J. SHIELDS & C. H. GOETSCHE.

STAPLING MACHINE.

APPLICATION FILED MAY 12, 1909.

950,496.

Patented Mar. 1, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

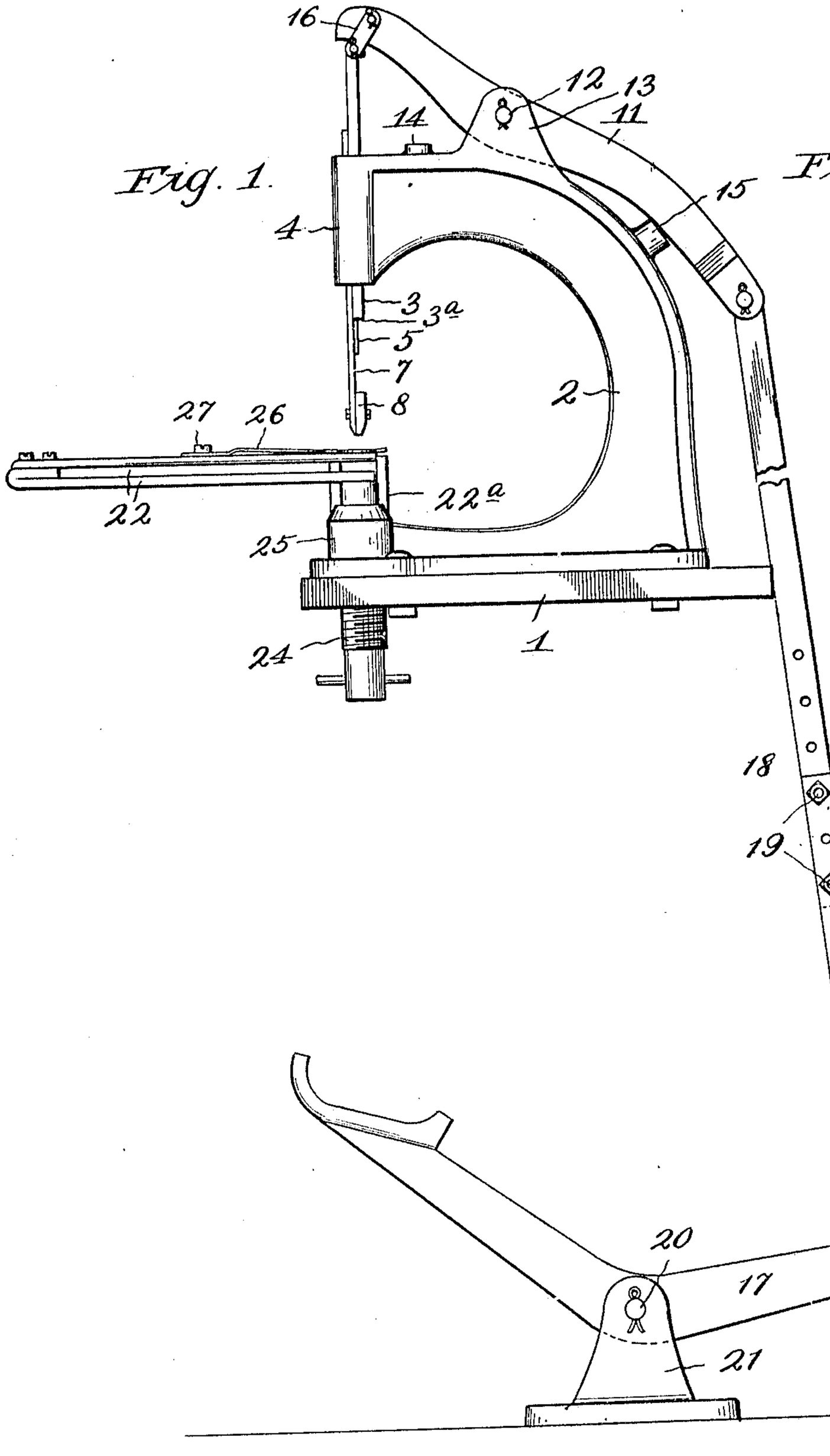


Fig. 2.

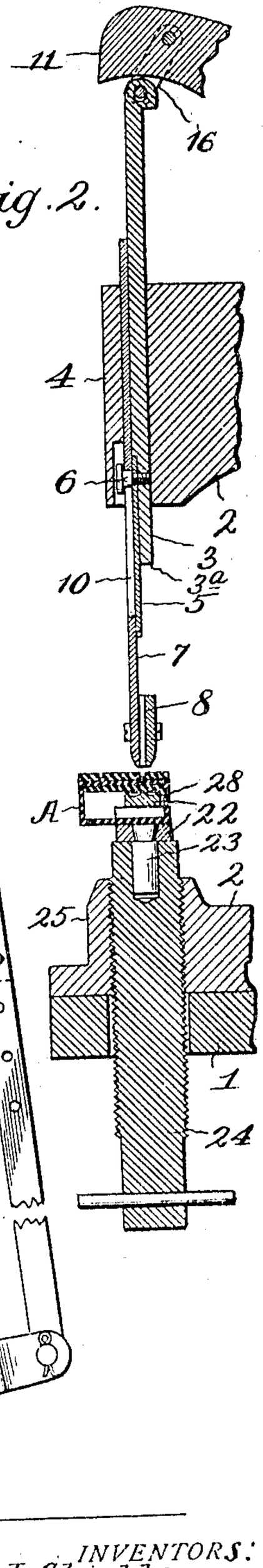
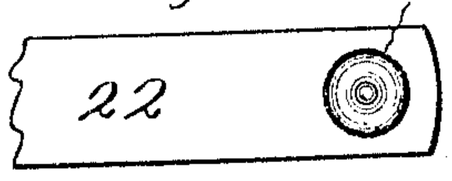


Fig. 7.



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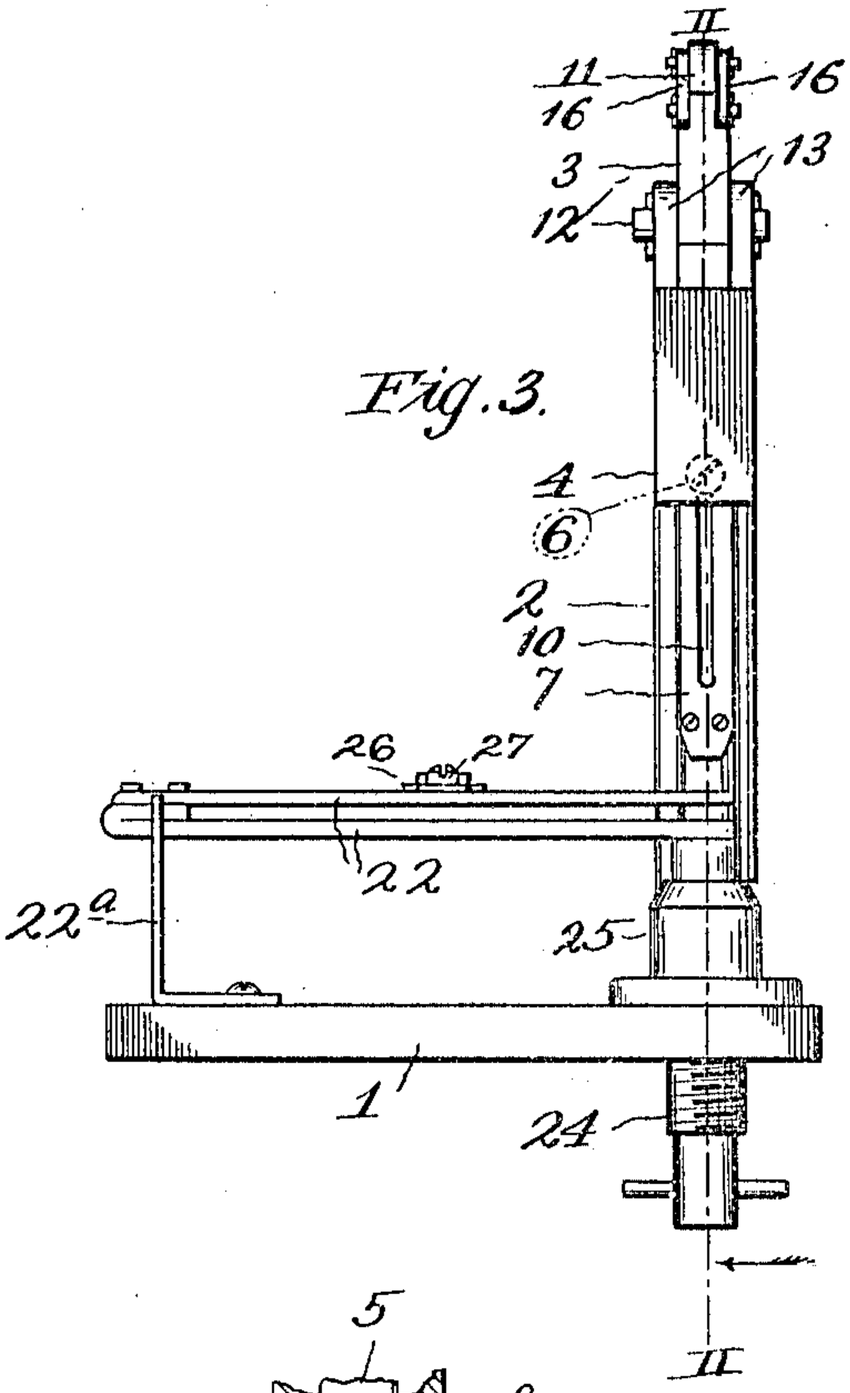

Fig. 3.

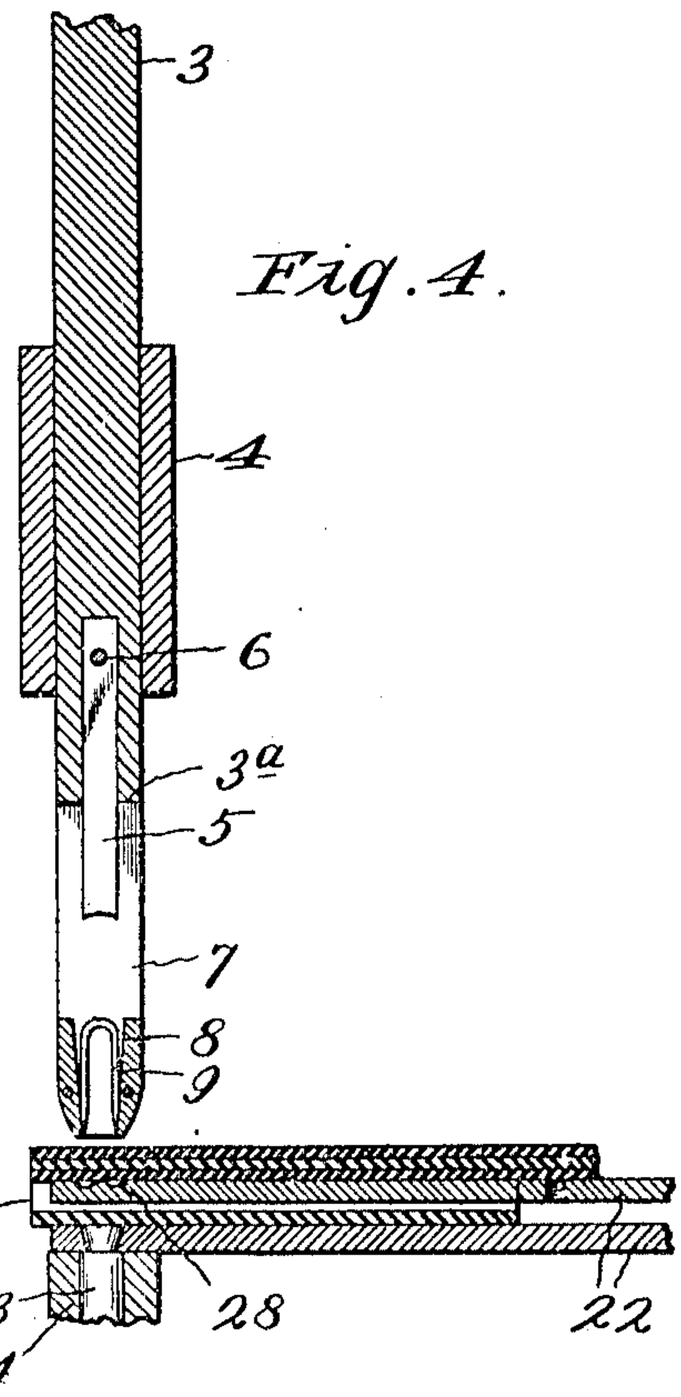

Fig. 4.

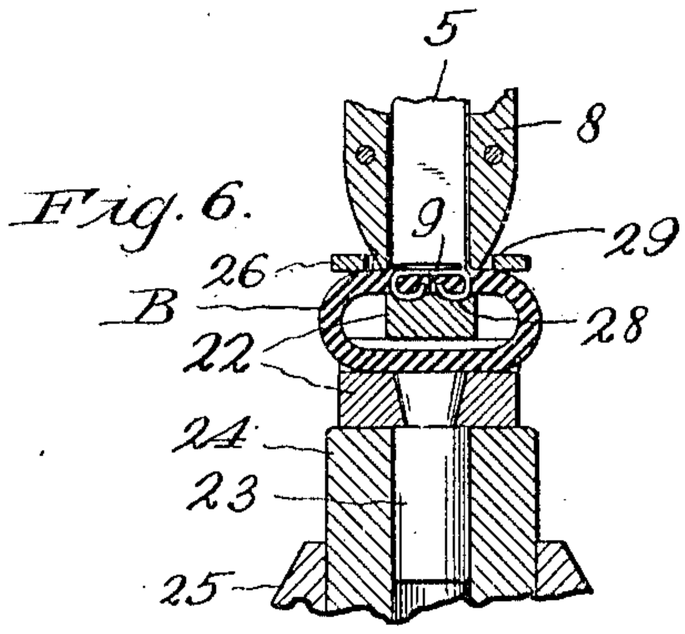

Fig. 6.

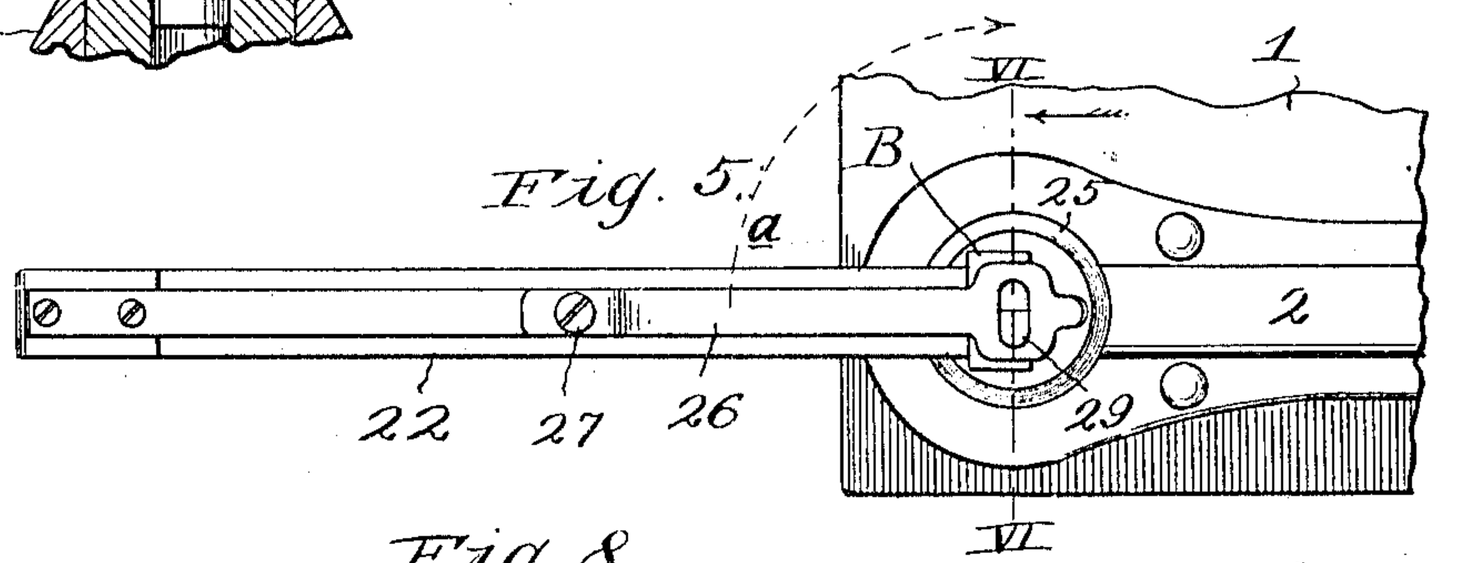

Fig. 5.

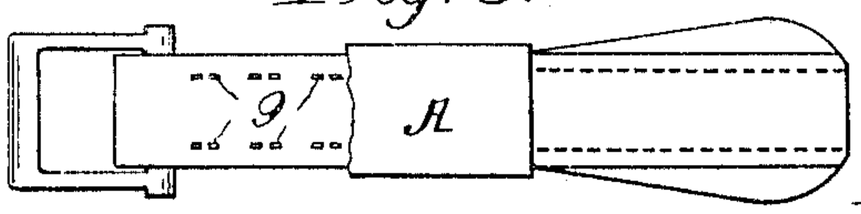

Fig. 8.

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UNITED STATES PATENT OFFICE.

JESSE SHIELDS AND CHARLES H. GOETSCHE, OF KANSAS CITY, MISSOURI.

STAPLING-MACHINE.

950,496. Specification of Letters Patent. Patented Mar. 1, 1910.

Application filed May 12, 1909. Serial No. 495,432.

To all whom it may concern:

Be it known that we, JESSE SHIELDS and CHARLES H. GOETSCHE, citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Stapling-Machines, of which the following is a specification.

Our invention relates to improvements in stapling machines, and our object is to provide a simple machine of this character which is especially adapted for the use of harness and saddle-makers.

In the accompanying drawings, which illustrate the invention: Figure 1 shows a front elevation of the machine ready for operation. Fig. 2 is an enlarged section on line II—II of Fig. 3. Fig. 3 is a side elevation of the machine. Fig. 4 is a broken vertical section showing a box-loop about to be riveted. Fig. 5 is a broken plan view of the lower portion of the machine. Fig. 6 is a cross section on line VI—VI of Fig. 5, and showing in addition thereto a harness loop, the ends of which have been secured together by a staple. Fig. 7 is a broken plan view of an anvil forming part of the invention. Fig. 8 is a plan view of a hame-tug box-loop which has been stapled with our machine.

In carrying out the invention we employ a bed-plate 1, which is secured to a bench of such height that a workman can conveniently place stock in position upon the anvil and feed staples to the machine.

2 designates a frame secured to the bed-plate of substantially C-form, so that it will not interfere with the placing of stock on the anvil or the feeding of staples.

3 designates a plunger which is reciprocably-mounted in the head 4 of the frame, and provided with a driver 5 which may be either integral therewith or separate and secured thereto by means of a screw 6.

7 designates a staple-holder, provided at its lower end with a downwardly-tapering throat-piece 8 into which the staples 9 are fed one by one preparatory to being driven into the stock. The shank of the staple-holder is reciprocably-mounted in head 4 and loosely-connected to screw 6, it being provided with a longitudinal slot 10, so that its stroke will be considerably less than that of the plunger, whereby it is actuated. This arrangement insures the driver being raised high enough above the throat-piece to permit the staples to be readily fed to the same.

11 designates a rocking-lever fulcrumed upon a pin 12 extending transversely through a pair of ears 13 integral with the upper portion of frame 2, which has stops 14 and 15 to limit the stroke of said lever. Lever 11 is loosely secured to the upper terminal of the plunger by a pair of links 16, so that when describing an arc during operation, it will not cause the vertically-moving plunger to bind in head 4.

17 designates a foot-lever for actuating the rocking-lever to one end of which it is connected through the intermediacy of a connecting-bar 18, made in two perforated sections adjustably-connected so that it may be extended or shortened to accommodate benches of different heights, the perforated sections being connected by two bolts 19. Foot-lever 17 is fulcrumed upon a pin 20 extending through the upper portion of a floor-bracket 21. The connecting-bar 18 and the rear ends of levers 11 and 17 are sufficiently heavy to restore the plunger and the staple holder to normal position after having been depressed.

22 designates an anvil which is substantially U-shaped as shown in Figs. 2 and 3, so that loops and the like, may be readily slipped upon the same as shown in Figs. 2, 4, and 6, preparatory to being riveted together. Anvil 22 is provided at one end with a depending stud 23 pivotally engaging the upper end of a chuck 24 so that said anvil may be swung around in a horizontal plane to either of the positions shown in Figs. 1 and 3, and indicated by the arrow *a*, Fig. 5. Chuck 24 is adjustably secured in a boss 25 at the lower forward end of frame 2, so that the anvil may be raised or lowered with relation to holder 7 to accommodate stock of different thicknesses.

26 designates a loop-holder swiveled and removably secured to the upper portion of the anvil by a screw 27, so that it may be adjusted to the operative position shown in Fig. 1, or to the inoperative position shown in Fig. 3.

The operation of the machine is substantially as follows: In stapling long box-loops such as indicated at A, the loop-holder 26 is either removed or adjusted to its inoperative position, so that it will not be in the way of the loop when the same is slipped in position upon the upper arm of the anvil, which latter is adjusted to the positions shown in Figs. 2, 3, and 4, where its outer end is sup-

ported by a bracket 22ª. A staple is then placed in the throat-piece 8 and the operator (who faces the front side of the machine) places his foot upon the free end of lever 17 and depresses the same to lower the free end of the rocking-lever 11 until it engages stop 14. This movement of the rocking-lever carries the plunger downward together with holder 7 which engages the stock while the plunger continues to descend, so that the driver may pass through the throat-piece 8 and force the staple therefrom through the stock. As the staple is forced through the stock, it is reliably clenched by its points coming into contact with the curved surface of an annular recess 28 in the upper portion of the anvil. Just before the plunger reaches the end of its downward stroke, its shoulder 3ª engages the upper end of the throat-piece and forces the same into contact with the stock, so that the latter will be compressed while the staple is being clenched. This insures the staple being tightly clenched, as the stock will expand to a certain degree when relieved of the pressure of the throat-piece.

When it is desired to merely rivet the ends of narrow loops together, the loop-holder 26 is adjusted to its operative position and the anvil is swung around to the position shown in Figs. 1 and 5 to bring the transverse slot 29 in the free end of the loop-holder in proper position to permit the lower terminal of the staple-holder to pass therethrough, as shown in Fig. 6. The loop B is then slipped upon the upper free end of the anvil where its ends are held together by downward pressure of the resilient loop-holder, so that when the staple is driven into the loop it will engage both ends of the same as shown in Fig. 6, and thereby reliably secure said ends together.

Having thus described our invention, what we claim is:

1. An anvil and stock-holder for stapling machines, comprising, in combination, an anvil consisting of a U-shaped elongated element, having a shaping depression on the upper face of one arm, and a pivot stud formed on the lower face of the opposite arm, said stud fitting in an aperture in the machine frame, and a loop-holder mounted on a vertical pivot to swing laterally on said first mentioned arm and having an aperture adapted to overlie said shaping depression.

2. An anvil and stock-holder for stapling machines, comprising, in combination, an anvil consisting of a U-shaped elongated element having a shaping depression on the upper face of one arm, and a pivot stud formed on the lower face of the opposite arm, said stud fitting in an aperture in the machine frame, and a loop holder mounted on a vertical pivot to swing laterally on said first mentioned arm, said loop holder comprising a spring member overlying said arm and having an aperture adapted to overlie said shaping depression.

In testimony whereof we affix our signatures, in the presence of two witnesses.

JESSE SHIELDS.
CHARLES H. GOETSCHE.

Witnesses:
F. G. FISCHER,
M. Cox.