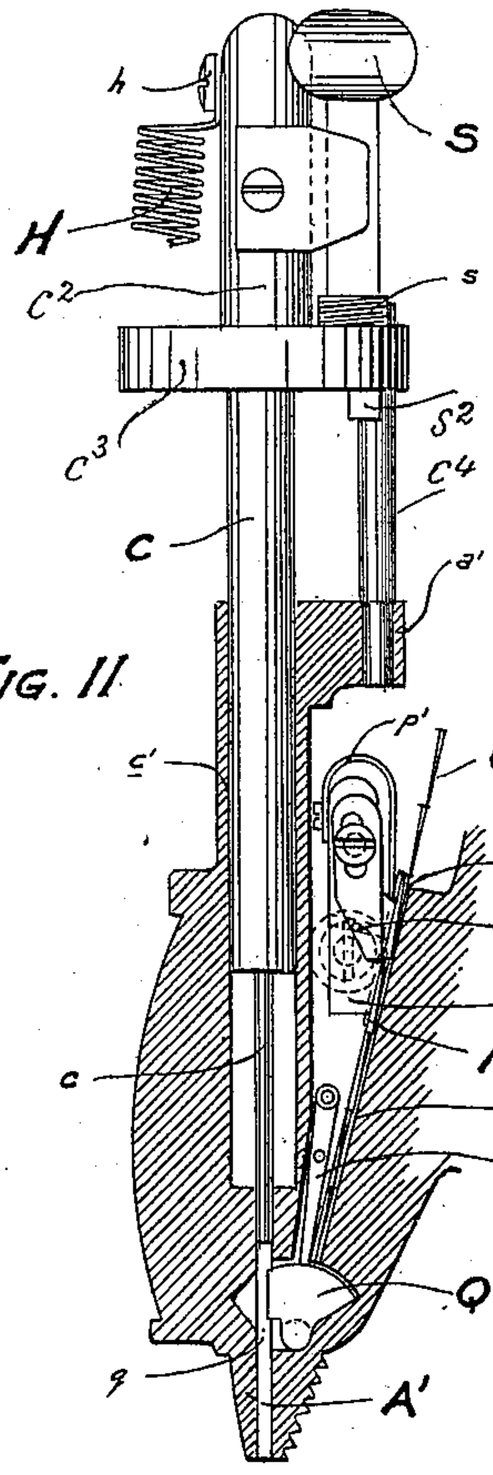

FIG. 11

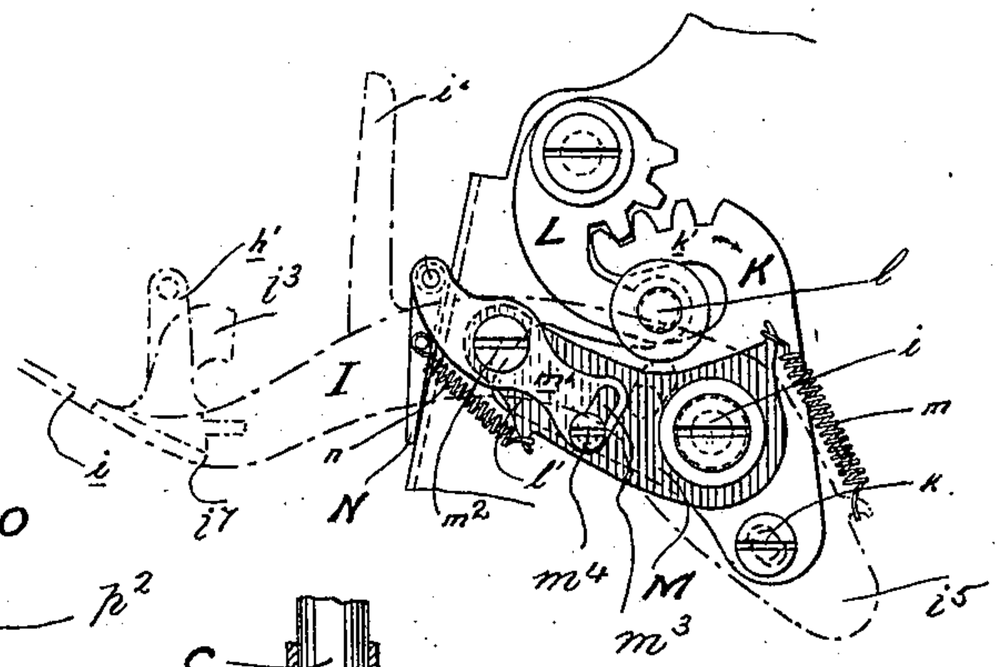

FIG. 10

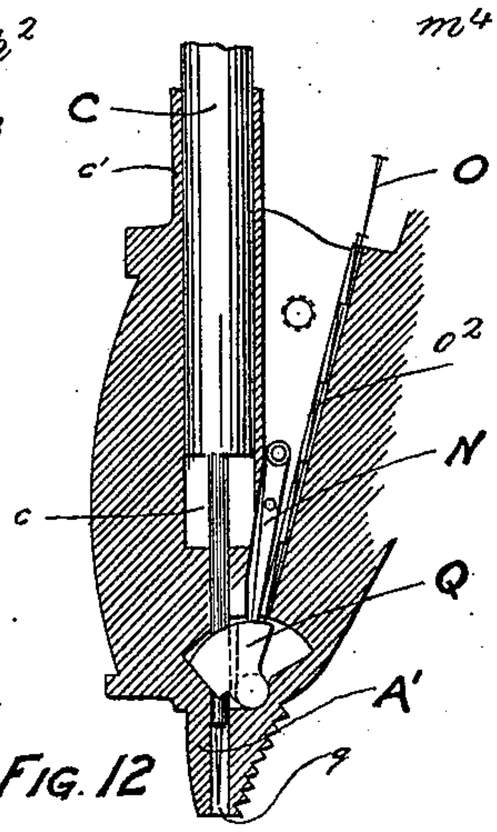

FIG. 12

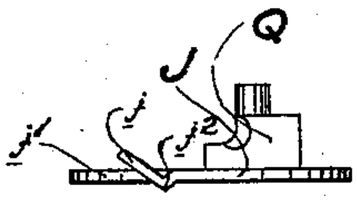

FIG. 13

Witnesses

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HAND LASTING TOOL.

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FIG. 15

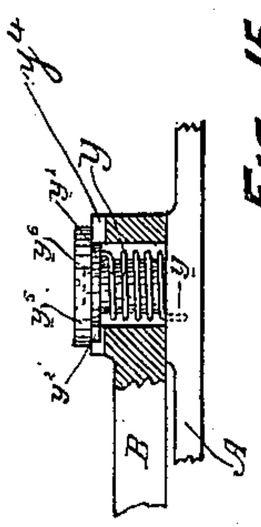
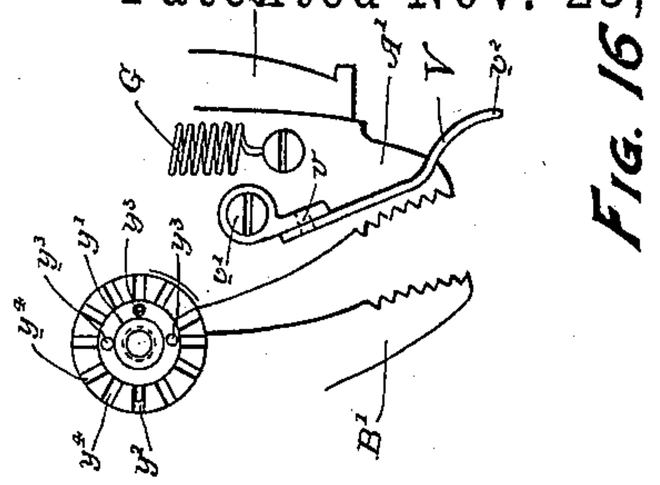


FIG. 16



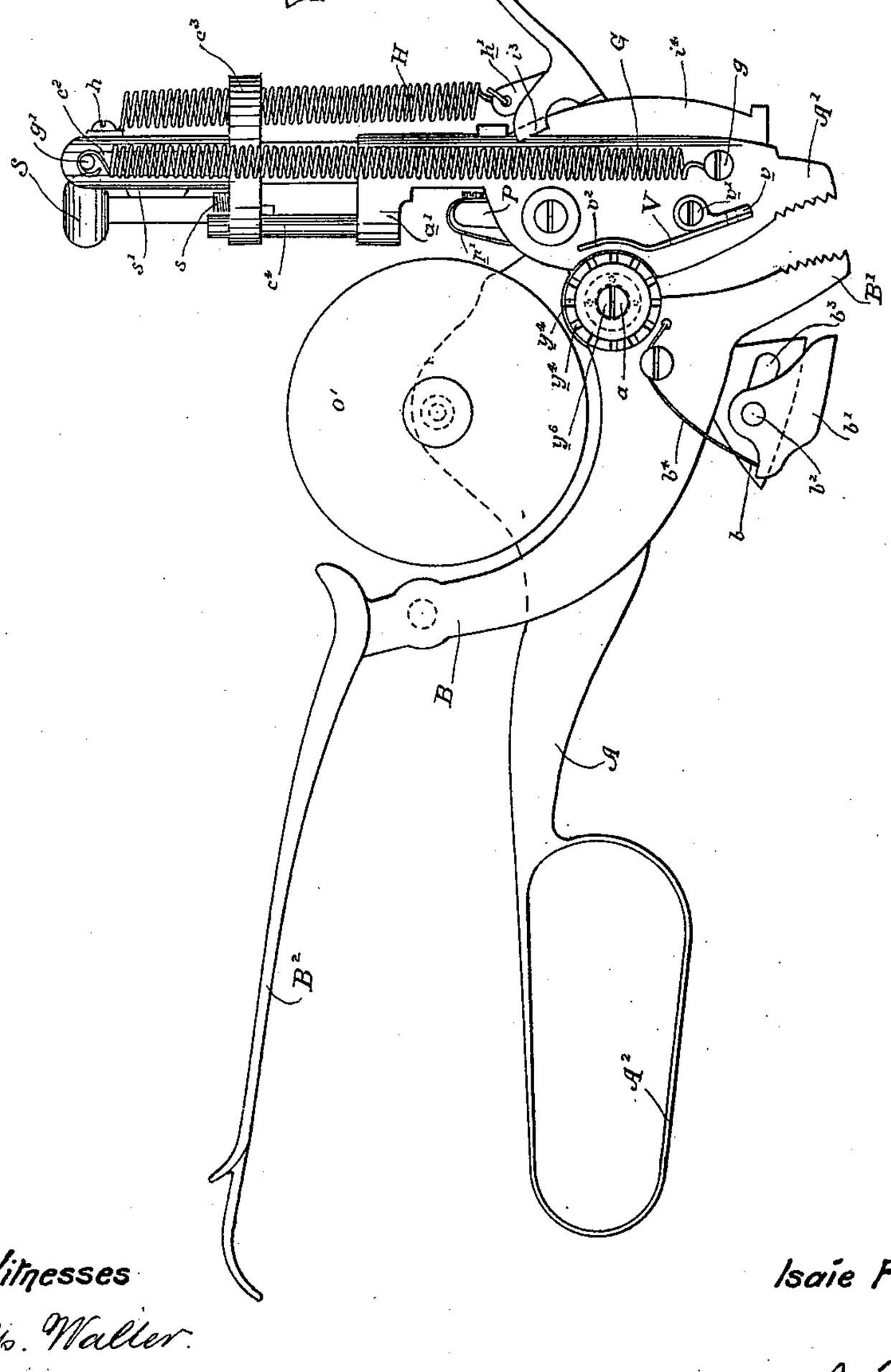


FIG. 14

Witnesses

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(No Model.) 6 Sheets—Sheet 6.

I. FRÉCHETTE.

HAND LASTING TOOL.

No. 594,241. Patented Nov. 23, 1897.

FIG. 17.

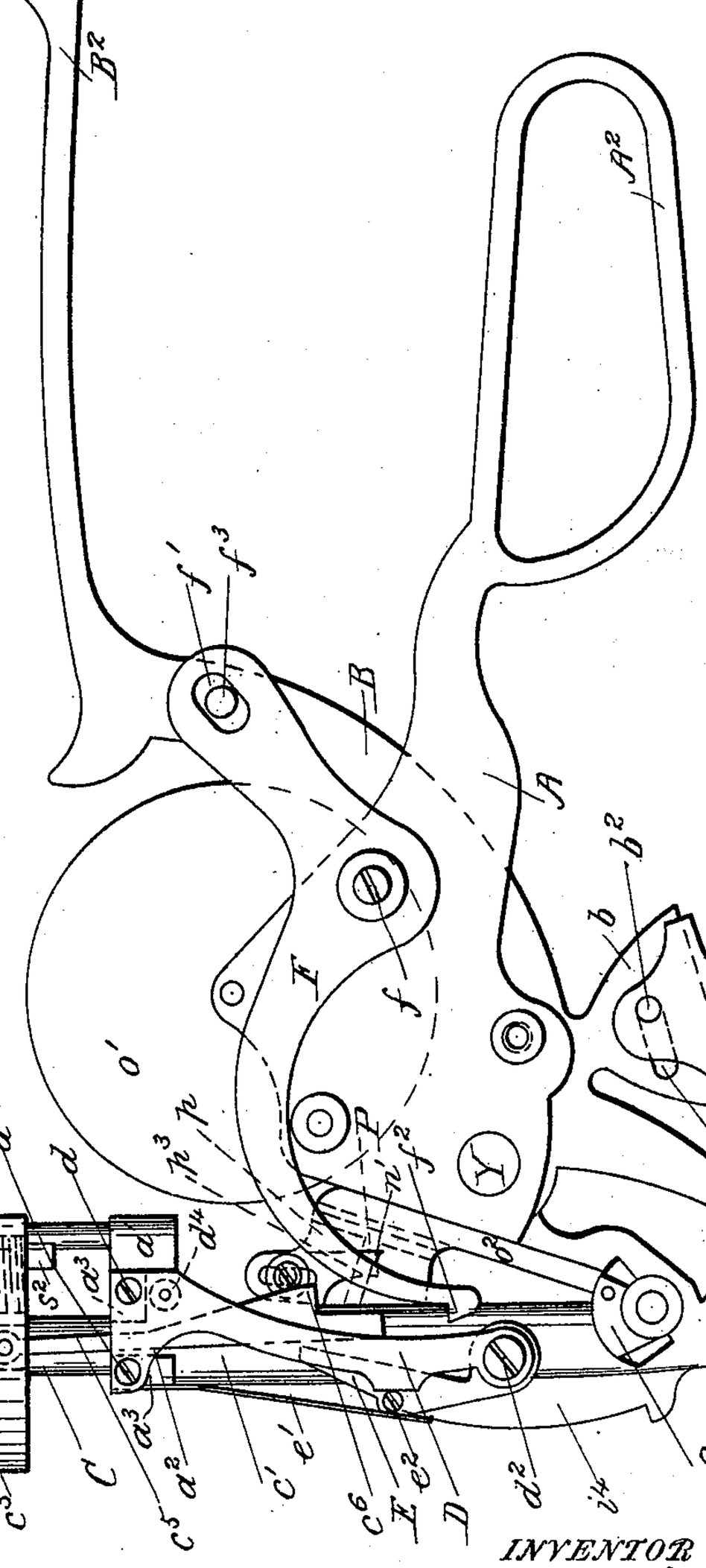
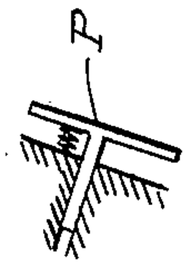


FIG. 18.



WITNESSES

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Attorney

UNITED STATES PATENT OFFICE.

ISAÏE FRÉCHETTE, OF MONTREAL, CANADA.

HAND LASTING-TOOL.

SPECIFICATION forming part of Letters Patent No. 594,241, dated November 23, 1897.

Application filed January 28, 1897. Serial No. 621,092. (No model.)

To all whom it may concern:

Be it known that I, ISAÏE FRÉCHETTE, a citizen of the Dominion of Canada, residing at the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in Hand Lasting-Tools; and I do hereby declare the following to be 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.

This invention relates to hand lasting-tools; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of the lasting-tool, showing the jaws open. Fig. 2 is a side view showing the jaws closed and the lever I depressed. Fig. 3 is a detail side view of the device for regulating the stroke of the nail-driver. Fig. 4 is a cross-section taken on the line X X in Fig. 3. Fig. 5 is a side view of parts of the lasting-tool, showing the nail-driver in its raised position; and Fig. 6 is a front view of the same. Fig. 7 is a detail front view of the device for nailing the heel when in its lowest position. Fig. 8 is a side view showing portions of the feed mechanism. Fig. 9 is a side view of the device for regulating the feed, drawn to a larger scale. Fig. 10 is a detail side view of the adjustable lever M and the parts coöperating with it. Fig. 11 is a vertical section through the guide for the plunger of the nail-driver, showing the nail-driver raised. Fig. 12 is a similar view showing the nail-driver depressed. Fig. 13 is a plan view of the nail-cutter. Fig. 14 is a side view of the lasting-tool, showing the opposite side of it from that shown in Fig. 1. Fig. 15 is a detail plan view of the pivot-pin for the jaws. Fig. 16 is a detail side view of the device for holding down the leather on the heel when in its lowest position. Fig. 17 is a side view of the principal parts of the lasting-tool with the feed mechanism removed. Fig. 18 is a detail view of the shoe P.

A and B are two levers provided with jaws A′ and B′ and handles A^2 and B^2. These levers are pivotally connected by a pin Y. A spring y encircles the pin Y and is inclosed in a hole in the lever B. One end of the spring y engages with a hole in the lever A and its other end is secured to the disk y'. The disk y' is provided with a projection y^2, which engages with slots y^4, the tension of the spring being adjusted by turning the disk before securing the disk in position. A screw y^6 is provided for holding the disk in position. A washer y^5 is secured to the said disk.

The lever B has a lug b on its under side, which is provided with a slot b^3. A shoe b' is slidable upon the lug b, and b^2 is a pin which passes through the shoe and is slidable in the said slot. The shoe is slidable on the lug, and b^4 is a spring (see Fig. 14) which presses the shoe away from the jaws. The under surface of the shoe serves as a fulcrum, which rests on the inner sole when the edge of the upper is gripped between the jaws and the handles are pressed downward, so as to stretch the leather. The lug b slides backward in the shoe when the tool is pulled backward to stretch the leather. The shoe b' can also be used as a hammer.

The lever A is provided with a socket c', in which a plunger C is free to slide vertically. The plunger C carries a steel nail-driver c at its lower end, which slides in a hole q in the jaw A′. The upper part of the plunger is provided with a flange c^3 and an extension c^2 above the flange. A guide-rod c^4 is secured in the lug a' on the upper part of the socket c', and the said flange is provided with a hole which slides over the said guide-rod. A lifter-bar c^5 is pivoted by a pin in a hole in the flange c^3, so that it can oscillate back and forth, and this lifter-bar is provided with a shoulder c^6 on its rear side. The lifter-bar slides vertically in a guide a^2 on the lever A between the lugs a^3.

D is a curved plate the upper end of which is secured to the said lugs by the screws $d\,d'$ and which forms a cover for the guide. The lower end of the plate D is secured to the lever A by a screw d^2.

E is a pawl which is pivoted on the pin d^2 and which is pressed against the lifter-bar by a spring e'. The spring e' is secured to the screw d', and its free end bears against the projection e^2 on the pawl.

G is a spring secured to the lever A by a pin g and to the upper part of the plunger C by a pin g' and passes through a hole in the flange of the plunger.

F is the lever for raising the plunger. This lever is pivoted to the lever A by a pin f, and it is provided with a slot f', with which a pin

f^3 on the lever B engages, so that the hooked end f^2 of the lever F is raised when the handles are pressed toward each other. The said hooked end engages with the shoulder c^6 and raises the lifter-bar and plunger. A roller d^4 is journaled in the guide under the screw d, and when the lifter-bar is raised its inclined rear side bears against this roller. The roller forces the lifter-bar forward, so that its lower end slips onto the top of the pawl and the shoulder disengages itself from the hooked end of the lever F. The pawl is prevented from being moved backward too far by the projection e^2, which rests against the curved plate D. When the plunger is thus raised and supported by the pawl, the jaws can be moved back and forth and the tool can be used for stretching the leather without affecting the said plunger.

The stroke of the plunger is regulated by means of the thumb-screw S, which has a flat stem. This thumb-screw has screw-threads s, which engage with the flange on the plunger, and it is held in position by a spring s', which is secured to the extension of the plunger and bears against the said flat stem. The lower end of the thumb-screw has an eccentric projection s^2. When the thumb-screw is turned so that the projection will strike the lug on the top portion of the socket c', the stroke of the plunger is shortened, but when the projection descends clear of the said lug the full stroke of the plunger is assured. The change between short stroke and long stroke is effected by a partial turn of the thumb-screw, and the length of the short and long strokes can be regulated by turning the thumb-screw.

In nailing the uppers around the heel portions of the inner soles it is not necessary to stretch the leather by means of the jaws, and a presser-piece V is provided. The presser-piece V is pivoted by a pin v to a lug v' on the jaw A', and it is provided with curved ends v^2 for holding the upper firmly down over the heel. When in use, this piece V is folded down below the jaws, as shown in Figs. 7 and 16, but when not in use it is folded up, as shown in Figs. 6 and 14.

The lasting-nails O are formed continuous with each other and are wound upon a reel o', which is journaled on a pin projecting from the lever A. These nails pass down the guide o^2 in the lever A and are pressed against the upper part of the said guide by the T-shaped shoe P. (See Figs. 9 and 18.) A block p is secured in a chamber in the said lever adjacent to the said guide, and the part p^3 of the shoe P is slidable in a hole in the said block. A spring p' is secured to the said block and presses the shoe against the nails.

N is the feed-pawl, which is pivoted to the adjustable arm m'. The arm m' is carried by the lever M, which is pivoted on a pin i, projecting from the lever A. The arm m forms an extension of the lever M, and it is pivoted to it by the pin m^2. The arm m' has a curved slot m^3, and m^4 is a screw which passes through the said slot and secures the said arm after its position has been adjusted to make the point of the feed-pawl descend to the exact position required. The point of the feed-pawl is pressed into engagement with the nails by a spring n, attached to the said pawl and to a projection on the lever M. The feed-pawl is prevented from being raised too high by means of a stop-plate n', arranged in its path and secured to the block p. This stop-plate is adjustable and has a slot through which its clamping-screw is passed for securing it to the said block.

I is a lever which is pivoted to the lever A by the pin i and is provided with a handle i' for operating it.

H is a spring the upper end of which is secured to the extension of the plunger C by the screw h. The lower end of the spring H is secured to the lug h' on the lever I, and the spring holds the said lever in its raised position. A jaw i^3 is formed on the lever and slides upon the guide-rib i^4, which projects from the lever A. A tappet i^6 projects from the lever I and strikes the projection e on the pawl E just before the lever I is pressed down to its lowest position. This tappet pushes the pawl from under the lifter-bar and permits the descent of the plunger.

K is a toothed segment pivoted on the pin i and gearing into the toothed segment L, which is pivoted on a pin projecting from the lever A. The segment K has a slot with which a pin k, projecting from the rear end portion i^5 of the lever I, engages. The segment L carries a roller l, which bears against the upper side of the front end portion l' of the lever M and depresses it when the lever I is pressed down by hand. A spring m is provided for connecting the rear end portions of the levers I and M. When the lever I is raised by the spring H, the spring m raises the front end of the lever M, together with the feed-pawl N, and the feed-pawl engages with another nail.

J is a lever which is pivoted to the lever A and has a cutter Q secured on its side. The cutter Q works in a recess in the jaw A' and cuts off the nails, as shown in Fig. 12. The lever I has a projection i^2, (shown in dotted lines in Figs. 2 and 8,) which engages with a projection j on the lever J and turns the cutter back to the position shown in Fig. 11, when the lever I rises and leaves it in that position, the projection on the lever I continuing its upward course. When the lever I is depressed, the projection i^2 engages with an arm or projection j' on the lever J and operates the cutter, so as to cut off a nail, as shown in Fig. 12. As soon as the nail is cut off by the cutter the driver c strikes its head, and the continued downward movement of the plunger C drives in the nail down the channel q into the leather.

The lever J has a slight projection j^2 on its front side, and j^3 is a spring secured to the

lever A and bearing on the said projection, so as to provide a slight frictional resistance to the movements of the said lever and cutter.

R is a stop depending from the flange c^3. When the plunger descends, the stop R passes behind the tappet i^6 and remains in its upward path, as shown in Fig. 1, so that the feed-pawl cannot be raised until after the plunger has been raised by the lever F, so as to raise the stop R.

What I claim is—

1. In a lasting-tool, the combination, with two pivoted levers provided with jaws, one of the said levers having a lug on its under side; of a shoe slidable on the said lug, means for connecting the said lug and shoe, and a spring operating to press the shoe away from the said jaws, substantially as set forth.

2. In a lasting-tool, the combination, with a lever A provided with a socket, and a nail-driving plunger slidable therein; of a lifter-bar pivoted to the said plunger, a retractable spring-pressed pawl for sustaining the said lifter-bar, and a plate secured to the said socket for the said pawl to rest against, substantially as set forth.

3. In a lasting-tool, the combination, with a lever A provided with a socket, and a nail-driving plunger slidable therein and provided with a projecting flange; of a thumb-screw engaging with the said flange and provided with an eccentric projection on its lower end for limiting the stroke of the plunger, and a spring bearing against the stem of the said thumb-screw and holding it steady, substantially as set forth.

4. In a lasting-tool, the combination, with two pivoted levers provided with jaws, one of the said levers being provided with a lug v'; of a foldable presser-piece V pivoted to the said lug crosswise of the said jaws and provided with curved ends for holding the upper down on the heel when turned downward so as to project below the said jaws, substantially as set forth.

5. In a lasting-tool, the combination, with a pivoted lever A provided with a guide for the lasting-nails; of a block secured in a recess in the said lever in front of the said guide, and a spring-pressed shoe slidable in the said block and pressing the nails against the said guide, substantially as set forth.

6. In a lasting-tool, the combination, with a pivoted lever A; of a lever I, for operating the nail-feed, pivoted to the said lever and provided with a jaw which slides upon a curved guide-rib on the said lever and prevents the lever I from being displaced laterally, substantially as set forth.

7. In a lasting-tool, the combination, with a pivoted lever A provided with a socket, and a nail-driving plunger slidable in the said socket; of a lever I, for operating the nail-feed, pivoted to the said lever, and a spring connecting the lever I with the upper part of the said plunger, substantially as set forth.

8. In a lasting-tool, the combination, with a pivoted lever A; of an oscillatory nail-cutter journaled in a recess in the said lever, a lever I, for operating the nail-feed, pivoted to the lever A, and a lever J secured to the said nail-cutter and operatively connected with the said lever I, substantially as set forth.

9. In a lasting-tool, the combination, with a pivoted lever A provided with a socket, and a spring-pressed plunger slidable in the said socket and provided with a lifter-bar; of a pawl provided with a laterally-projecting pin said pawl being pivoted to the said lever and sustaining the lifter-bar, and a lever I pivoted to the lever A below the said pawl and provided with an upwardly-projecting tappet arranged to strike the said pin and push the said pawl from under the lifter-bar, thereby permitting the plunger to descend, substantially as set forth.

10. In a lasting-tool, the combination, with a lever A, and a lever M pivoted to the lever A and provided with means for feeding the nails; of a lever I pivoted concentric with the lever M, a toothed segment K pivoted concentric with the lever I and operatively connected to it, and a toothed segment L pivoted to the lever A in gear with the segment K and provided with a roller bearing on the upper side of the lever M, substantially as set forth.

11. In a lasting-tool, the combination, with a lever A, and a lever M pivoted to the lever A and provided with means for feeding the nails; of a lever I pivoted concentric with the lever M, and a spring connecting the levers I and M and constraining the lever M to rise with the lever I, substantially as set forth.

12. In a lasting-tool, the combination, with a lever A provided with a socket, a spring-pressed plunger slidable therein, and a nail-cutter pivoted in a recess in the said lever under the said plunger; of a lever J secured to the said cutter and provided with projections, and a lever I pivoted to the lever A and provided with a projection engaging with the said projections on the lever J, substantially as set forth.

13. In a lasting-tool, the combination, with a lever A provided with a socket, and a spring-pressed plunger slidable therein and provided with a depending stop R; of mechanism for feeding the nails, and a lever I pivoted to the lever A and operatively connected to the said nail-feed mechanism, the said lever I being provided with a tappet which passes under the stop R when the lever I is depressed and prevents the nail-feed mechanism from being operated until the said plunger is raised, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ISAÏE FRÉCHETTE.

Witnesses:
JAMES LAURIN,
H. DURIER.