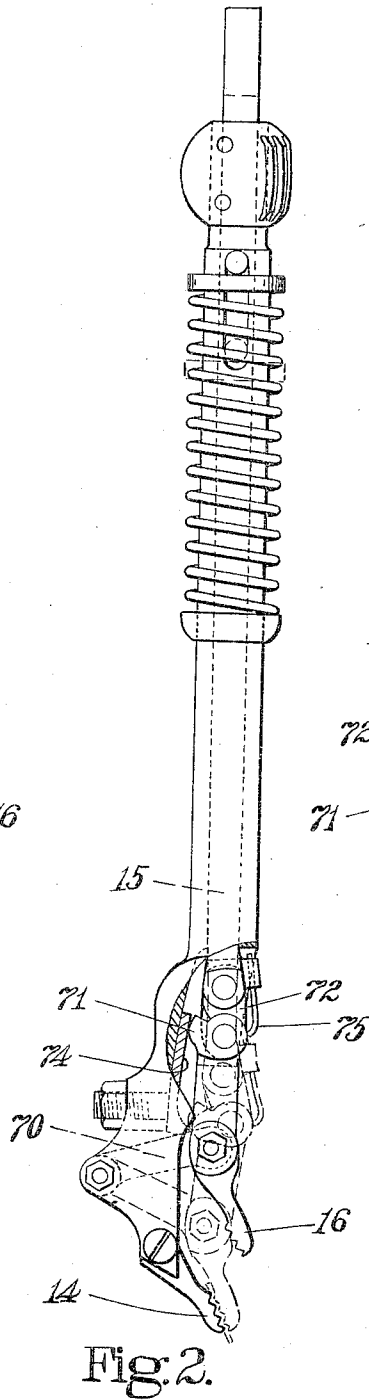
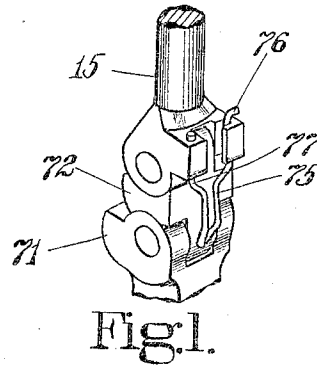
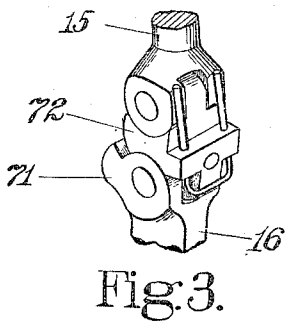


C. D. FOYE.
PINCERS.

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1,051,322.

Patented Jan. 21, 1913.



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PINCERS.

1,051,322.

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To all whom it may concern:

Be it known that I, CYRUS D. FOYE, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain Improvements in Pincers, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to pincer mechanisms herein shown as adapted for use in lasting machines of the type described in U. S. Letters Patent No. 1,005,234 granted to Ladd and Stiggins and dated Oct. 10, 1911.

An object of this invention is to improve the construction of this type of pincers and particularly for the purpose of reducing the cost of manufacture and rendering more accessible a part which requires renewal from time to time.

In the illustrated embodiment of the invention the pincers comprise a rigid jaw and a pivoted jaw. The pivoted jaw is fulcrumed on a laterally extended link which connects it with the fixed jaw. The pivoted jaw is extended above its fulcrum and the upper arm is connected with an endwise movable operating rod by means of a link to actuate the pivoted jaw in the curved path necessary for its movement with the fulcrumed link. A cam is provided back of the pivoted jaw, or between it and the carrier for the fixed jaw, and the upper end of the pivoted jaw has a formation for engagement with this cam to effect rocking movement of the pivoted jaw about its connection with the fulcrumed link during the closing movement of the pivoted jaw. For the purpose of maintaining this engagement with the cam and for controlling flexure of the link connection with the operating rod a spring is arranged in accordance with this invention for engagement with the operating rod and the connecting link. This spring is shown as located on the outer side of these members as they are arranged in the assembled pincer so that it is readily accessible for renewal. As shown, the spring has a staple-like formation and is supported by one of said members and presses against the other member in a direction to tend to cause flexure toward the cam and, by force transferred through the link, to maintain the heel

of the pivoted gripper jaw against its controlling cam. A preferred mounting for the spring comprises an eye in the operating rod which receives one leg of the staple and an angular recess adjacent to said eye into which the other leg of the staple may be introduced laterally and will be held by the resilience of the staple while a head on said other leg engages with a wall of the angular recess to uphold the spring. The cross bar or head of the staple-shaped spring bears laterally against the outer face of the connecting link.

The invention will more clearly appear from the following description of the mechanism embodying the same and it will then be pointed out in the claims.

Figure 1 is a perspective view of a portion of a pincer mechanism embodying this invention. Fig. 2 is a side elevation of the lower portion of the pincers with a part of the casing broken away. Fig. 3 is a view similar to Fig. 1 showing a modification.

The pincer jaw 16, which is pivoted about midway of its whole length upon the swinging bar 70, is connected at its upper end by a link 72 to its operating rod 15 in order that the tip of the jaw may have an appropriate outreaching movement to gather in the stock which is to be gripped. The heel 71 of jaw 16 slides over a cam 74 which is formed to cooperate with these connections for giving the desired path of movement and in accordance with a feature of this invention a spring is arranged to cooperate with the link 72 and the foot of the rod 15 for controlling flexure of the joint between said link and rod for the purpose of maintaining the heel 71 against the cam 74. This spring which is indicated at 75 in Figs. 1 and 2 has an inverted staple shape and its cross bar is seated against the outer face of the link 72 with its legs extending upwardly through bosses on the foot of the rod 72 and one of the legs has its upper end outturned as at 76. For convenience in assembling the uppers and permitting removal and replacement of the spring without disconnecting the grippers a close fitting eye is made in the boss on the rod foot to receive the straight leg of the spring which is thrust upwardly there-through. For receiving the other leg the boss is slotted inwardly and then laterally to form a seat into which the leg having the

outturned end 76 can be inserted laterally and will be held by the resilience of the spring with the outturned end 76 resting down upon the upper face of the boss. The legs of the staple are bent inwardly at 77 to form shoulders which limit the upward movement of the legs in the boss and thereby prevent the spring from working upwardly while in use. In the construction illustrated in Fig. 3, the legs of the staple extend through straight eyes in a boss that is formed on the outer face of the link 72 and the ends of the legs rest against the foot of the rod 15 while the cross bar of the staple is seated in a retaining recess in a link which prevents the spring from accidentally moving downwardly.

For removing the spring from the construction shown in Fig. 3 it is only necessary to pry the cross bar out of its seat and drive the staple downwardly by force applied to its ends. For removing the spring from the construction shown in Figs. 1 and 2 it is only necessary to pinch the legs together until the leg having the outturned end can be moved laterally out of its recess whereupon the spring can be freed from the grippers by a downward movement. Reverse manipulation effects quickly the replacement of this spring.

Having explained the nature of the invention and described how it may be embodied in practical form, I claim as new and desire to secure by Letters Patent of the United States:

1. In a lasting machine the combination with suitable actuating mechanism, of a pincer jaw, a cooperating pivoted jaw, means for actuating the pivoted jaw to

grip the stock, said means comprising a rod, a link pivotally connecting the rod and the jaw, a cam for engagement by the upper end of the jaw, and a spring engaging the rod and the link and supported by one of said members to maintain the jaw against the cam.

2. In a lasting machine the combination with suitable actuating mechanism, of a pincer jaw, a cooperating pivoted jaw, means for actuating the pivoted jaw to grip the stock, said means comprising a rod, a link pivotally connecting the rod and the jaw, and a staple shaped spring having its bar in engagement with the link and having one leg outturned at its end, an eye in the rod to receive the other leg and an angular recess in which the leg having the outturned end is held by the resilience of the spring.

3. In a lasting machine the combination with suitable actuating mechanism, of a pincer jaw; a cooperating pivoted jaw, means jointed to the pivoted jaw for actuating that jaw to grip the stock and a spring supported on one of said parts and engaging the other to control the flexure between said pivoted jaw and its actuating means, the spring being carried on the outer side of its supporting part in a position easily accessible for replacement and engaging the outer side of the other part.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CYRUS D. FOYE.

Witnesses:

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LAURA M. GOODRIDGE.