J. A. MOSHER.

RIVETING MACHINE.

APPLICATION FILED JUNE 27, 1907.

928,783. Patented July 20, 1909.

2 SHEETS—SHEET 1.

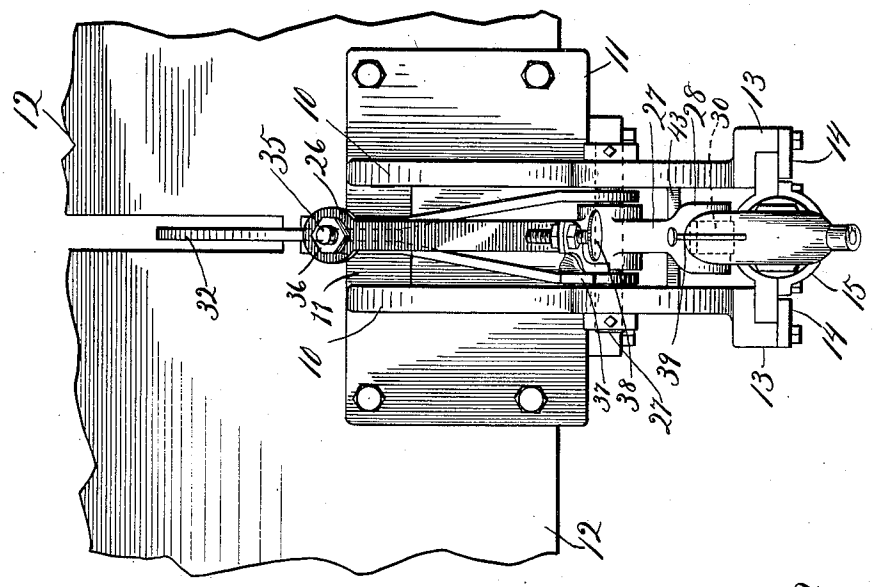


Fig. 2.

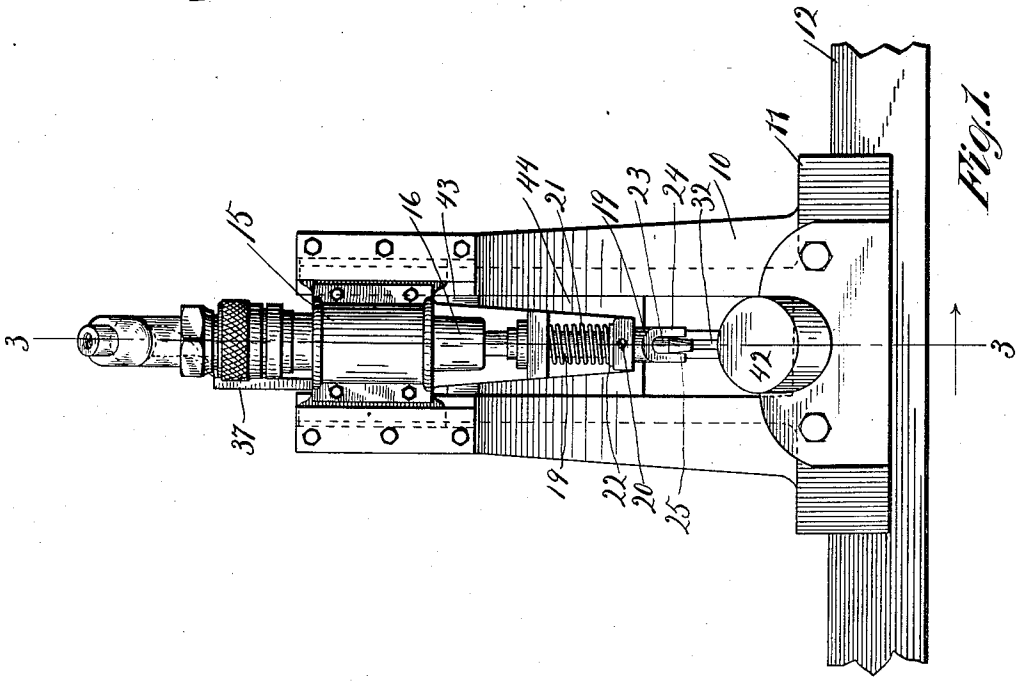


Fig. 1.

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E. M. Klatcher

Inventor:
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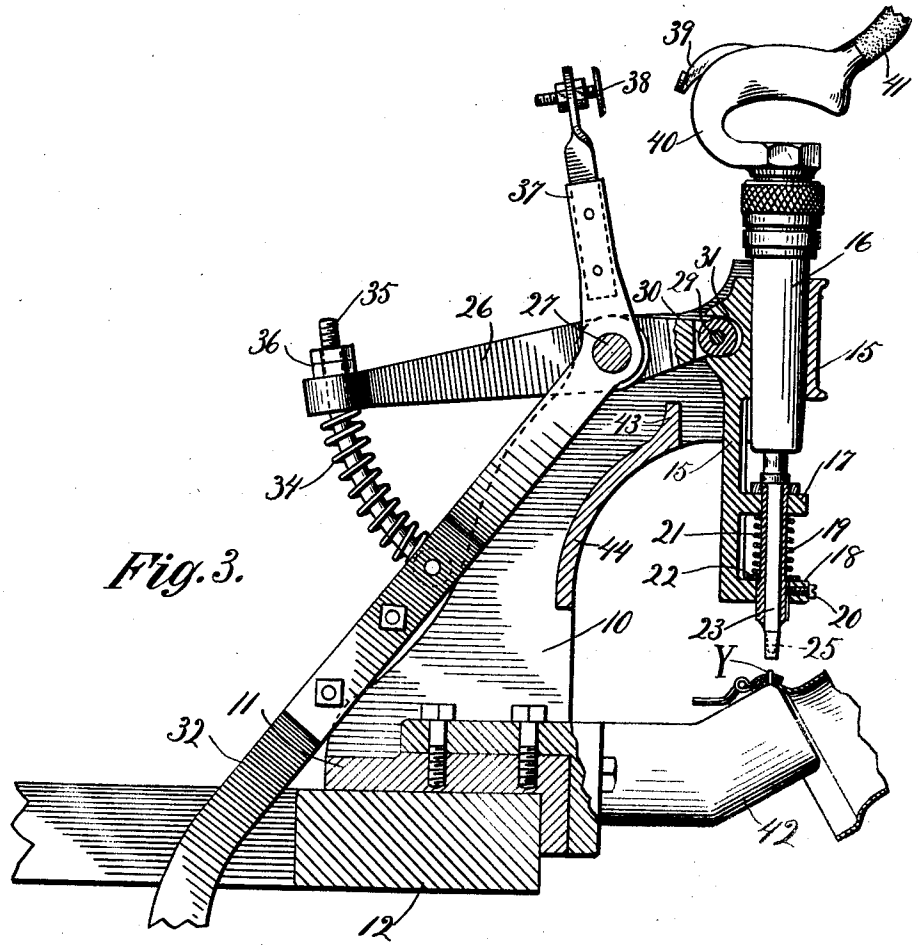


Fig. 3.

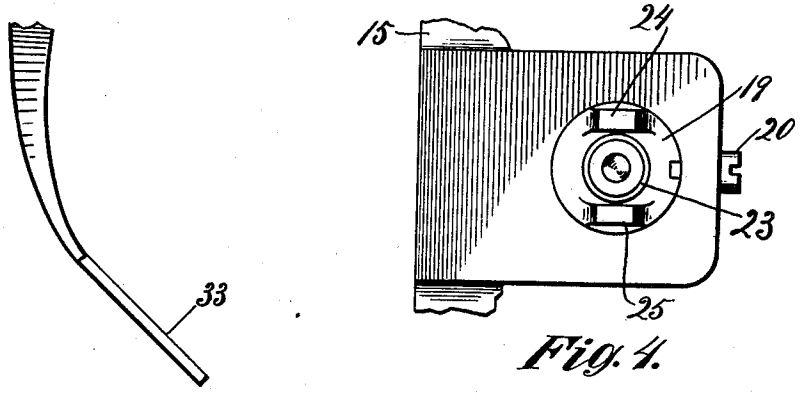


Fig. 4.

Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN A. MOSHER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE ADAMS & WESTLAKE COMPANY, A CORPORATION OF ILLINOIS.

RIVETING-MACHINE.

No. 928,783. Specification of Letters Patent. Patented July 20, 1909.

Application filed June 27, 1907. Serial No. 381,071.

To all whom it may concern:

Be it known that I, JOHN A. MOSHER, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Riveting-Machines, of which the following is a specification and which are illustrated in the accompanying drawings, forming a part thereof.

This invention relates particularly to power-actuated riveting machines; its object being to provide means for forcing together the parts to be united and holding them while the rivet is upset in order to prevent an enlargement of the rivet intermediate of its ends, and it consists of the mechanism hereinafter described and which is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the riveter; Fig. 2 is a plan view thereof; Fig. 3 is a central vertical section on the line 3—3 of Fig. 1; and Fig. 4 is an inverted plan view in detail of the hammer and its carrying frame.

A pair of standards 10, 10, rise from a base-plate 11 adapted for attachment to a bench 12, and project forwardly, and are provided at their upper ends with vertical ways, formed by an outward offset 13, 13, and a plate 14, 14, secured to the outer face of each standard and projecting inwardly. Within the ways thus formed there is mounted for vertical reciprocation a carrier frame 15, within which is firmly secured the motor for actuating the riveting hammer. In this instance there is shown an ordinary air motor 16, and it has been found convenient to use for this purpose the hand tool of commerce, its barrel readily adapting itself for attachment to the carrying frame 15.

The frame 15 is prolonged downwardly, its lower portion being provided with laterally projecting apertured plates or lugs 17, 18, within which is fitted a tube or bushing 19, which may be secured against rotation by means of a set-screw 20, projecting through a suitable aperture in one of the plates and engaging a longitudinal slot in the bushing. A spring 21, coiled about the bushing 19, reacts between the upper plate 17 and a flange 22 carried by the bushing to hold the latter in its advance position. The riveting hammer 23 reciprocates through the bushing 19 and is acted upon by the motor in the usual way. A pair of pressure fingers 24, 25, project downwardly from the bushing 19, one on each side of the hammer 23.

The frame 15 is carried by a lever 26, swinging on a pivot 27, supported by the standards 10, 10, the forward end of this lever being forked, as shown at 28, a pin 29 being set through the arms of the fork and carrying an anti-friction roller 30, which fits within a recess 31 in the rearward side of the frame 15. A foot lever 32 also swings upon the pivot 27 and projects downwardly through a suitable aperture in the bench 12, its lower end being provided with a pedal 33, within easy reach of the operator's foot. A spiral spring 34 reacts between the levers 26 and 32, being carried by a curved rod 35, pivotally attached to the lever 32 and extending through an eye in the rearward end of the lever 26, the upper end of the rod 35 being threaded and a nut 36 being applied thereto for the purpose of adjusting the tension of the spring.

The lever 32 is prolonged upwardly beyond the pivot 27, as shown at 37, and carries an adjustable abutment 38, adapted for contact with the valve lever 39 in the handle 40 of the pneumatic riveter. At 41 there is shown a section of hose attached to the handle of the riveter in the usual manner for leading air thereto. An anvil 42 is detachably secured to the base plate 11, and projects into the path of the hammer 23, this anvil being suitably shaped to accommodate the particular work, X, to be acted upon.

The two parts to be riveted together having been applied to the anvil and a rivet Y inserted in the apertures therein, the lever 32 is swung backwardly and upwardly by the operator's foot, raising the rearward end of the lever 26 and lowering the frame 15 and the riveter carried thereby. When the riveting hammer 23 and the pressure fingers 24 and 25 engage the work, they are of course arrested in their downward movement, and as the frame 15 continues to descend the spring 21 is compressed, the bushing 19 sliding through the flanges 17, 18. The downward movement of the frame 15 is arrested by a stop 43, formed on a web 44, uniting the two standards 10, 10. The lever 32 may, however, continue to swing backwardly, compressing the spring 34 until the abutment 38 engages the valve-stem 39 and sets the riveter motor in action. The

pressure fingers 24, 25, hold the two parts to be united firmly together, thereby preventing the body of the rivet from swelling under the influence of the blows, thus insuring more perfect work while rendering the operation very simple and expeditious.

I claim as my invention—

1. In a riveting machine, in combination, an anvil, a hammer, a movable frame supporting the hammer, and a pressure finger carried by the frame for holding the work to be acted upon against the anvil.

2. In a riveting machine, in combination, a standard, an anvil, a reciprocable frame mounted on the standard, a motor mounted on the frame, a hammer, guided by the frame and in operative connection with the motor, a pressure finger yieldingly carried by the frame, and a lever pivoted on the standard for reciprocating the frame.

3. In a riveting machine, in combination, an anvil, a reciprocable frame having an apertured guide lug, a bushing slidably mounted within the lug and provided with a pair of pressure fingers for bearing work against the anvil, a spring for advancing the bushing, and a hammer slidable within the bushing.

4. In a riveting machine, in combination, a standard, an anvil, a pneumatic hammer mounted on the standard and movable toward and from the anvil, a pair of pressure fingers yieldingly mounted with the hammer for engaging work upon the anvil, and a lever for advancing the hammer and actuating its valve.

5. In a riveting machine, in combination, a standard, an anvil, a power-actuated hammer slidingly mounted on the standard, a pair of pressure fingers yieldingly mounted with the hammer, a lever pivoted on the standard for moving the hammer, a lever for controlling the motor and yieldingly engaging the first-mentioned lever.

JOHN A. MOSHER.

Witnesses:
J. T. HASKELL,
J. M. BURGE.