

No. 701,731.

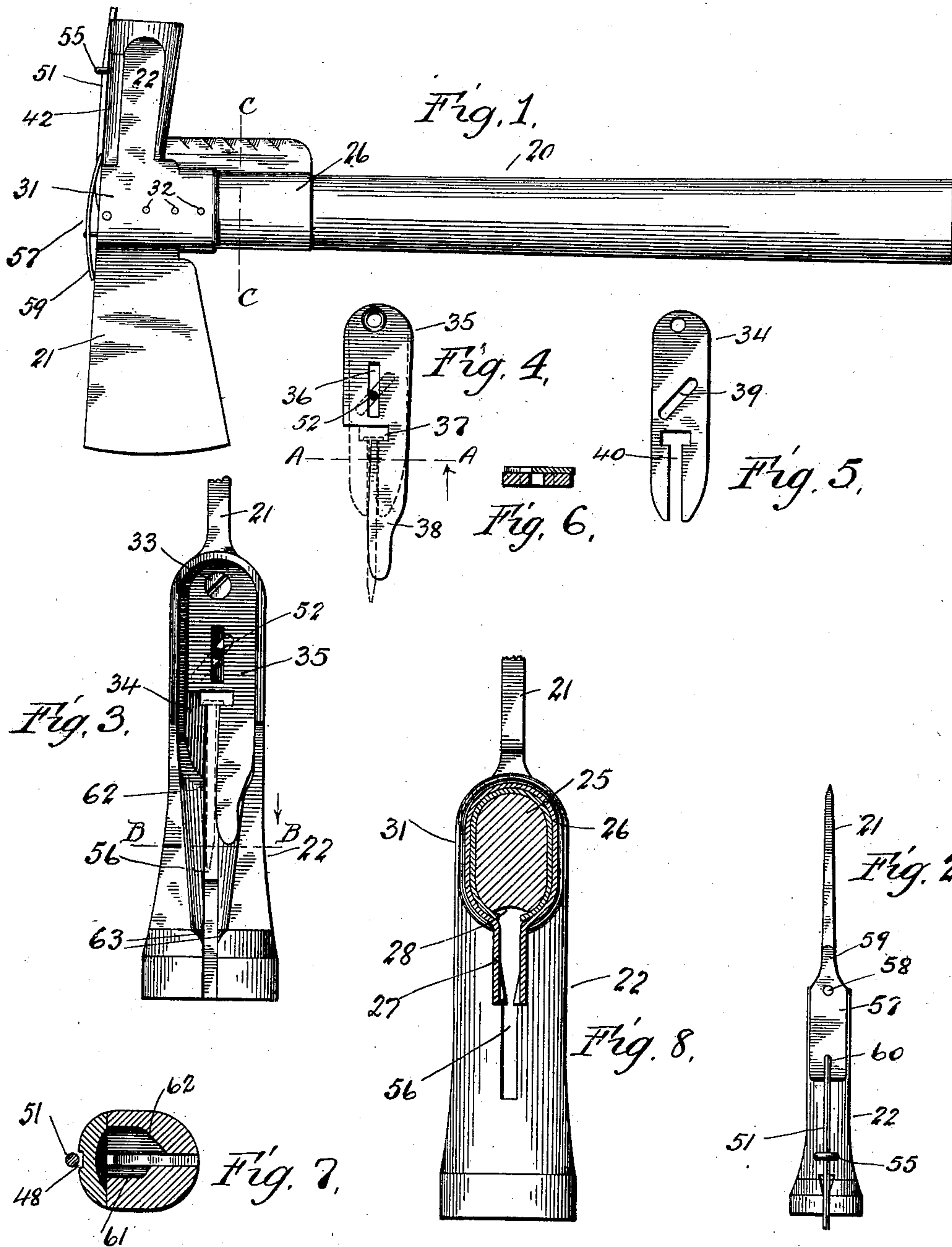
Patented June 3, 1902.

W. JACOBY.
MAGAZINE HAMMER.

(Application filed May 7, 1901.)

(No Model.)

2 Sheets—Sheet 1.



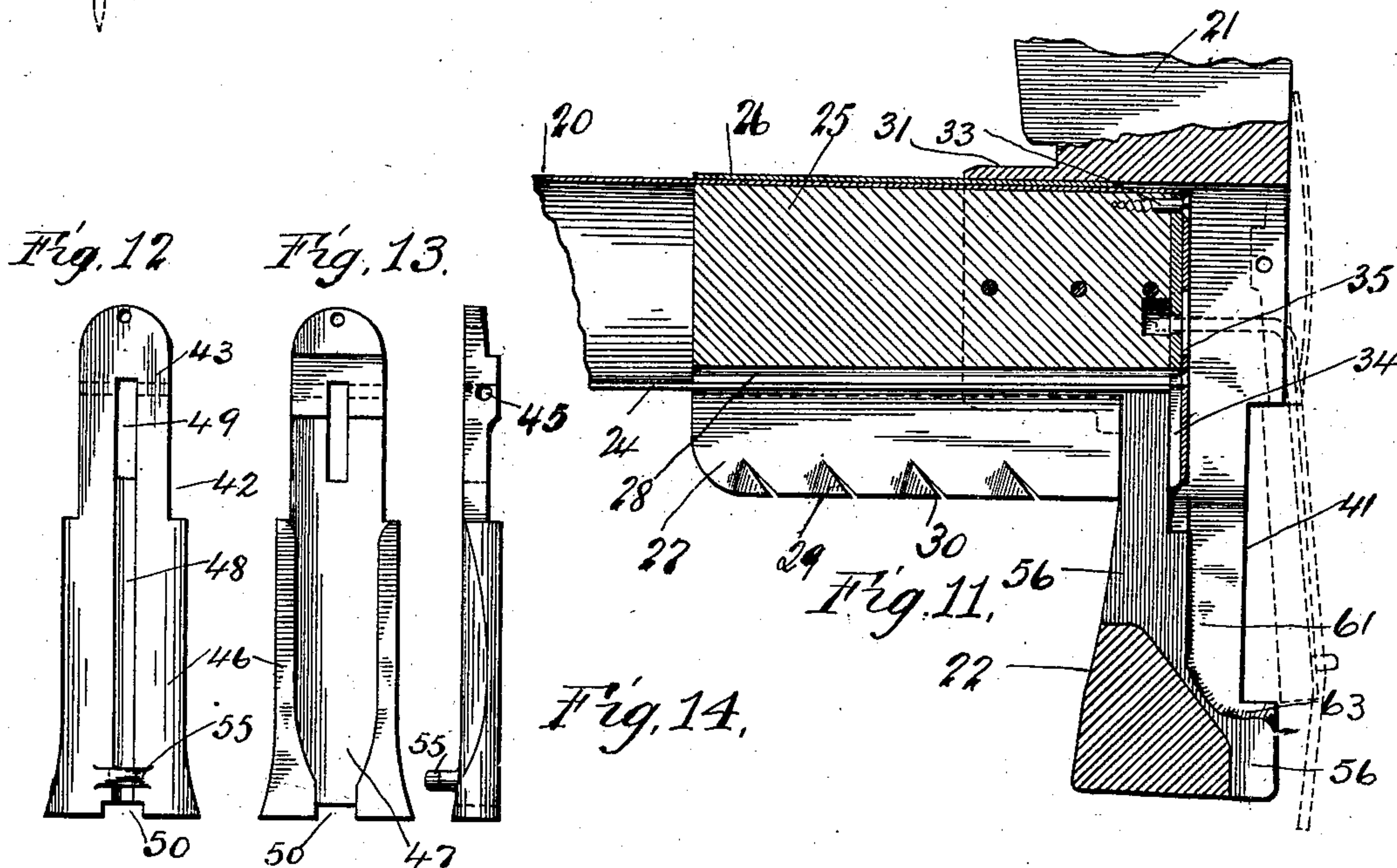
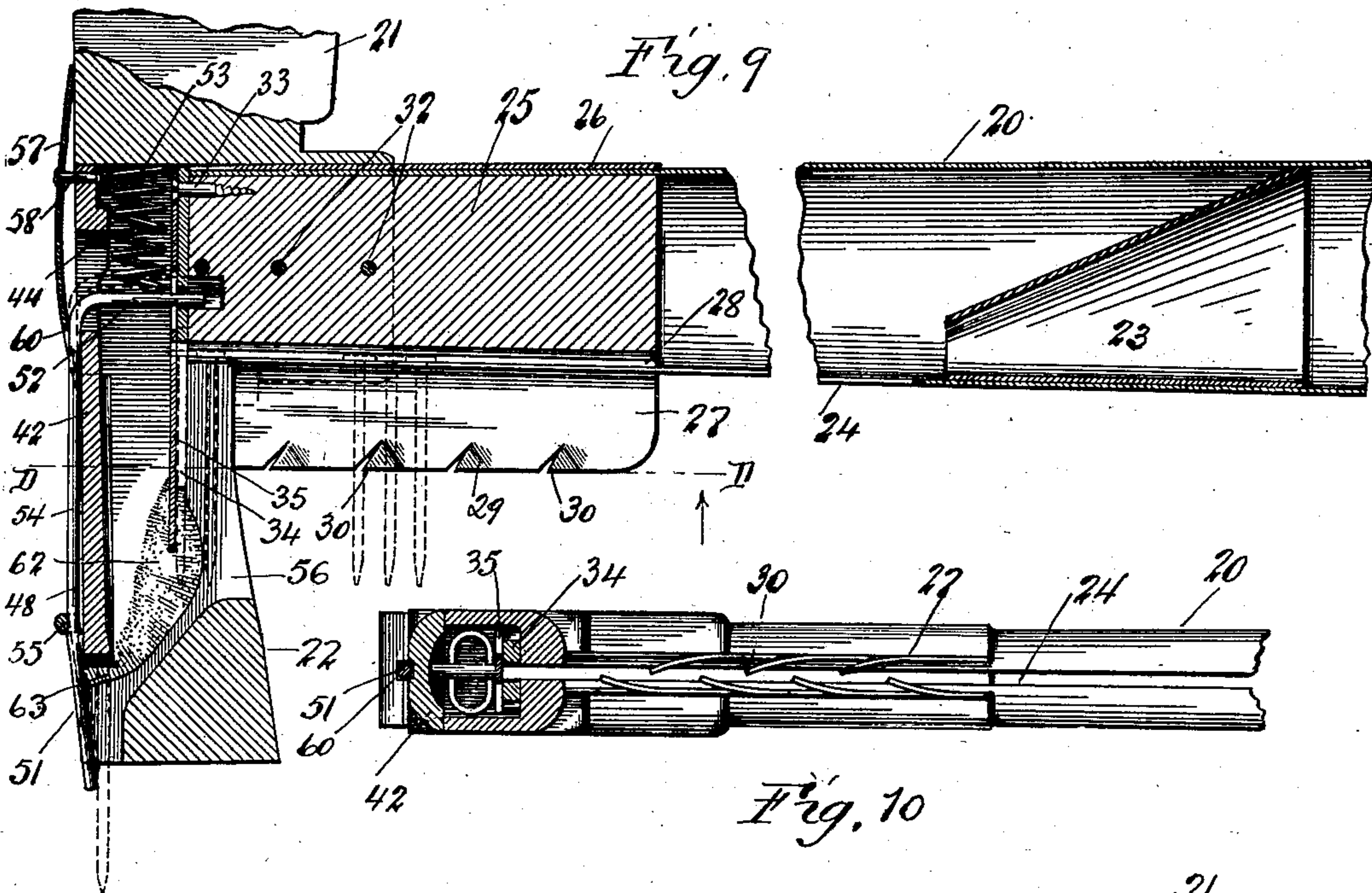
Witnesses:
Nelson Hurlburt.
R. S. Blenage.

Inventor:
William Jacoby
By Cohen, McRoberts & McElroy Attys

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Inventor:
William Jacoby,
Colum, (Mc Roberts & Mc Elroy,
By Attys.

UNITED STATES PATENT OFFICE.

WILLIAM JACOBY, OF FULDA, MINNESOTA, ASSIGNOR OF SEVENTEEN-TWENTIETHS TO JOHN E. SNYDER, PHILO SNYDER, AND JAMES A. WILSON, RESIDING IN OR NEAR FULDA, MINNESOTA, AND MATHIAS REDLINGER, OF FREEPORT, ILLINOIS.

MAGAZINE-HAMMER.

SPECIFICATION forming part of Letters Patent No. 701,731, dated June 3, 1902.

Application filed May 7, 1901. Serial No. 59,076. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JACOBY, a citizen of the United States, residing at Fulda, Murray county, Minnesota, have made certain new and useful Improvements in Magazine-Hammers, of which the following is a specification.

My invention relates to that class of hammers which are adapted to contain a plurality of nails and to present them to the point where they are to be driven, so that they can be driven with one hand and without the necessity of holding the nail with one hand while the hammer is being applied to it by the other hand.

My invention is designed to produce a hammer of this class which shall be purely automatic in its action and which shall as soon as one nail is driven present another ready to be driven without the necessity of manually operating a trigger or turning the hammer, as has been necessary in all such devices with which I am acquainted prior to my invention, so that the object of my invention, broadly stated, is to produce a purely automatic magazine-hammer that will present a fresh nail in position to be driven as soon as the preceding nail has been completely driven.

To illustrate my invention, I annex hereto two sheets of drawings, in which the same reference characters are used to designate identical parts in all the figures, of which—

Figure 1 is a side elevation of a hammer containing my invention. Fig. 2 is an end elevation of the same. Fig. 3 is a similar view, but on a larger scale and with the swinging piece removed. Fig. 4 is a front elevation of the guard-piece detached and with the escapement-lever 34 shown back of it in dotted lines in the other position from that shown in Fig. 3. Fig. 5 is a detached view of the escapement-lever. Fig. 6 is a cross-section on the line A A of Fig. 4. Fig. 7 is a section on the line B B of Fig. 3. Fig. 8 is a sectional view on the line C C of Fig. 1. Fig. 9 is a central section longitudinal of the hammer and the handle. Fig. 10 is an inverted plan view on the line D D of Fig. 9. Fig. 11

is a central longitudinal section looking in the opposite direction from Fig. 9 and with the swinging piece shown in dotted lines and in the position it assumes when the driven nail escapes from the hammer; and Figs. 12, 13, and 14 are front, rear, and side elevations, respectively, of the swinging piece.

Of the figures, Figs. 1 and 2 are on one scale and the remaining figures are on a larger scale.

As seen in Fig. 1, my invention is in the general form of a lathing-hatchet in which the handle 20 carries the hatchet portion consisting of a blade 21 and the hammer-head 22. The handle 20 is hollow and is preferably made of sheet metal, as seen in cross-section in Fig. 8 and in longitudinal section in Figs. 9 and 11. The handle 20 has located in its interior the metallic funnel-like piece 23, which compels the nails as they are dropped into the open end of the handle to arrange themselves longitudinally thereof as they pass through said funnel, so that their points will fall through the elongated slot 24, formed in the under side of the handle, and assume the position shown in dotted lines in Fig. 9. This handle has secured in its inner end the block of wood 25 and has secured on the outside thereof the sleeve 26, which is of sheet metal bent to conform to the shape of the handle, except that its lower portion is open and has the two downwardly-projecting flanges 27, which form a passage-way for the body of the nails, the heads of which are held above the slot 24, which is only wide enough to permit the passage of the body portions of the nails. The channel 28, formed in the under surface of the block 25 above the slot 24, is of the right size to receive the heads, and thereby hold the bodies of the nails substantially vertical to the axis of the handle. To prevent the nails sliding backward when the hammer is raised, I make the incisions 29 in the bottom of the flanges 28, which incisions preferably extend rearward, and then bend the points 30 thus formed inwardly, thereby producing a series of ratchets which permit the forward movement of the nails, but which

absolutely prevent any backward movement, so that if the hatchet is filled with nails, as shown in dotted lines in Fig. 9, as it is raised the nails are compelled to remain in the same relative position in the hatchet. The blade 21 and the hammer-head 22 are connected by the flattened cylindrical body portion 31, which is of the proper size to receive the block 25, surrounded by the inner end of the handle 20 and of the sleeve 26, all of which parts are permanently secured together, as by the rivets 32, passing through said parts. The block 25, as seen in Figs. 9 and 11, terminates a little bit short of the center of the hammer portion and has pivotally mounted on the end thereof, as by the screw 33, the escapement-lever 34, which is of the shape shown in Fig. 5. The body portion 31 has the recess, in which the handle is placed, extending entirely through it, and this recess is, as best shown in Figs. 3, 9, and 11, extended down into the hammer-head 22, so that the escapement-lever 34 can swing about its pivot to a limited extent. Secured just in front of the escapement-lever 34 is the co-operating guard-piece 35, which is also secured by the screw 33 and which is held from movement preferably by being so shaped as to conform to the cross-section of the upper portion of the recess in which it is mounted. It has the elongated vertical slot 36 therein and the horizontal recess 37 on the side thereof, and the body portion is cut away below this recess 37, so as to form the finger 38 along one side thereof. The escapement-lever 34 has the elongated diagonal slot 39 therein and is also provided with the T-shaped recess 40 in the bottom thereof, the head of the T being located directly in line with the recess 37 of the guard-piece 35. The hammer-head 22 has cut in the face thereof the rectangular recess 41, (best shown in Fig. 11,) which receives the swinging piece 42. (Shown in Figs. 12 to 14.) This swinging piece has its upper end 43 shaped to fit in the recess of the body portion and is pivoted to swing therein by means of the rivet 44, passing through suitable apertures in the sides of the body-piece and through the aperture 45 in the top of the swinging piece. The lower portion 46 of the swinging piece is shaped so as to fill the recess 41 and to leave the outside of the edge in substantially the shape of an ordinary hammer-head. The inner face is channeled, as seen at 47 in Fig. 13, and its outer face preferably has the channel 48 therein opening into the elongated vertical slot 49 at the upper end and into the shallow recess 50 at the lower end. The releasing-trigger 51 consists of a wire having the horizontal portion 52 extending through the recess 49 and beneath the coiled expanding-spring 53, housed in the recess above it and tending to hold the trigger in its lowermost position. The end of this horizontal portion 52 passes through the slot 36 in the guard-piece and into the slot 39

in the escapement-lever 34. The substantially vertical portion 54 of the trigger 51 lies in the channel 48 and is held therein by the staple 55, formed on or secured to the outer face of the swinging piece 42. The lower end of the releasing-trigger preferably extends into the channel 56, which forms a continuation of the recess in the hammer-head and extends therethrough and is of a thickness slightly greater than the width of the body of the nail. To hold the upper end of the releasing-trigger 51 in its proper position, as well as hold the swinging piece 42 in position, I employ the bent leaf-spring 57, which is shown in Fig. 2 and which is secured to the swinging piece 42 at its upper end by the pin 58. The shape of this spring 57 is such that it corresponds to the outline of the adjacent part of the hammer or hatchet upon which it rests, and it has the tongue 59 resting against the blade 21, and at its lower end it has the recess 60, through which the vertical portion 54 of the releasing-trigger 51 passes. It will be apparent that with this shape of the spring 57 thus secured to the hammer the swinging piece 42 can be swung out to the dotted-line position of Fig. 11 against the resistance of the spring 57, which tends to return it to its normal position. In case any adjustment of the parts is necessary the spring 57 can be bent so as to release the trigger 51 from the recess 60, after which the spring can be turned at right angles to its normal position, where it will be out of operation. The recess in the body-piece 31 and its continuation in the head 22 is connected with the channel 56 by the abrupt shoulder 61 on one side and by the inclined portion 62 on the other side.

The operation of the mechanism (it having been filled with nails, which are held in the position shown in dotted lines in Fig. 9, by pouring them into the open end of the handle held in a vertical position) is as follows: The innermost nail, as shown in dotted lines in Figs. 3, 4, and 9, will rest in the T-shaped recess 40 of the escapement-lever 34, its body portion being narrow enough to pass readily through the vertical portion of the recess and its head resting on the shoulders formed by the bottom of the horizontal portion of the recess. In this position one side of its head projects into the recess 37 in the guard-piece 35, while its body portion rests against its finger 38. With the parts in this position when a blow is struck in which the head of the hammer contacts with some surface (as occurs at the last blow when the driving of a nail is completed) the trigger 51 is forced up against the resistance of the spring 53 to the dotted-line position of Fig. 9, in which the end 52, passing up the vertical slot 36 and the inclined slot 39, forces over the escapement-lever 34 to the position shown in Fig. 3, where the nail is released from the guard-piece 35 and falls point first upon the inclined surface 62, which is shaped so as to guide the point of the nail into

the channel 56, and the body portion following it eventually comes to rest in the position shown in dotted lines at the bottom of Fig. 9, with the head resting upon the shoulders 63 (shown in Figs. 9 and 11) and with its body portion extending down through the lowermost portion of the slot or channel 56. This falling of the nail into position occurs as the hammer is raised after the blow that releases the nail, and gravity is assisted in its operation by the inertia of the nail as the hammer moves in the opposite direction, and the inertia of the nails also serves to bring the next one into position against the guard-piece 35 as the hammer is raised. The hammer is now brought down, with its head over the point where the nail is to be driven, and as the top of the head of the nail rests against that part of the bottom of the swinging piece 42 which forms the top of the recess 50 the nail is driven into the board a distance depending upon the strength of the blow, the amount being limited by the distance that the nail projects below the head of the hammer. The nail being partially driven into the board, as the hammer is raised the nail cannot follow it, and the piece 42 swings outward, as indicated by the dotted-line position in Fig. 11 against the resistance of the spring 57, and the nail is thus released from the hammer and held in its partially-driven position, where the next blow of the hammer will be sufficient to complete the driving if it is a small nail and release the next one to bring it into position as the hammer is raised for another blow.

The advantages of this device will be obvious. By means of it a workman can fill the magazine with nails and then drive them without having to hold them for the first blow, and he can also drive them in any direction, as the mechanism is so arranged that it works equally well for a downward drive, a horizontal drive, or an upward drive. Consequently the advantage of my device for lathing and similar uses will be apparent.

While I have shown my invention as embodied in the form which I at present consider best adapted to carry out its purposes, it will be understood that it is capable of wide modifications in the form and construction and operation of the elements and that I do not desire to be limited in the interpretation of the following claims except as may be necessitated by the state of the prior art.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a magazine-hammer, the combination with the driving-head, of a magazine terminating in said head, escapement mechanism in said head permitting the passage of a single nail to the driving-point, yielding means for holding the nail at the driving-point and permitting its partial driving while held thereby by one blow, and a trigger controlling said escapement mechanism, and automatically operated when the nail is driven home.

2. In a magazine-hammer, the combination with the driving-head, of a magazine terminating in said head, escapement mechanism in said head permitting the passage of a single nail to the driving-point, and a trigger controlling the operation of said escapement mechanism and projecting a very slight distance below the face of the hammer-head.

3. In a device of the class described, the magazine consisting of the channel 28 large enough to receive the heads of the nails, the slot 24 beneath the channel through which the bodies of the nails pass, and the walls 27 having the forwardly-pointing ratchet-teeth projecting inwardly.

4. In a magazine-hammer, the combination of the magazine-channel having its outer end closed by the pivoted escapement-lever and the guard-piece 35 extending longitudinally of the hammer-head, with the vertically-movable trigger 51 having one end projecting beyond the end of the hammer and its other end cooperating with said lever and guard-piece to operate the lever as the trigger is raised, and means for holding the escapement-lever normally in non-releasing position; substantially as described.

5. In a device of the class described, the combination of the magazine-channel having its outer end closed by the escapement-lever 34 having the inclined slot 39 therein, with the trigger having the end 52 projecting through the slot 36 in a guard-piece 35 into the slot 39 so as to swing the escapement-lever as the trigger is raised; substantially as described.

6. In a device of the class described, the combination of the magazine-channel having its outer end closed by the escapement-lever having the inclined slot 39 therein, and the guard-piece 35 having the vertical slot 36 therein, with the vertically-movable trigger 51 having one end projecting beyond the head of the hammer and its other end projecting beyond the slot 36 into the slot 39 so that the escapement-lever will be swung thereby as the trigger is raised; substantially as described.

7. In a magazine-hammer, the combination of the magazine-channel having its outer end closed by the escapement-lever 34 and the guard-piece 35 extending longitudinally of the head, with the vertically-movable trigger 51 having one end projecting beyond the end of the hammer and the other end cooperating with said lever to release the nail, and the spring holding said escapement-lever normally in its non-releasing position.

8. In a device of the class described, the combination of the magazine-channel having its outer end closed by the escapement-lever 34 having the inclined slot 39 therein, and the guard-piece 35 having the vertical slot 36 therein, with the vertically-movable trigger 51 having one end projecting beyond the head of the hammer and its other end 52 project-

ing at right angles from the body of the trigger through the slot 36 and into the slot 39, and the spring coöperating with said trigger to hold it normally in its non-releasing position.

9. In a device of the class described, the combination with the magazine-channel, of the swinging escapement-lever 34 closing the end thereof and having the T-shaped recess 40 therein, the stationary guard-piece having the recess 37 therein and the finger 38, and means for swinging said lever when it is desired to release a nail.

10. In a device of the class described, the combination of the magazine-channel having its outer end closed by the escapement-lever 34 and the guard-piece 35, with the vertically-movable trigger 51 having one end 52 projecting horizontally from the vertical body thereof and adapted to move said escapement-lever to release a nail, and the helically-coiled expanding-spring secured above the arm 52 and serving to hold it yieldingly in its inoperative position.

11. In a device of the class described, the combination with the head having the channel 56 therein and the shoulders 63 on which the head of the nail is adapted to rest as its body extends through the channel 56, of the swinging piece 42 having its lower end above the shoulders 63, and means for yieldingly holding it in its normal position.

12. In a device of the class described, the combination with the head having the channel 56 therein and the shoulders 63 on which the head of the nail is adapted to rest as its body extends through the channel 56, of the swinging piece 42 having its lower end above the shoulders 63, and means for yieldingly holding it in its normal position, consisting of the spring 57 coöperating with it below its pivotal point.

13. In a device of the class described, the combination with the head having the channel 56 therein and the shoulders 63 on which the head of the nail is adapted to rest as its body extends through the channel 56, of the swinging piece 42 having the recess 50 in the lower end of said piece just above the shoulders 63, and means for holding said swinging piece yieldingly in its normal position.

14. In a device of the class described, the combination of the hammer-head having the magazine-channel extending into it, the outer end of which is closed by the escapement-lever 34 and the guard-piece 35, the channel 56 extending through the head and having the shoulders 63 on which the head of the nail is adapted to rest as its body extends through the channel 56, with the swinging piece 42 having its lower end above the shoulders 63, means for holding it yieldingly in position, and the vertically-movable trigger carried by said swinging piece and having one end projecting beyond the head of the hammer and its other end adapted to move said

escapement-lever to release a nail; substantially as described.

15. In a device of the class described, the combination of the head having the channel 56 extending therethrough and provided at one portion with the shoulders 63 on which the head of the nail is adapted to rest as its body extends through the channel, the magazine-channel opening into the channel 56 at its upper end, and having its outer end closed by the escapement-lever 34 and the guard-piece 35, the swinging piece 42 having its lower end above the shoulders 63 and provided on its outer face with the channel 48 and the staple 55, the spring 57 and the trigger 51 having the body portion thereof extending along the channel 48 and through the staple 55 and the end 52 thereof serving to operate the escapement-lever to release the nail; all combined and coöperating substantially as and for the purpose described.

16. In a device of the class described, the combination with the head having the channel 56 therein and the shoulders 63 on which the head of the nail is adapted to rest as its body extends through the channel 56, of the swinging piece 42 having its lower end above the shoulders 63, means for holding it yieldingly in position, escapement mechanism for releasing the nails and the spring-pressed trigger mounted to slide in said swinging piece; substantially as described.

17. In a device of the class described, the combination with the head having the channel 56 therein and the shoulders 63 on which the head of the nail is adapted to rest as its body extends through the channel 56, of the swinging piece 42 having its lower end above the shoulders 63 and having the channel 48 therein, the recess 49 terminating the channel 48 at its upper end, the staple 55, means for holding said piece yieldingly in its innermost position, escapement mechanism for the nails, and the L-shaped spring-pressed trigger 51 having the body portion extending longitudinally of the channel 48 and its end projecting beyond the head of the hammer and its horizontal portion 52 projecting through the slot 49 and serving to operate the escapement mechanism; substantially as described.

18. In a device of the class described, the combination with the head having the channel 56 therein, the shoulders 63 for the purpose described, a recess above said channel; of the escapement mechanism in the upper end of said channel; and the yielding swinging piece having its lower end above the shoulders 63; said recess being so shaped as to cause a nail released from the escapement mechanism to slide down into position with its head on the shoulders 63.

19. In a device of the class described, the combination with the head having the channel 56 therein, the shoulders 63, a recess above said channel, the inclined surface 62 connecting said recess and said channel, of the escape-

ment mechanism in the upper end of said chamber adapted to discharge a nail point first on the inclined surface 62 and the yielding swinging piece having its lower end above the shoulders 63, said channel 56 extending downwardly from beneath the escapement mechanism, said channel and recess being so shaped as to cause a nail released from the escapement mechanism to slide down into position with its head

on the shoulders 63; substantially as described.

In witness whereof I have hereunto set my hand.

WILLIAM JACOBY.

Witnesses:

JOHN H. McELROY,
R. S. CLEMAGE.