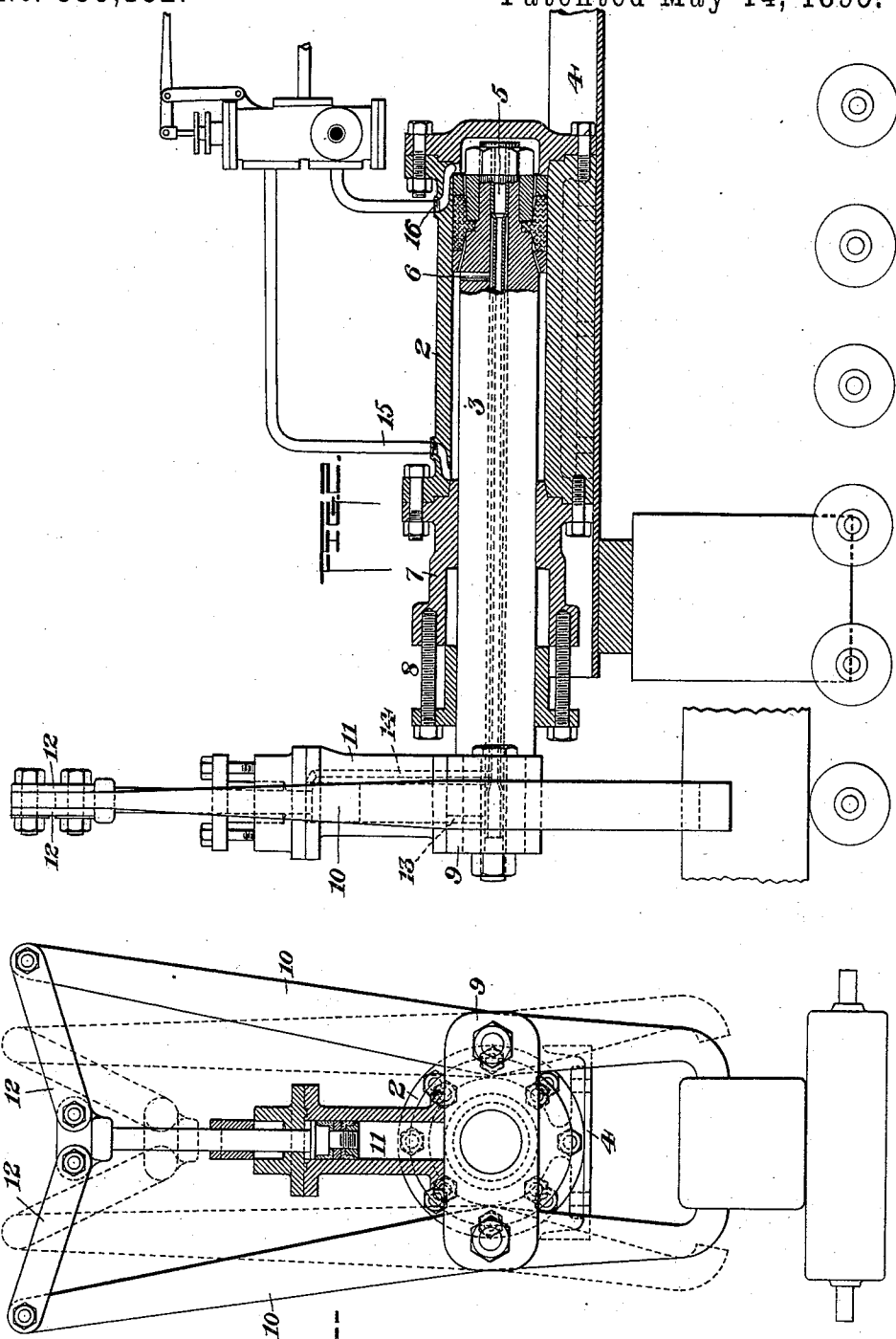


(No Model.)

T. JAMES.
DEVICE FOR HANDLING BLOOMS, &c.

No. 539,132.

Patented May 14, 1895.



Witnesses
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H. M. Corbin

Inventor
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UNITED STATES PATENT OFFICE.

THOMAS JAMES, OF BRADDOCK, PENNSYLVANIA.

DEVICE FOR HANDLING BLOOMS, &c.

SPECIFICATION forming part of Letters Patent No. 539,132, dated May 14, 1895.

Application filed May 24, 1894. Serial No. 512,307. (No model.)

To all whom it may concern:

Be it known that I, THOMAS JAMES, of Braddock, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Devices for Handling Blooms, Rails, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation, partly in section, of my improved device for handling blooms, rails, &c.; and Fig. 2 is a side elevation of the same, partly broken away.

My invention relates to means for seizing and moving blooms or other pieces of metal and adjusting them to be sawed or sheared, and is designed to afford a simple, compact and easily operated device for this purpose. Hitherto it has been difficult to bring the metal to the exact point desired before the saw or shears and a limit of three inches variation was as close as could be attained, while I can adjust within half an inch in much less time and with less labor.

In the drawings, in which similar numerals indicate corresponding parts, 2 represents a horizontal cylinder containing a plunger 3, this cylinder being secured to a base-plate 4, as shown, which plate is supported upon a roller table frame carrying the rollers as shown. The plunger is provided with a central longitudinal hole extending therethrough, and within this hole is secured the tube 5, which for a major portion of its length is reduced in diameter so as to leave an annular space around it within the central bore. With this annular space communicate the ports 6 leading radially inward through the plunger from the annular space surrounding the body of the plunger, which at its rear end is enlarged and provided with suitable packing to fit the interior of the cylinder, as shown.

The front end of the plunger passes through a longitudinal bearing provided in the head 7 and the gland 8, and to it is rigidly secured the block 9, having pivoted in end slots thereof the tong-levers 10. To the upper face of this block is secured the small vertical motive cylinder 11, to the upper end of whose piston rod are pivoted the links 12 connecting pivotally with the upper ends of the levers 10. The front end of the plunger is

closed, while the rear end is open for admission of motive fluid to the interior of the tube 5, from which tube the fluid passes through a port 13 to the lower end of the cylinder 11. From the annular space around the tube within the plunger, a port 14 leads to the upper end of the cylinder 11, while the cylinder 2 is provided with the usual ports 15 and 16.

The operation is as follows:—The parts being in the position shown in dotted lines in Fig. 1, fluid is admitted through the port 16, and passing through the tube 5 and port 13 raises the piston within the cylinder 11, and thus clamps the tong-jaws upon the bloom or other piece of metal lying between them. The plunger is then moved forward by the pressure upon its rear face, and the bloom moved thereby to the desired position. The admission valve then being reversed, fluid enters through the port 15, and passing through the ports 6, the annular space around the tube 5 and the port 14 unclamps the jaws by forcing down the piston in the cylinder 11. The plunger then moves back under the pressure of the fluid, the waste from the cylinder 11 passing back through the tube 5 to the exhaust, and the parts are again ready for another operation.

The advantages of the device are apparent, since a single valve controls both the movement of the tong-jaws and the motion of the tongs as a whole, the successive motions following automatically in their proper order, while the device is simple, occupies small space, and gives an accurate adjustment of the piece.

The tongs may be used in any position whether vertical or horizontal, and many other changes will suggest themselves to those skilled in the art without departing from my invention; since

What I claim, and desire to secure by Letters Patent, is—

1. The combination with a motive cylinder, of a pair of tongs connected to and moved by its piston, a second cylinder arranged to actuate the tong-jaws, and a constantly open fluid connection between the cylinders; substantially as described.

2. A motive cylinder having a hollow plunger, a pair of tongs carried thereon, a cylinder arranged to actuate the tongs, and a con-

stantly open port leading from the hollow plunger to the tong-actuating cylinder; substantially as described.

3. A motive cylinder having a pair of tongs,
5 supported upon its plunger, a cylinder for actuating the tongs, a passage leading from one port through the plunger to one end of the tong-actuating cylinder, and a second passage leading from the other end through
10 the plunger to the other supply port; substantially as described.

4. The combination with a motive cylinder,

of a pair of tongs connected to and moved by its piston, a second cylinder arranged to actuate the tong-jaws, a fluid connection between 15 the cylinders, and a single valve admitting motive fluid to both cylinders; substantially as described.

In testimony whereof I have hereunto set my hand.

THOMAS JAMES.

Witnesses:

H. M. CORWIN,
W. B. CORWIN.