

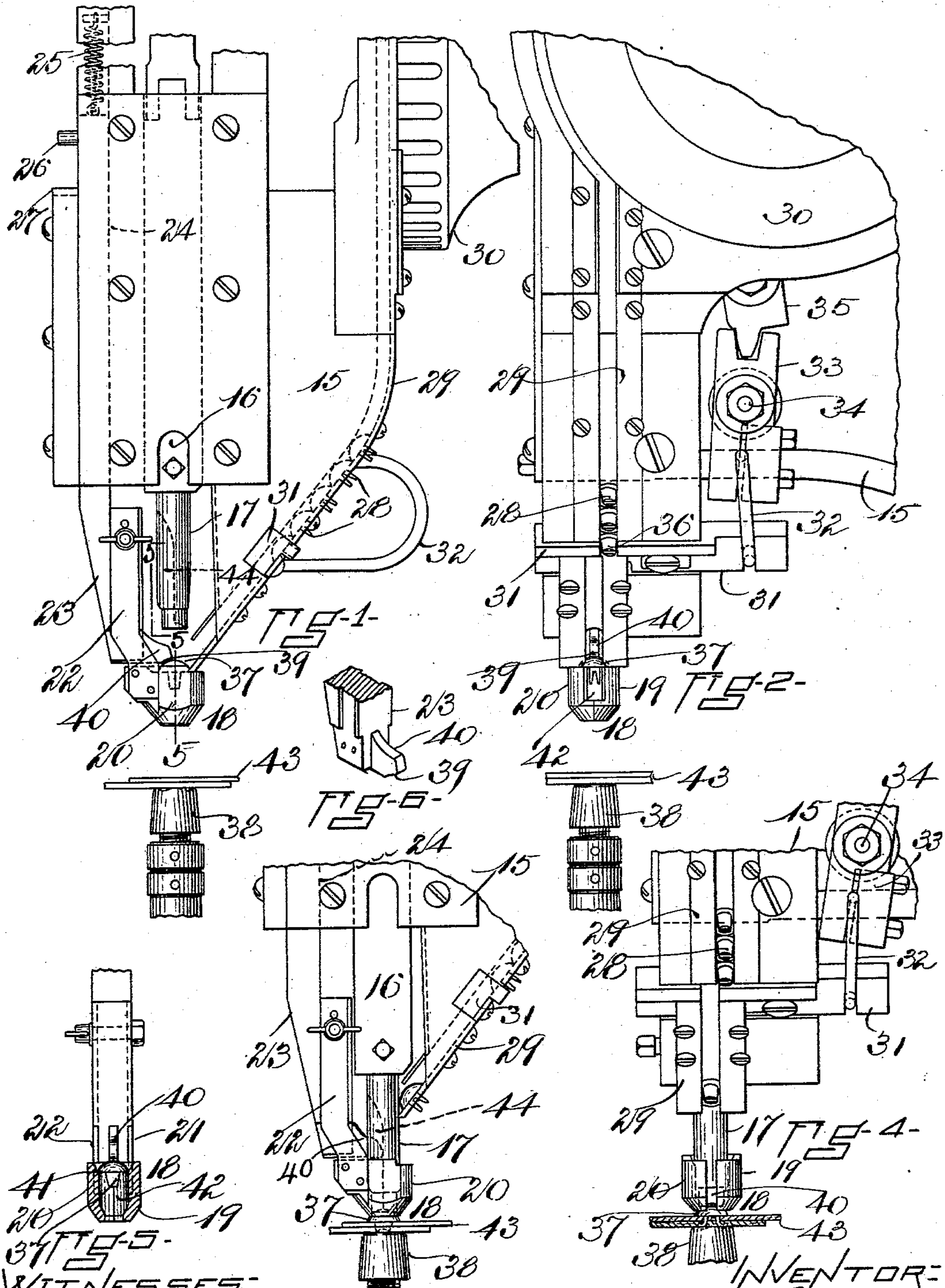
No. 753,281.

PATENTED MAR. 1, 1904.

A. T. MAENCHE.  
RIVET SETTING MACHINE.  
APPLICATION FILED SEPT. 24, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES-

Franklin C. Low.  
Albert G. Slaney.

FIG-3-

INVENTOR:  
Albert T. Maenche,  
by his Attorney,  
Mark V. Gooding.

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2 SHEETS—SHEET 2.

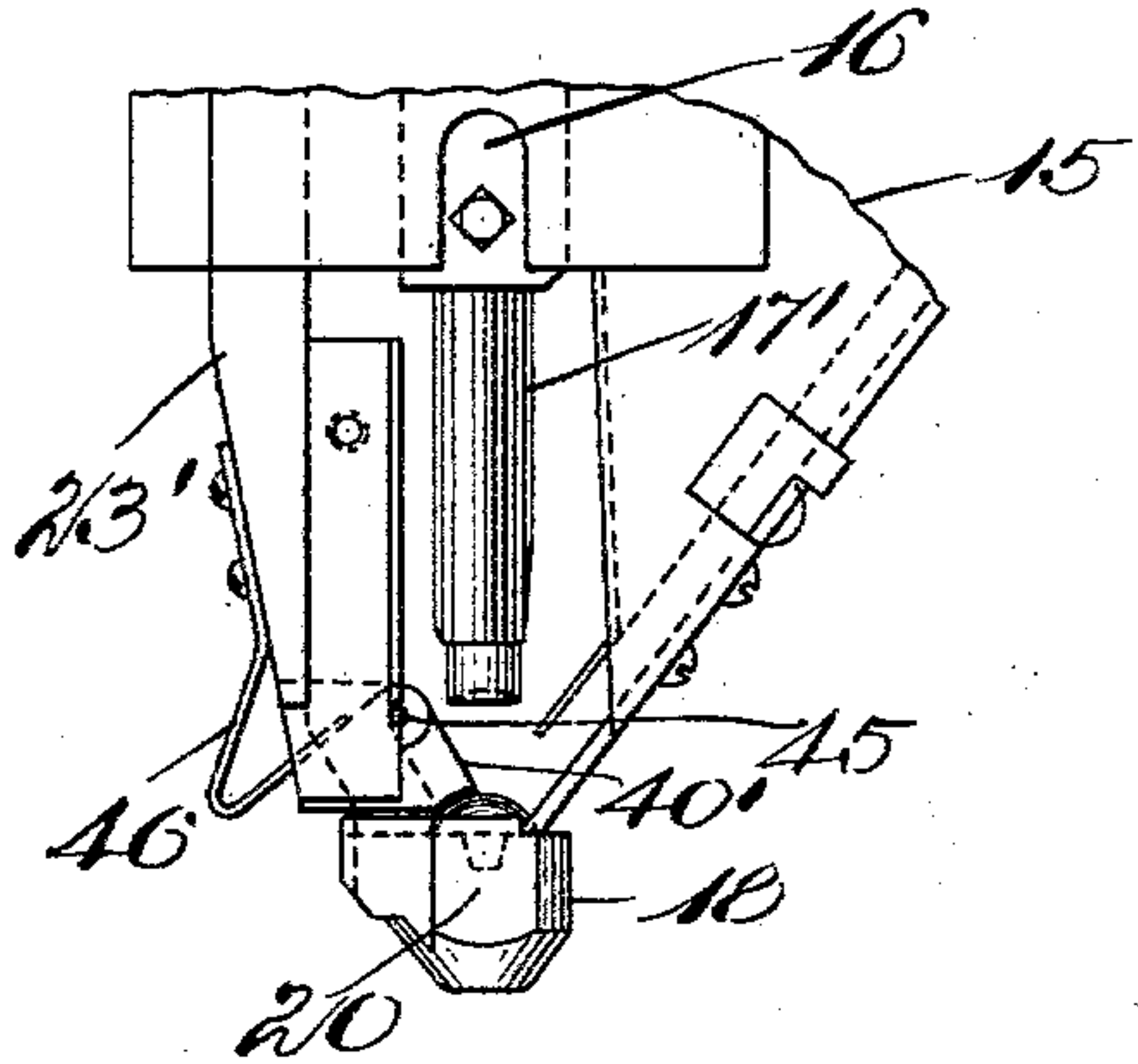


FIG-7-

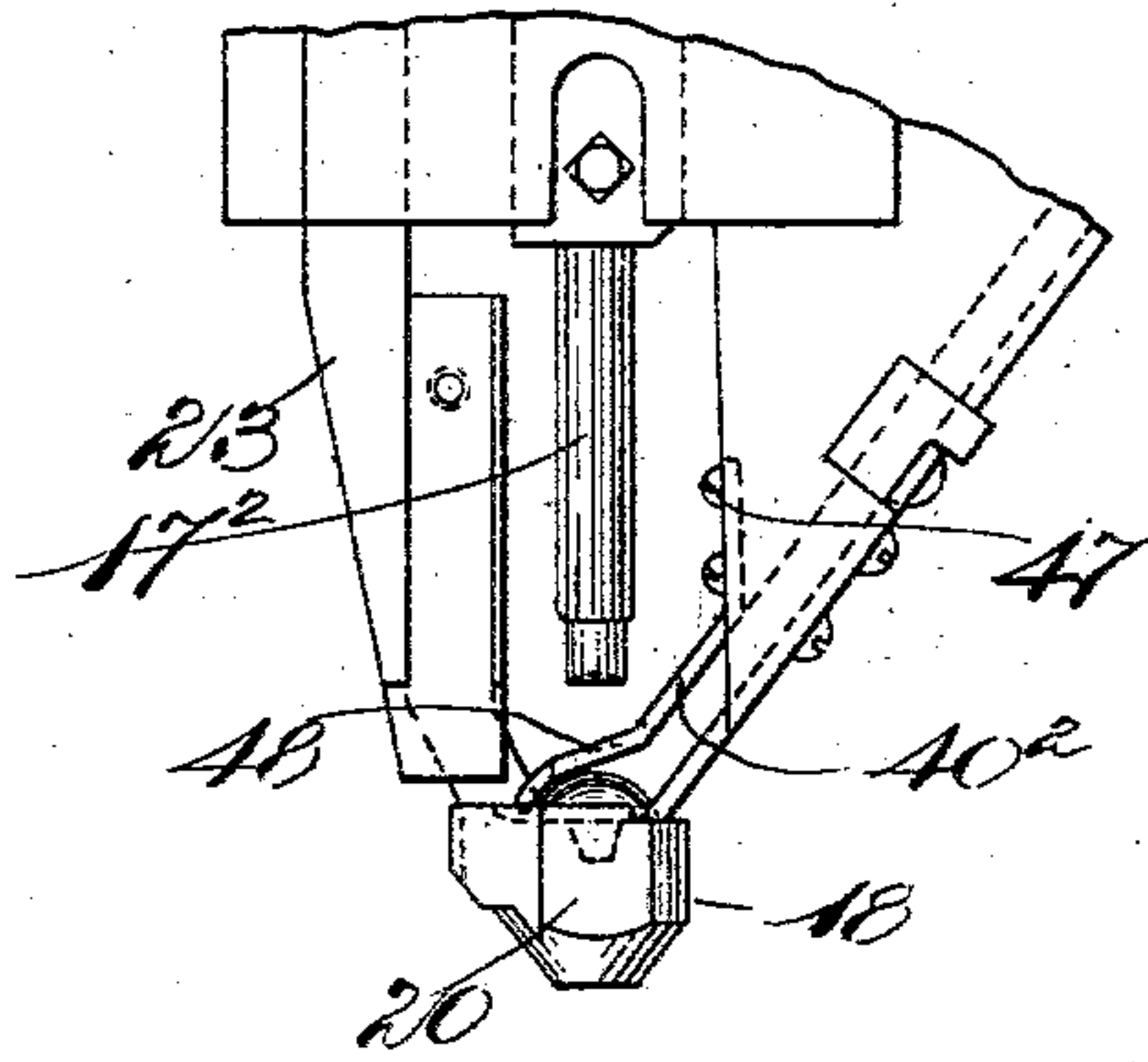


FIG-8-

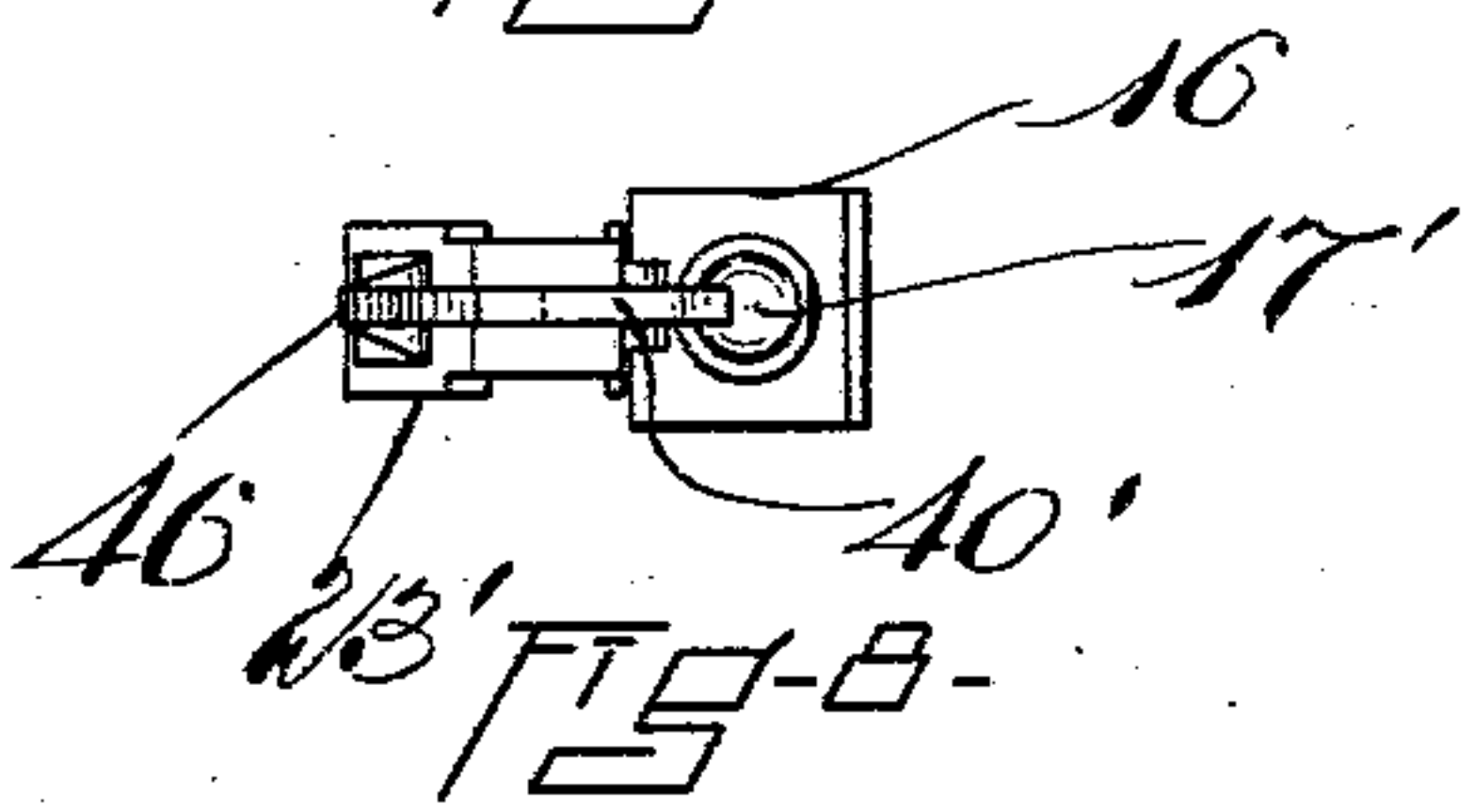


FIG-9-

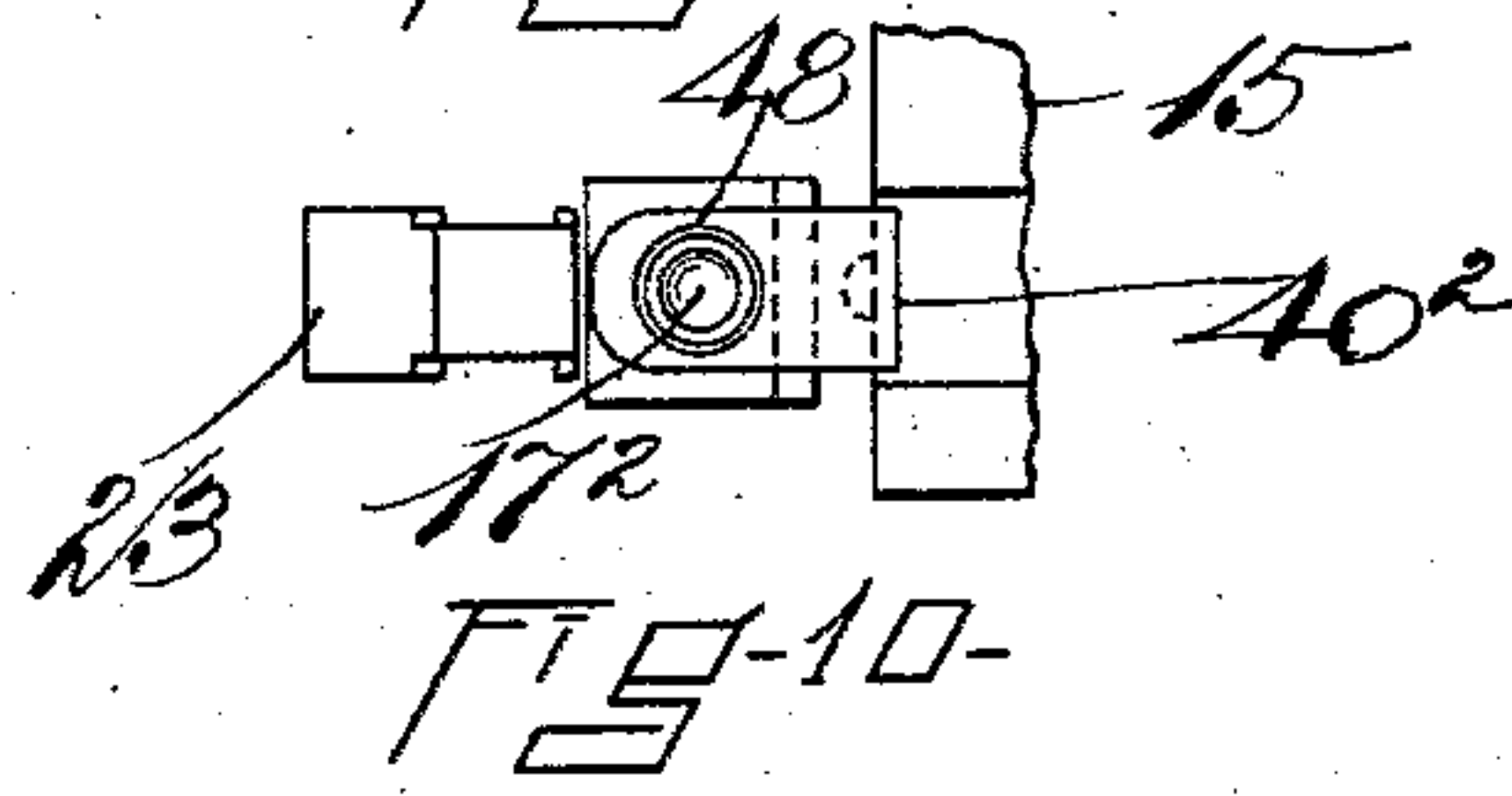


FIG-10-

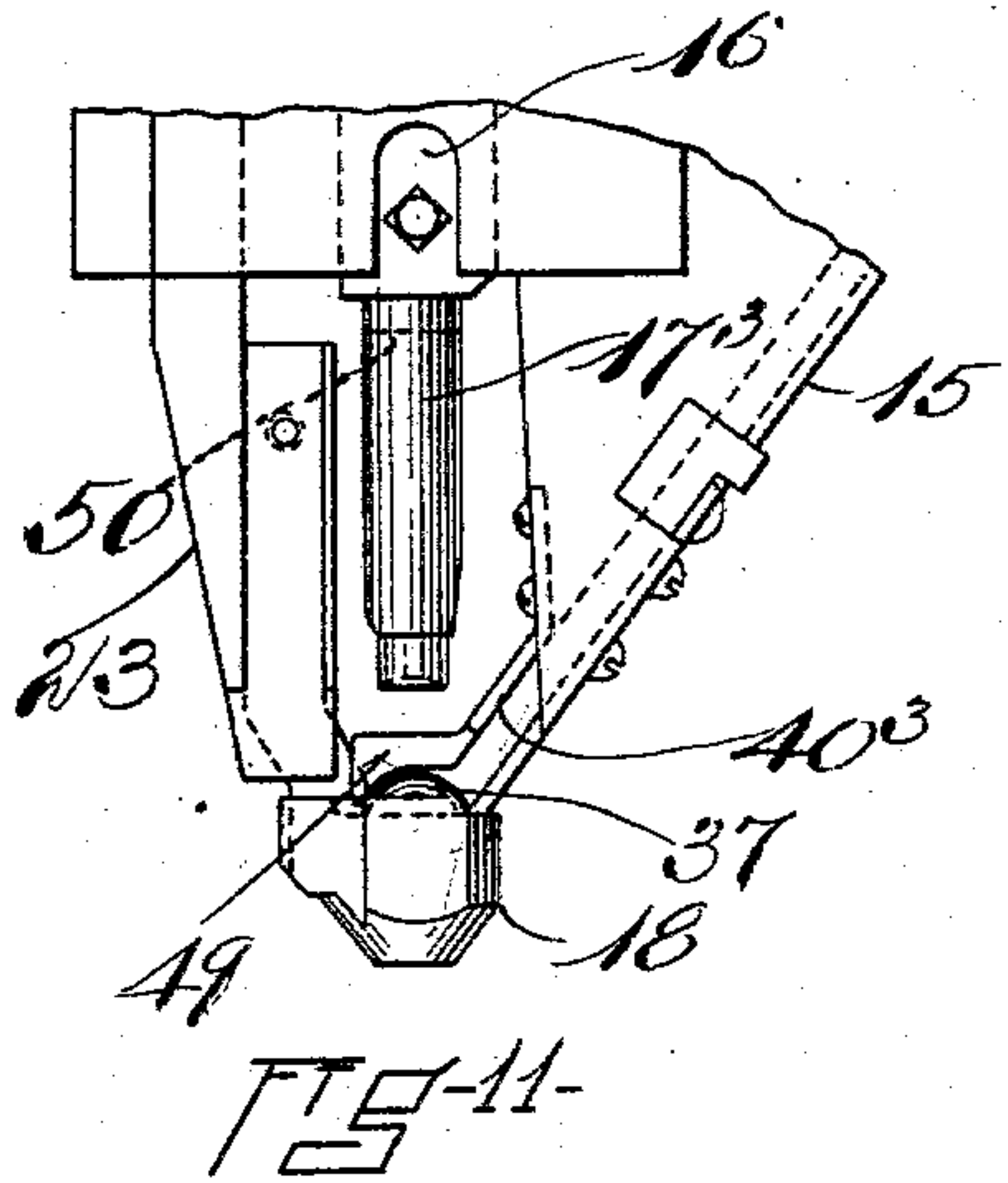


FIG-11-

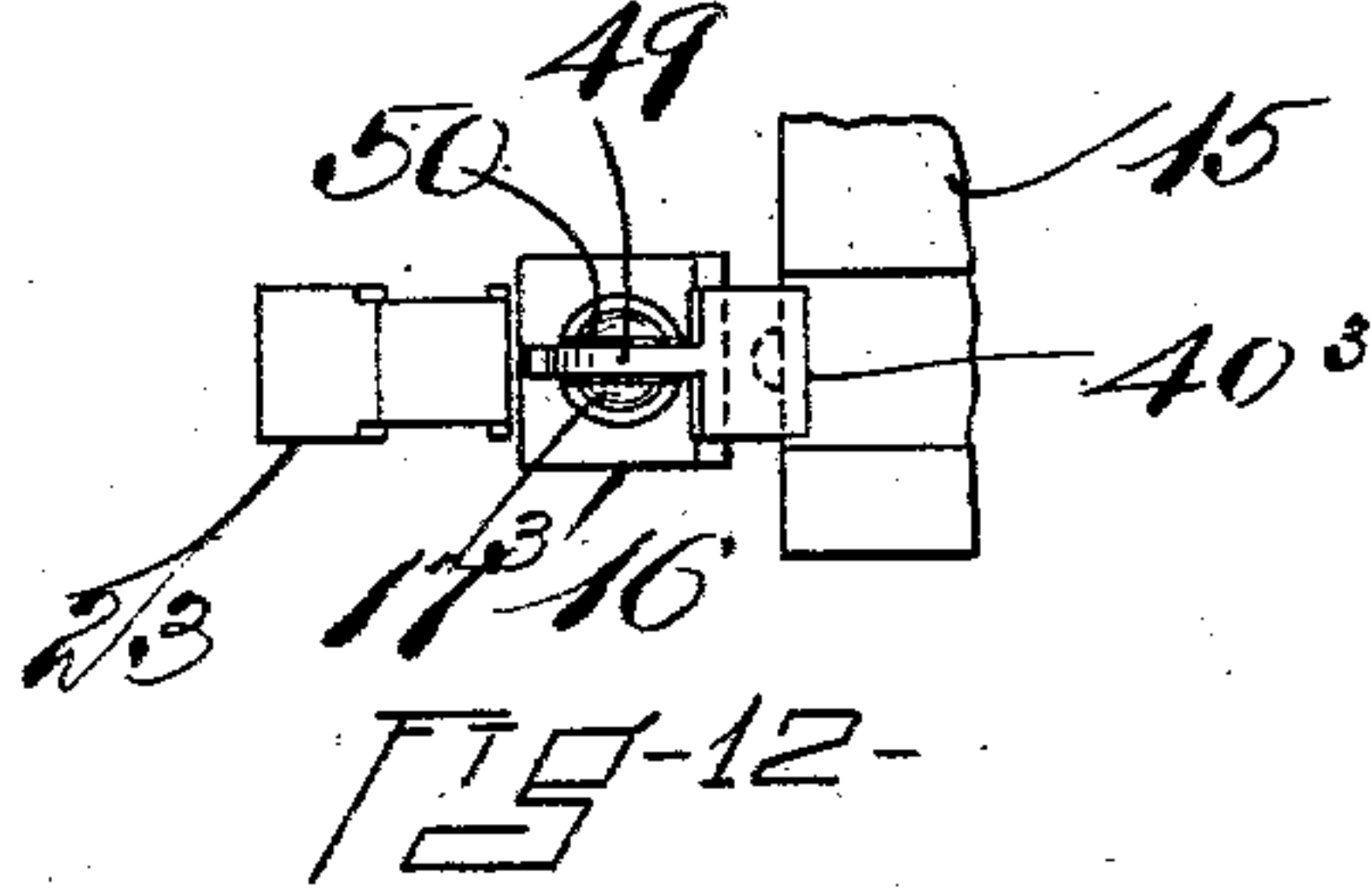


FIG-12-

WITNESSES:  
Franklin E. Low.  
Albert G. Slaney.

INVENTOR:  
Albert T. Maenche,  
by his Attorney Charles V. Gooding.



# UNITED STATES PATENT OFFICE.

ALBERT T. MAENCHE, OF WALTHAM, MASSACHUSETTS, ASSIGNOR TO  
JUDSON L. THOMSON MANUFACTURING COMPANY, A CORPORATION OF MAINE.

## RIVET-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 753,281, dated March 1, 1904.

Application filed September 24, 1903. Serial No. 174,425. (No model.)

*To all whom it may concern.*

Be it known that I, ALBERT T. MAENCHE, a citizen of the United States, residing at Waltham, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Rivet-Setting Machines, of which the following is a specification.

This invention relates to machines for setting rivets in leather or other sheet material, and has for its object to stop the rivet as it descends from the raceway directly above the center of the anvil and, further, to prevent said rivet from tipping over. The device of this invention is particularly applicable in handling rivets with a large head and short shank, said rivets being very liable to tip over when they descend from the raceway, resulting in jamming the same when the plunger descends to drive the rivet into the goods and rivet it therein.

The invention consists in a machine of the character described, of a raceway, a reciprocatory plunger, an anvil, a rivet-carrier, and a stop and holder so constructed as to stop the rivet in line with the center of the anvil and plunger and also projecting above the top of said rivet to prevent the same from tipping out of a vertical position.

The invention again consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings, Figure 1 is a front elevation of a portion of a rivet-setting machine with my improved stop attached thereto with the driver and rivet-carrier raised. Fig. 2 is a side elevation of the same as viewed from the right of Fig. 1. Fig. 3 is a view similar to Fig. 1 with the driver and rivet-carrier lowered. Fig. 4 is a side elevation taken from the right of Fig. 3, with the stock shown in section. Fig. 5 is a section taken on line 5 5 of Fig. 1 looking toward the left in said figure. Fig. 6 is a perspective view of the lower end of the rivet-carrier slide with my improved rivet-stop attached thereto. Fig. 7 is a front elevation of a portion of a rivet-setting machine similar to Fig.

1 with a modified form of rivet-stop illustrated in connection therewith and with one of the rivet-carrier springs removed. Fig. 8 is an underneath plan view of the plunger, rivet-stop, and rivet-carrier slide illustrated in Fig. 7. Fig. 9 is a front elevation similar to Fig. 7, illustrating another modification of my improved rivet-stop with one of the rivet-carrier springs removed. Fig. 10 is an underneath plan of the rivet-carrier slide, plunger, rivet-stop, and a portion of the supporting-frame therefor illustrated in Fig. 9. Fig. 11 is a front elevation similar to Fig. 7, illustrating another modified form of rivet-stop with one of the rivet-carrier springs removed. Fig. 12 is an underneath plan of the rivet-carrier slide, plunger, and stop illustrated in Fig. 11.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, Figs. 1 to 6, inclusive, 15 is the frame of a rivet-setting machine of any suitable construction, and 16 is a reciprocatory slide to which a vertical reciprocatory motion is imparted by suitable mechanism. A rivet-driver 17 is fastened to the lower end of the slide 16. 18 is a rivet-carrier, formed in two parts 19 and 20, fast to springs 21 and 22, respectively, said springs being fastened in turn to a vertical reciprocating rivet-carrier slide 23. The rivet-carrier slide 23 is constructed to slide in ways 24, formed in the frame 15, and is supported by a spring 25. A stop-pin 26, fast to the rivet-carrier slide 23, determines the distance to which said rivet-carrier slide can descend, said stop 26 abutting against the frame 15 at the surface 27 when the rivet-carrier slide has been moved to its lowest point, as hereinafter described. Rivets 28 descend the raceway 29 from a suitable hopper 30 until they are stopped by a slide 31, which slides upon the frame 15 transversely of the raceway 29 and is driven by a spring 32 and rock-lever 33, pivoted at 34 to the frame 15, said rock-lever being in turn driven by a rock-lever 35, to which a rocking motion is imparted by any suitable mechanism. The slide 31 is provided with a slot 36,



which allows the rivets to pass downwardly one by one, the lowermost rivet 37 sliding down the raceway 29 from the slide 31 to the position shown in Figs. 1 and 2. When the rivet 37 arrives at the proper position, with its center in line with the median line of the driver 17 and of the anvil 38, the top of the rivet abuts against the curved lower edge 39 of the rivet-stop 40.

The rivet-stop 40 consists, preferably, of a thin piece of sheet-steel and is rigidly fastened to the rivet-carrier slide 23. It will be seen that as said rivet-stop projects over a portion of the top of the rivet 37 it will not only stop said rivet in line with the center of the anvil and driver, but will prevent the same from tipping at an angle thereto, as hereinafter set forth, and this is one of the principal objects of this invention—that is, not only to stop the rivet in line with the center of the driver and of the anvil, but also to keep it from tipping at an angle, and thus when driven by the driver making an imperfect piece of work. It will be seen that this tipping is very liable to occur, especially in rivets in which the head is large as compared with the diameter of the shank. As shown in Fig. 5, the rivets hang by the periphery of the head thereof upon a slight ledge 41 41, formed upon the interior of the parts 19 and 20, forming the rivet-carrier. Said parts are each provided with a recess 42, through which the rivet descends when being driven through the rivet-carrier and into the stock 43. Thus it will be seen that a slight jar of the machine or the momentum of the rivet in descending from the raceway will be sufficient to cause said rivet to tip upon the ledge 41 and stand at an angle, as hereinbefore set forth. When, however, my improved rivet-stop is employed, said rivet-stop prevents the rivet from tipping, for the reason that it extends over the top of said rivet from the left-hand side thereof, Fig. 1, and any tendency of the rivet to tip is counteracted by the top of the head of said rivet abutting against the curved lower edge 39 of said rivet-stop, which holds the under side of the head of said rivet down against the upper edge of the parts 19 and 20, forming the rivet-carrier.

The operation of the mechanism hereinbefore described is as follows: The rivets 28 descend the raceway until they stop against the slide 31. From this point they are fed one by one down the raceway until they arrive in the location of the rivet 37 in line with the driver 17 and anvil 38 and with the head of the rivet resting against the curved lower edge 39 of the rivet-stop 40. The driver 17 descends until the lower end thereof abuts against the top of the rivet 37, and upon a further downward motion pushes the rivet-carrier 18 and rivet-carrier slide 23 downwardly, together with the rivet 37 and the stop 40. When the rivet-carrier slide 23 has descended until

the pin 26 abuts against the surface 27, the rivet-carrier slide and rivet-carrier, together with the stop 40 will stop, and upon a further downward motion of the driver 17 the rivet 37 will be driven downwardly through the recess 42, the sides 19 and 20 of the rivet-carrier 18 spreading apart to allow the rivet to pass downwardly therebetween, and this downward motion will continue until the rivet is driven through the stock 43 by the driver 17 and clenched upon the anvil 38. It will be understood that the driver 17 is slotted at 44 to clear the rivet-stop 40 during the latter part of this downward motion of the driver hereinbefore described. Upon the return upward motion of the driver 17 the rivet-carrier and rivet-carrier slide, together with the stop 40, return to the position illustrated in Figs. 1 and 2.

In Figs. 7 and 8 a modified form of my invention is illustrated, in which 40' is a rivet-stop, pivoted at 45 to the rivet-carrier slide 23'. The operation of the driver 17' and rivet-carrier 18, together with the rivet-carrier slide, is the same as hereinbefore described with relation to the form illustrated in Figs. 1 to 6, inclusive. As the driver descends it abuts against the edge of the rivet-carrier 40' adjacent thereto and tips the same upon its pivot 45. When the driver returns in its upward motion and clears the rivet-stop 40', a spring 46, fast to the rivet-carrier slide 23', returns said rivet-stop 40' to the normal position indicated in Fig. 7.

In Figs. 9 and 10 another modified form of my invention is illustrated, in which the rivet-stop 40<sup>2</sup> is fastened permanently to the frame 15 by screws 47 and is provided with a hole 48, through which the driver 17<sup>2</sup> passes upon its descent. The rivet-carrier 18 and rivet-carrier slide 23 are the same in operation and form as those illustrated in Figs. 1 to 6, inclusive.

In Figs. 11 and 12 I have illustrated another modified form of my invention, in which the stop 40<sup>3</sup> is also rigidly fastened to the frame 15 and extends entirely over the rivet 37, the portion 49 of said stop which extends over the head of the rivet 37 being thinned down and the driver 17<sup>3</sup> provided with a slot 50 to allow said driver to descend while the stop 40<sup>3</sup> remains stationary. The carrier 18 and carrier-slide 23 in this form also operate and are of the same form as the corresponding parts described in Figs. 1 to 6, inclusive.

It will be seen from the illustrations set forth and described that the rivet-stop may be of different forms and supported either upon the traveling carrier-slide 23 or upon the frame of the machine without departing from the spirit of my invention.

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

1. In a rivet-setting machine, a reciproca-



tory driver, an anvil, a raceway, a rivet-carrier, and a rivet stop and holder located on the opposite side of said carrier from that upon which the rivets approach said carrier.

5 2. In a rivet-setting machine, a reciprocatory driver, an anvil, a raceway, a rivet-carrier and a rivet stop and holder located on the opposite side of said carrier from that upon which the rivets approach said carrier, and  
10 constructed to project over the top of a rivet resting upon said carrier.

3. In a rivet-setting machine, a reciprocatory driver, an anvil, a raceway, a reciprocatory rivet-carrier slide, a rivet-carrier supported upon said slide, and a rivet stop and  
15 holder fast to said carrier-slide and constructed to project over the top of a rivet resting upon said rivet-carrier.

4. In a rivet-setting machine, a reciprocatory driver, an anvil, a raceway, a reciprocatory rivet-carrier slide, a rivet-carrier supported  
20 upon said slide, and a rivet stop and holder fast to said carrier-slide and constructed to project over the top of a rivet resting upon said rivet-carrier.

ported upon said slide, and a rivet stop and holder fast to said carrier-slide and constructed to project over the top of a rivet resting upon said rivet-carrier and into a slot provided in said driver. 25

5. In a rivet-setting machine, a reciprocatory driver, an anvil, a raceway, a rivet-carrier, and a rivet stop and holder located on the opposite side of said carrier from that upon which the rivets approach said carrier and constructed to project across the path of motion of said driver and above the head of a rivet resting upon said rivet-carrier. 30

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 35

ALBERT T. MAENCHE.

Witnesses:

MARY HARDYMAN,  
J. WINFIELD PEUGH.