

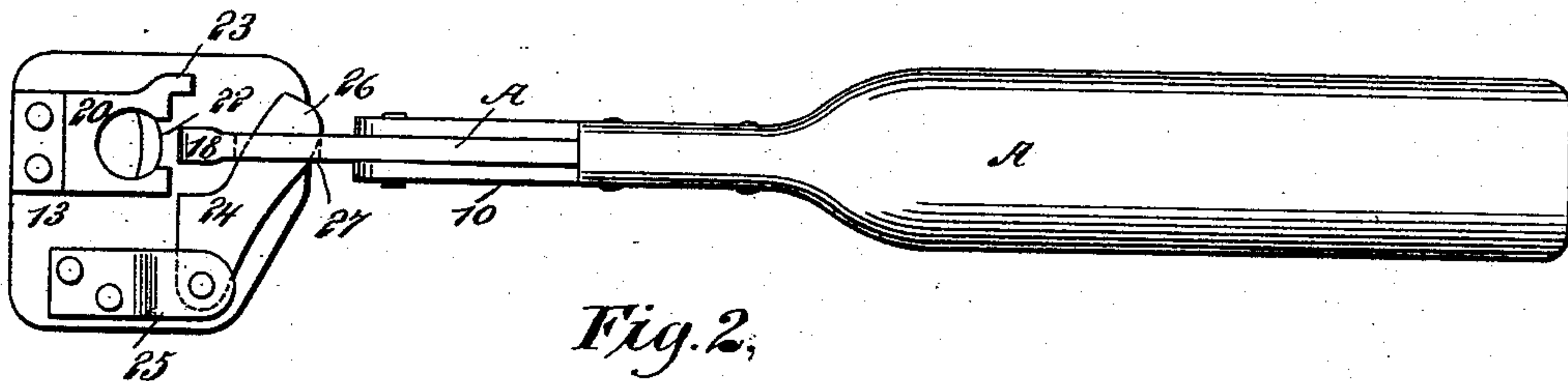
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P. C. FORRESTER.  
TOOL FOR BINDING METAL STRIPS.

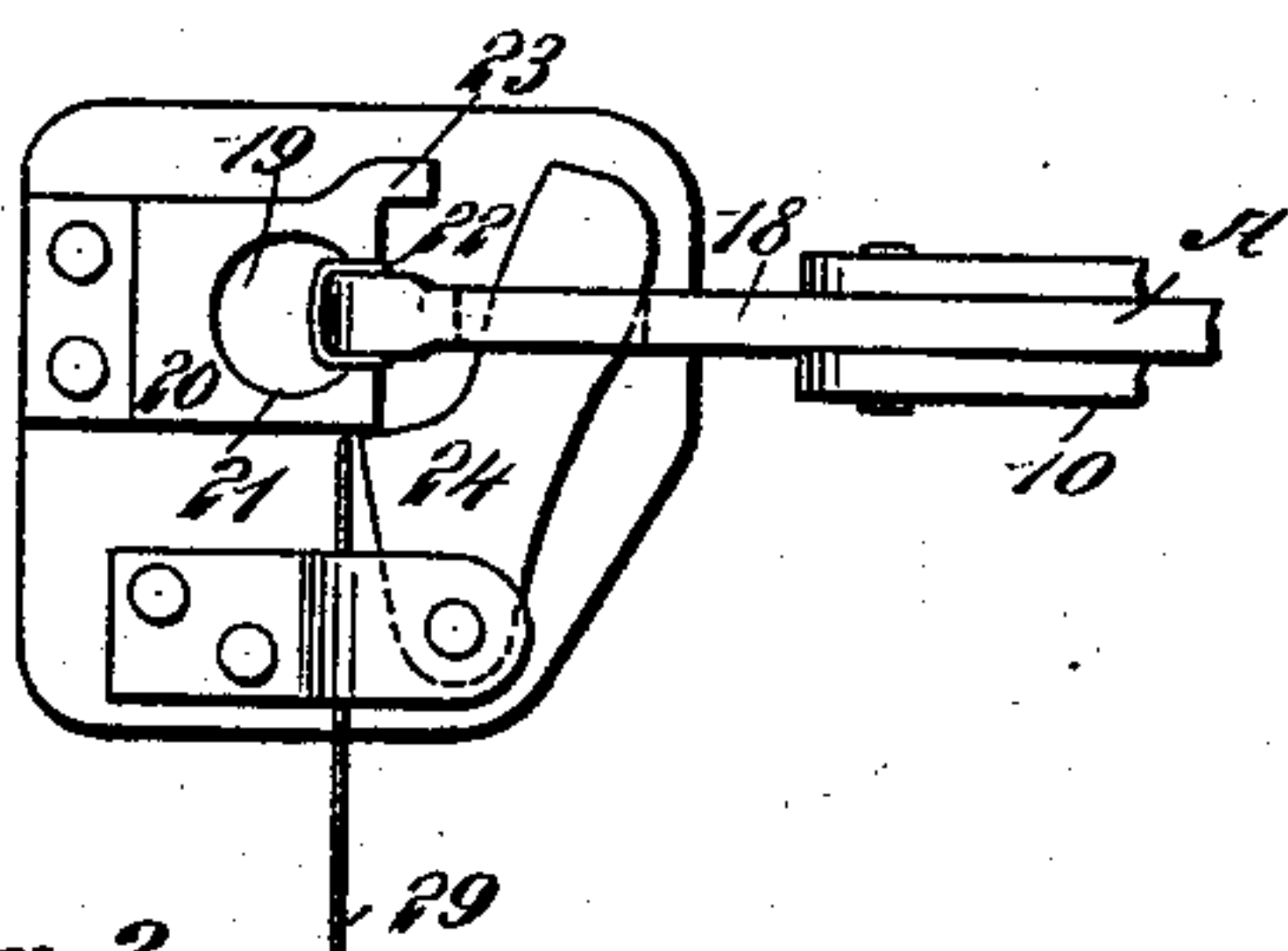
No. 543,234.

Patented July 23, 1895.

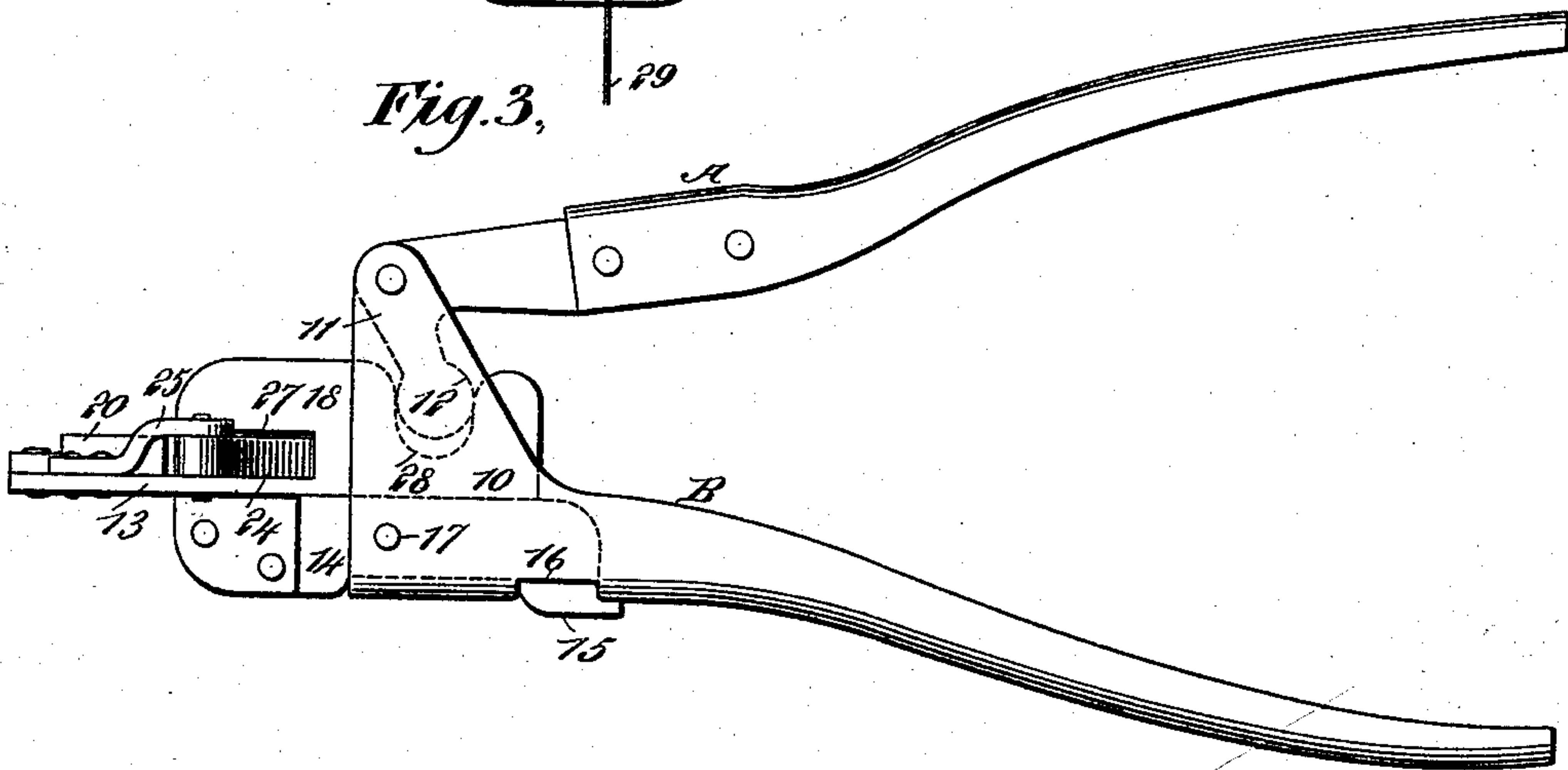
*Fig. 1,*



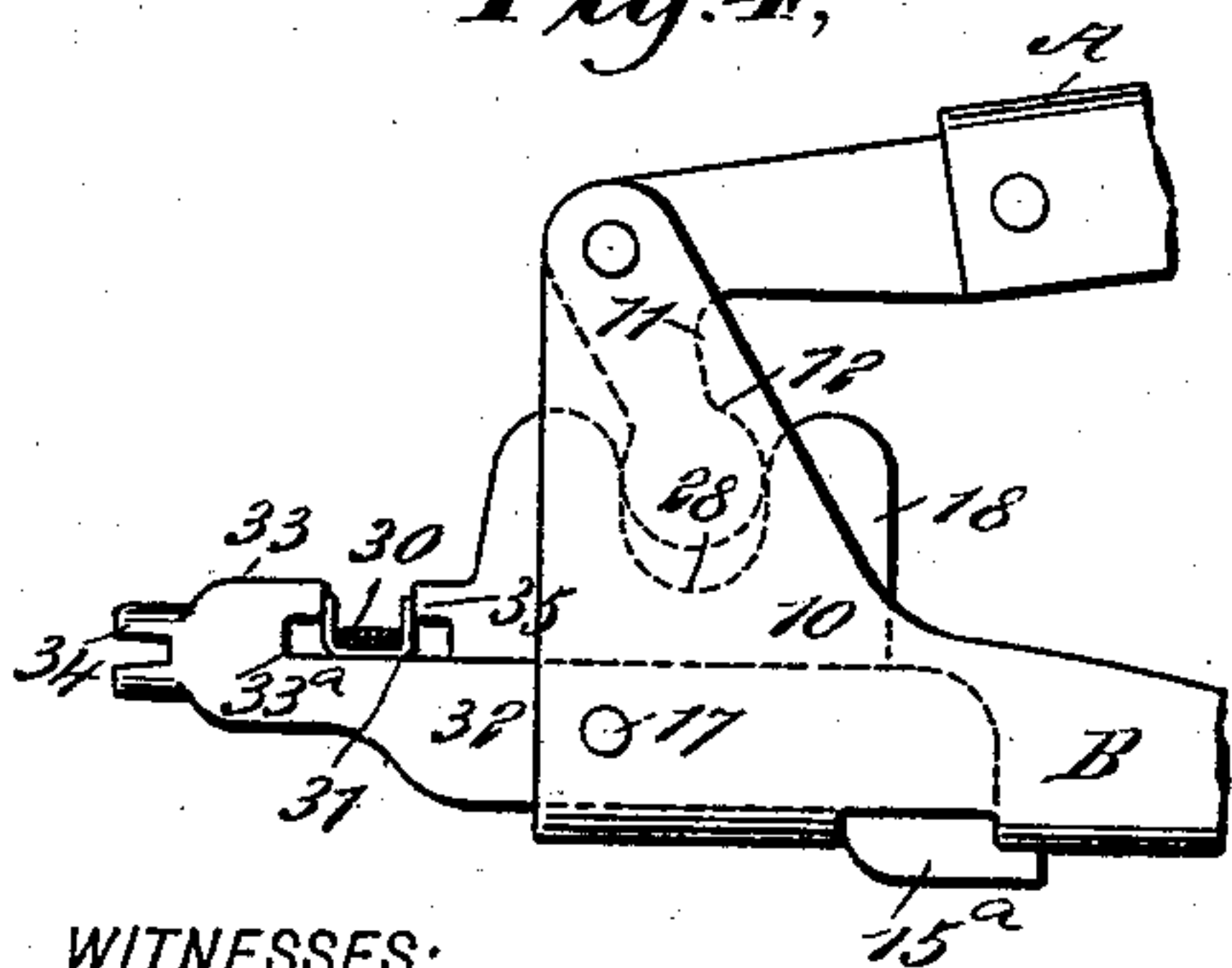
*Fig. 2,*



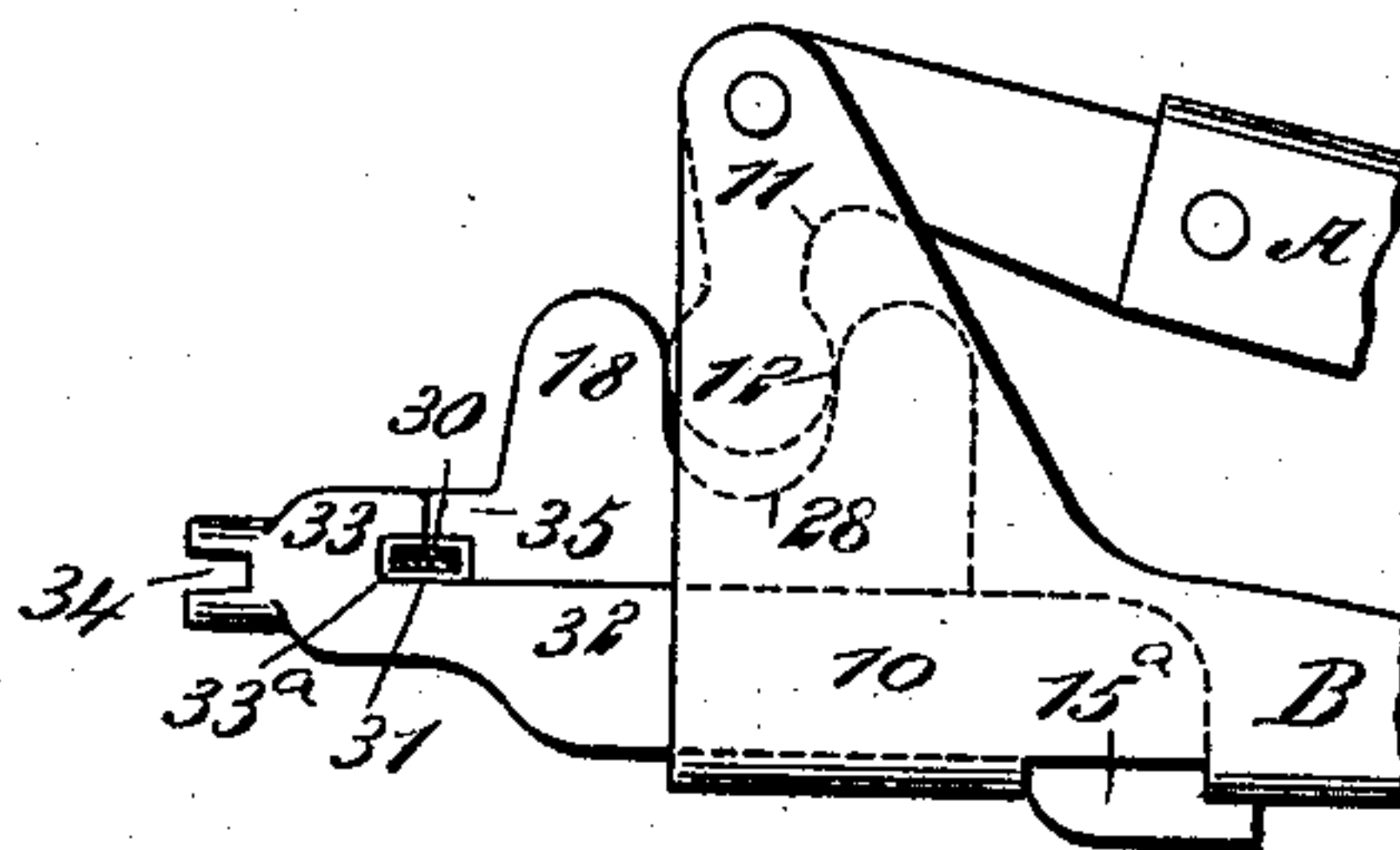
*Fig. 3,*



*Fig. 4,*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

PETER C. FORRESTER, OF LEAVENWORTH, KANSAS.

## TOOL FOR BINDING METAL STRIPS.

SPECIFICATION forming part of Letters Patent No. 543,234, dated July 23, 1895.

Application filed January 23, 1895. Serial No. 535,880. (No model.)

*To all whom it may concern:*

Be it known that I, PETER C. FORRESTER, of Leavenworth, in the county of Leavenworth and State of Kansas, have invented a new and Improved Tool for Binding Metal Strips, of which the following is a full, clear, and exact description.

My invention relates to a tool especially adapted for use in Venetian ironwork; and the object of the invention is to provide a tool by means of which clips may be cut and formed, and likewise to provide a means whereby the said clips may be expeditiously and conveniently bound around or clamped upon the ironwork to be treated, and, furthermore, to so construct the tool that it may be made to enter grooves, curves, scrolls, or any place in a piece of ornamental ironwork for the purpose of clamping two parts together through the medium of a clip or its equivalent.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the tool constructed to cut and form clips, the plunger being in its rear or receiving position. Fig. 2 is similar a view of the tool, the plunger being in the act of forming a clip. Fig. 3 is a side elevation of the said clip-forming tool. Fig. 4 is a side elevation when it is adapted for binding a clip on strips of metal and illustrates the first step in the operation; and Fig. 5 is a view similar to Fig. 4, illustrating the final step in the operation of binding, the clip being clamped upon the metal.

In carrying out the invention the body of tool consists, primarily, of two handles A and B, which may be formed in any suitable or approved manner, but one of the handles at its outer end is bent longitudinally upon itself to form substantially a yoke 10, and ears are projected upward from the bent edges of said handle to meet the corresponding end of the opposing handle, which opposing handle is pivoted between the said ears or in the yoke

10, as shown in the drawings. Preferably the inner edges of the yoke are beveled from the top inwardly in direction of the handle proper, of which the yoke forms a part. The handle A, which is pivoted in the yoke-section of the handle B, is provided at its outer end with a shank 11, extending within the yoke 10 at right angles to the handle proper, and the said shank is made to terminate in a head 12 of substantially cylindrical shape. In fact, the said head may be a ball flattened at opposite sides.

A table 13 is supported from the lower handle B, or that provided with a yoke, the said table having attached to its under face a bar 14, and the said bar is flat and preferably straight upon its upper surface and is provided at its inner end with a heel 15, which is made to enter and pass upwardly through a slot 16 in the inner bottom portion of the said yoke 10, as shown in Fig. 3, a pin 17 being passed through the supporting-bar and the yoke at the forward lower portion thereof.

A plunger 18 is held to slide in the yoke and upon the supporting-bar of the table, and likewise upon the upper face of the table itself. The table is provided with an opening 19 in front of the plunger, the said opening extending through from top to bottom of the table, and this opening is surrounded by a block 20, having an opening 21 therein registering with that in the table. That portion of the block which faces the plunger has a recess 22 made in it, as shown in Fig. 1, and this recess leads directly into the large opening 21 in the block, the staple being formed between the walls of the said recess 22, and at the outer side edge of the block, at its inner end, a guide projection or step 23 is formed.

Usually at the left-hand side of the table, the stop or guard being at the right-hand side, a cutter 24 is pivoted in a suitable support 25, the latter being of substantially bracket construction, whereby material may be passed between the table and the upper end of the bracket in front of the cutter; and the said cutter or knife makes a shear cut by working in close proximity to the inner left-hand edge of the said block 20, and the knife at its inner end has an extension 26, which enters a slot 27 in the plunger, and when the plunger



is given a forward movement the knife is operated in a manner to cause it to cut a wire or metal strip placed in front of it.

The plunger is reciprocated by causing the head 12 on the shank of the upper handle A to enter the recess 28 made in the upper edge of that portion of the plunger contained within the said yoke 10, as is shown in Fig. 3.

In the operation of this tool when the handles are separated the plunger will be drawn inward, as shown in Fig. 1, and the knife will be carried away from the block 20. The strip of material 29 from which the clip is to be made is now fed across the table until it strikes the guard or stop 23, at which time it will be in front of the recess 22 or die-section of the block on the table. By pressing the handles together the plunger will force the strip of metal in the recess or die-section 22 of the forming-block 20, the knife at the same time acting to cut from the metal strip a length adequate to the formation of the clip, and after the clip has been formed similar to a staple by the continued forward movement of the plunger, it will drop through the opening 19 of the table. The strip is then again fed forward and other clip-pieces are made in that manner.

In Figs. 4 and 5 I have illustrated a tool that is adapted for the clamping of the clips upon metal strips 30 intended to be tied together, the clip-piece employed being designated as 31. The handles remain the same, but the table 13 is removed from connection with the handle B and a forming or anvil bar 32 is substituted, the said bar being made to enter the yoke 10 of the lower handle, and it is fitted with a heel 15<sup>a</sup>, which enters the slot 16 in the said yoke, and the pin 17 is likewise employed to hold this anvil-bar in position. The outer end of the anvil-bar is provided with a return-head 33, the head being returned over the top edge of the bar, which is otherwise straight, and therefore a recess 33<sup>a</sup> is formed between the inner portion of the head and the upper edge of the bar, and at the extreme outer end of the said anvil-bar one or more, preferably two, spurs 34 are formed, in order that metal strips may be kinked, twisted, or coiled by holding the strip between the spurs and manipulating the tool. A plunger 18 is employed, as in the other form of the tool, but the said plunger is provided at its outer end with a nose or spur 35, adapted for engagement with the inner return portion of the head of the anvil-block, and the space below the spur or nose 35 and the surface of the anvil-bar upon which the plunger moves is preferably equivalent in size to a space 33<sup>a</sup> at the head of the anvil-bar. The plunger is operated in the manner heretofore described. In the manipulation of this tool the strips 30 to be tied together are placed in a staple-shaped clip 31, as shown in Fig. 4, and the plunger being in its inner or rear position the half-

bent clip and strips are placed between the spur of the plunger and the return-surface of the head of the anvil-block. The two handles are then brought together, and the plunger will be forced to an engagement with the head of the anvil-block and the staple-shaped clip-piece will be compelled to enter the spaces between the return-section of the head and the spur of the plunger, as shown in Fig. 5, and the clip-piece will then be clamped firmly around and upon the strips, tying them together.

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

1. A tool for the purpose described, comprising two handles, one of which is provided with upwardly-extending ears at its sides forming a yoke, a removable support having a shaping surface and provided with an extension engaging a slot in the bottom portion of the said yoke, a plunger having movement in the yoke to and from the shaping-surface, and a second handle pivoted at its outer end in the said yoke and having a shank extending downward within the yoke and engaging the said plunger, substantially as shown and described.

2. In a metal working tool, pivotally connected handles, a removable support having a shaping surface and provided with an extension engaging a slot formed in one of said handles, a plunger having movement on the said support to and from the shaping surface, and means for actuating the plunger from the other handle, substantially as shown and described.

3. A metal-working tool comprising pivotally connected handles, a table secured to one handle having a die located thereon, a knife mounted on the table adjacent to the die, a plunger having sliding movement to and from the die, the said plunger being constructed to operate the knife, and means, substantially as shown and described, for operating the plunger by the manipulation of the handles of the tool, as and for the purpose specified.

4. In a metal-working tool, the combination, with an upper and a lower handle pivotally connected, the lower handle being provided with a yoke, a table removably connected with the yoke of the lower handle and provided with an opening therein, and a die secured upon the handle adjacent to the opening, of a knife mounted upon the table adjacent to the said die, a plunger held to reciprocate in the yoke of the said handle, actuated by the upper handle, the said plunger being provided with an opening receiving an extension from the knife, whereby when the plunger is forced in direction of the die the knife will be brought into action, as and for the purpose specified.

5. In a metal-working tool, the combination, with pivotally connected handles, a plunger



having an overhanging extension from its outer surface, and a reciprocating connection, substantially as shown and described, between one of the handles and the plunger, of  
5 an anvil bar upon which the plunger has movement, the said anvil bar being provided with an overhanging extension of its head adapted to meet the extension from the plunger, whereby the anvil bar and plunger will jointly have the action of clamping jaws, to as and for the purpose specified.

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Witnesses:

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