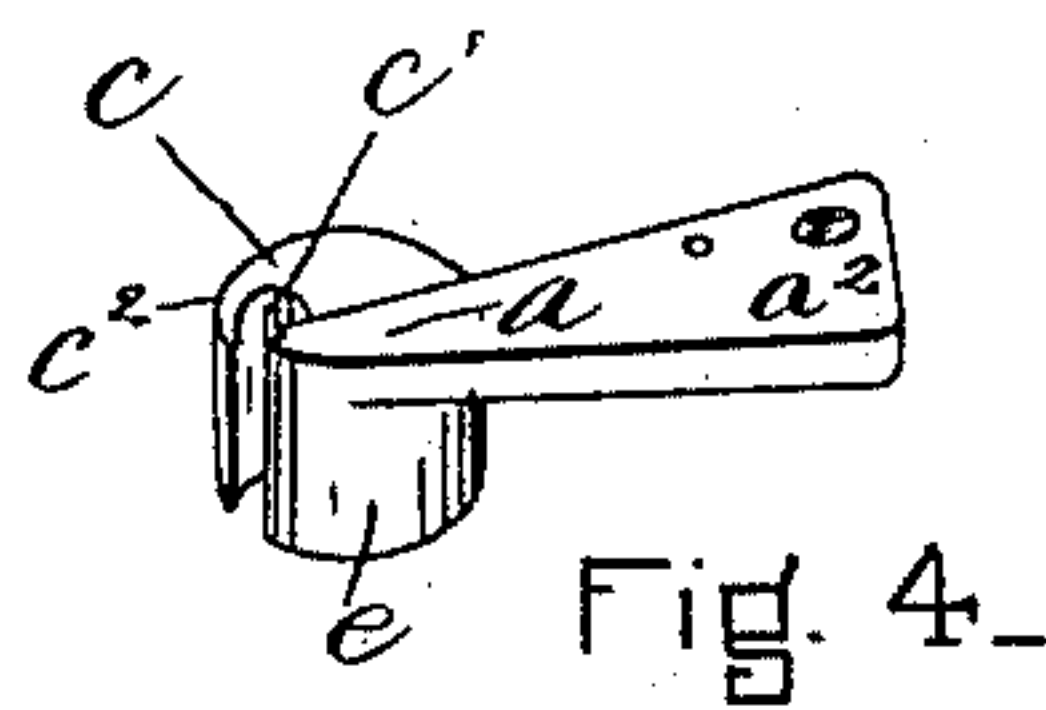
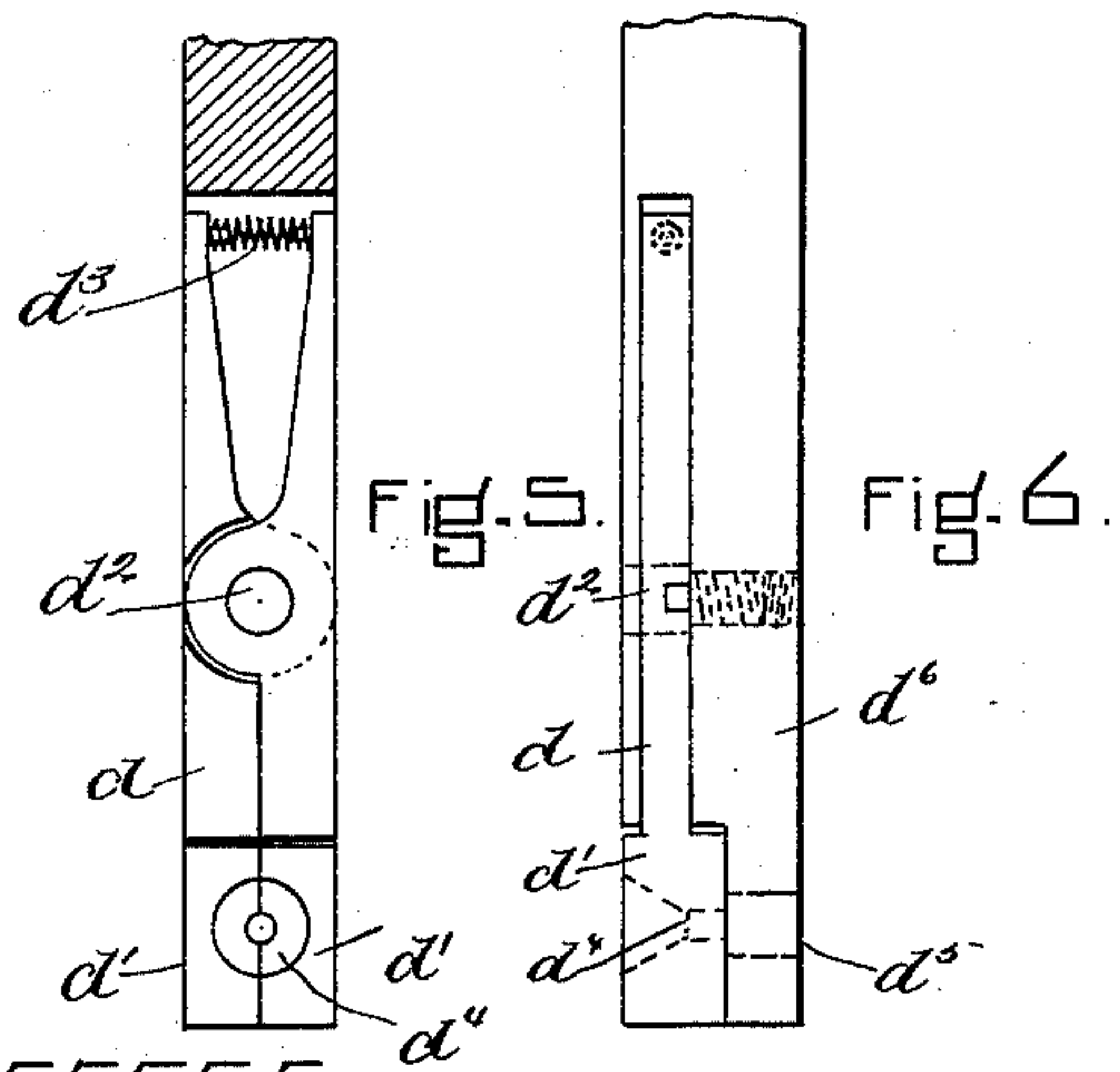
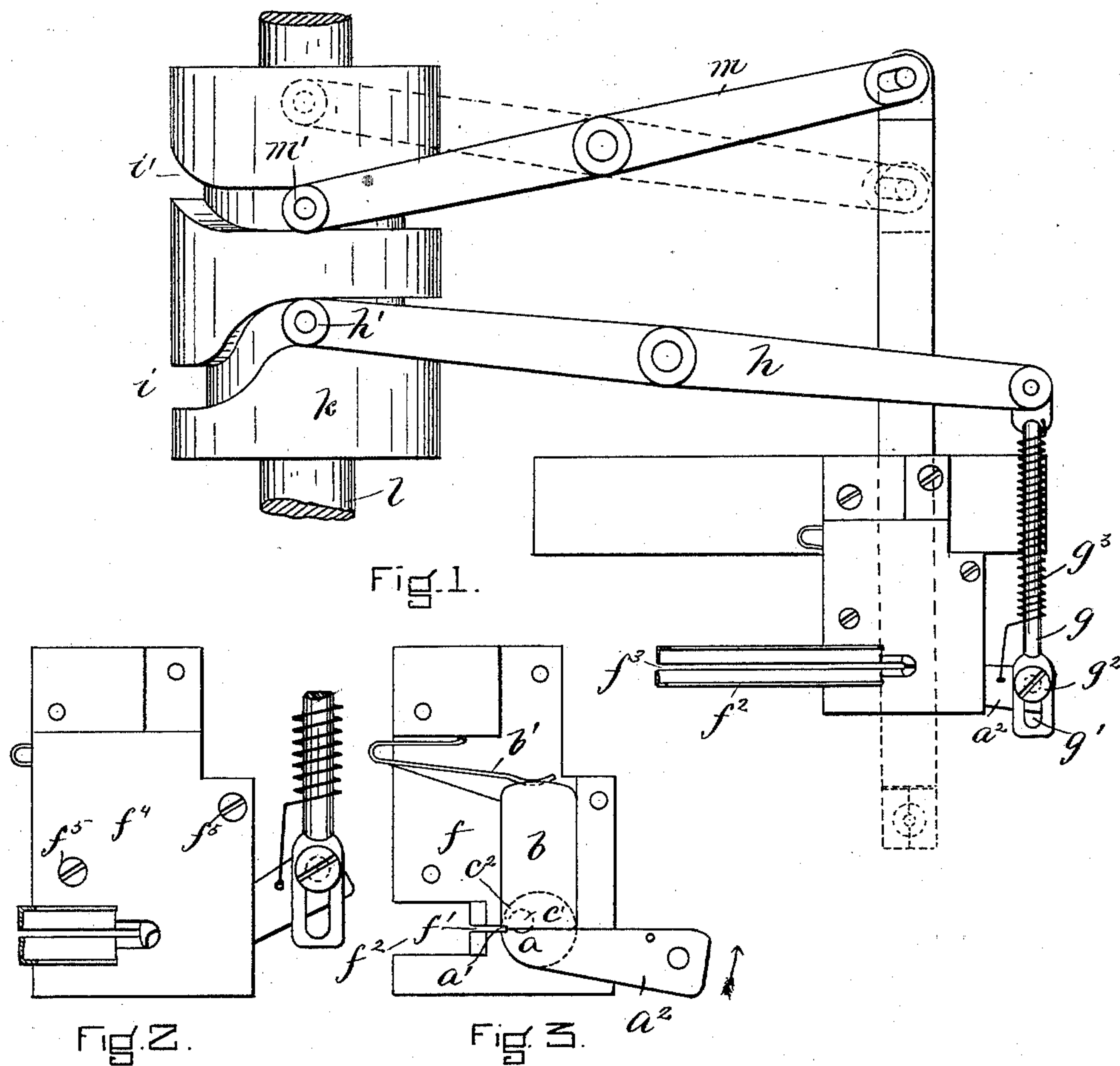


(No Model.)

E. PATTEN.
TACK DRIVING MACHINE.

No. 483,747.

Patented Oct. 4, 1892.



WITNESSES.

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UNITED STATES PATENT OFFICE.

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TACK-DRIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 483,747, dated October 4, 1892.

Application filed November 13, 1891. Serial No. 411,814. (No model.)

To all whom it may concern:

Be it known that I, ENOS PATTEN, a citizen of the United States, residing at Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Tack-Driving Mechanisms, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to machines whereby tacks or nails are automatically fed and driven, and in particular to the devices employed in such machines for taking the nails or tacks successively and presenting them to the driver.

My invention consists in certain novel features of construction and novel combinations of parts, which will first be described with reference to the accompanying drawings, and then will be particularly defined and pointed out in the claims at the close of this specification.

In the drawings, Figure 1 is a plan view of devices embodying my invention. Fig. 2 is a similar view of a portion of the same devices, it showing certain parts in changed positions. Fig. 3 is a similar view of some of the parts shown in Fig. 2, the cover-plate shown in the latter figure being represented as removed. Figs. 4, 5, and 6 are views of details.

The essential working parts of my improved devices are, first, a pair of gaging-jaws a b , between which the tacks or nails which are fed to the devices for the purpose of being driven are received singly; second, a cut-off c , which acts while the gaging-jaws are separated to free the tack or nail which has entered between them to hold back the remaining nails or tacks of the series approaching the gaging-jaws, and, third, a carrier d , whereby a tack or nail which has been dropped from the gaging-jaws in consequence of the opening of the latter is received and presented to be driven.

The jaws a b fit closely together and at one side they are formed to leave between them an opening or recess a' of just sufficient size to receive the body of a nail or tack. The jaw a has connected therewith a cylindrical boss or hub e , which is fitted into a hole formed

through the bed-plate f and has capacity to turn in the said hole. The said jaw is prolonged outwardly to form an arm a^2 , serving for connection with the devices for actuating the jaw. A rod g serves to link the arm a^2 to one end of a lever h , the said lever carrying at its opposite end a stud or bowl h' , which enters into a cam-groove i in a cam-hub k , mounted upon a power-shaft l . The jaw b is fitted to slide in ways in the bed-plate f and is acted upon by a spring b' , which causes it to bear against the jaw a . The meeting faces of the jaws a b are prolonged outward from recess a' or to the right in the drawings to a point on the opposite side of the axis of the hub or boss e . In consequence of this as jaw a is rocked in the direction of the arrow in Fig. 3 through the action of the operating connections, which have been described, its face, acting against the face of jaw b at a point beyond the axis, will move the jaw b along its ways in bed-plate f , thereby increasing the size of the opening between the jaws and providing in a simple manner for freeing a tack or nail that previously rested in the recess a' between the jaws. The cylindrical boss or hub e , with which jaw a is connected, is formed with a vertical opening c' , made in one side of the same and extending toward the axis thereof. As a tack or nail enters between the jaws it passes into this opening, and when the jaws are separated to free the tack or nail, the head of which rests upon the upper sides of the jaws, the tack or nail falls through this opening. This boss or hub is utilized in the construction of the cut-off, it being formed at one side of the hole or opening c' , extending through the same, with a curved lip c^2 . This lip is intended to pass in the movement of the parts in the direction of the arrow aforesaid in Fig. 3 behind the stem or body of the nail or tack which has entered the recess a' and hole c' and between the same and the stem or body of the following nail or tack, and thus separate the former from the latter, the curved exterior of the hub or boss holding back the latter and all that follow it. In order that the jaws may have tacks or nails conveniently fed thereto, there is formed in bed-plate f a slot f' , and an inclined chute or guideway f^2 is mounted with its lower end in a recess f^3

in the plate f in proximity to the jaws and cut-off. The bottom of the chute f^3 is slotted to receive the stems or bodies of the tacks that are placed in the same and the said tacks or nails, hanging by their heads, slide down the chute f^2 and into slot f' , passing thence successively into the recess a' . Sometimes in practice the forward movement of the cut-off is obstructed by a tack or nail which fails to enter wholly within the hole c' . In order that breakage may not result in consequence of this obstruction, the rod g has a sliding connection with arm a^2 and a spring g^3 is interposed between the rod and arm, this spring yielding whenever the proper movement of the cut-off is prevented.

I have shown in the drawings one convenient mode of arranging and connecting the parts. In the drawings rod g is formed with a slot g' and through the slot passes the headed stud g^2 , which is carried by the arm a^2 . Spring g^3 surrounds rod g and is connected at one end to the rod g and at the other end to the arm a^2 . Beneath the jaws a b and cut-off c is placed the carrier d . In the construction illustrated this carrier is formed as a slide, which is mounted in ways in bed-plate f and is connected at its rear end with one end of a lever m , which at its opposite end carries a stud or bowl m' , entering a cam-groove i' in cam-hub k . At its forward end the slide carries a pair of jaws d' d'' , which are pivoted to the slide by means of a screw d^2 and have between their tail ends a spring d^3 , which tends to press such ends apart and to press together their opposite or forward ends. The latter are formed with enlarged heads, which on their meeting faces are shaped to form the opening or passage-way d^4 , this opening being funnel-shaped in its upper portion, so as properly to receive and guide the tacks or nails as they are dropped from the jaws a b , and being cylindrical in its lower portion to direct the points of the tacks or nails into the cylindrical hole d^5 , which is formed through that portion d^6 of the slide on which the jaws are mounted. The forward end of the slide is slotted transversely for the reception of the jaws d' d'' , and the portion d^9 below the slot projects beyond the portion above the slot, while the heads of jaws d' d'' are located above this extended portion. When a tack or nail has been dropped from the jaws a b into the opening d^4 , it hangs therein by the contact of the head thereof with the tapering sides of the opening, and while thus supported it is carried forward by the movement of the carrier into position to be driven. The driver

by which the tack is driven will enter between the jaws d' d'' and the latter will yield as the head of the tack or nail is forced down.

Having described my invention and the best manner of reducing the same to practice with which I am at present acquainted, I claim—

1. The combination, with gaging-jaws for receiving a tack and a cut-off for preventing the entrance of tacks between the jaws while the latter are separated, of means for opening the jaws and moving the cut-off, a carrier located beneath the jaws and receiving the tack or nail when dropped from the opened jaws and also holding the tack until driven, and means for moving the carrier to present the tack held thereby in position for being driven, substantially as described.

2. The combination, with a gaging-jaw mounted to partially rotate and means for moving the same, of an opposing gaging-jaw abutting against the side of the jaw first mentioned and a spring for causing the same to close against the partially-rotatable jaw, substantially as described.

3. The combination, with a gaging-jaw mounted to partially rotate, a cut-off carried thereby and moving therewith, and means for moving the said gaging-jaw and cut-off, of an opposing jaw abutting against the side of the jaw first mentioned and a spring for causing the same to close against the partially-rotatable jaw, substantially as described.

4. The combination, with a cut-off mounted to partially rotate, of an arm rigidly connected therewith, a rod having a sliding connection with the said arm, a spring connecting the arm and rod, and means for moving the rod to actuate the cut-off, substantially as described.

5. The combination, with the partially-rotatable gaging-jaw, a cut-off carried thereby and moving therewith, an opposing movable gaging-jaw, a spring for causing the said movable jaw to bear against the partially-rotatable jaw, and means for operating the partially-rotatable jaw and cut-off, embracing a yielding connection, of a carrier provided with spring-pressed jaws having between them a receiving-opening and means for actuating the carrier, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ENOS PATTEN.

Witnesses:

CHAS. F. RANDALL,
WM. A. MACLEOD.