

J. L. ZANE.
TOE CALK SHEARS.
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1,058,134.

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Fig. 3.

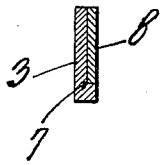


Fig. 1.

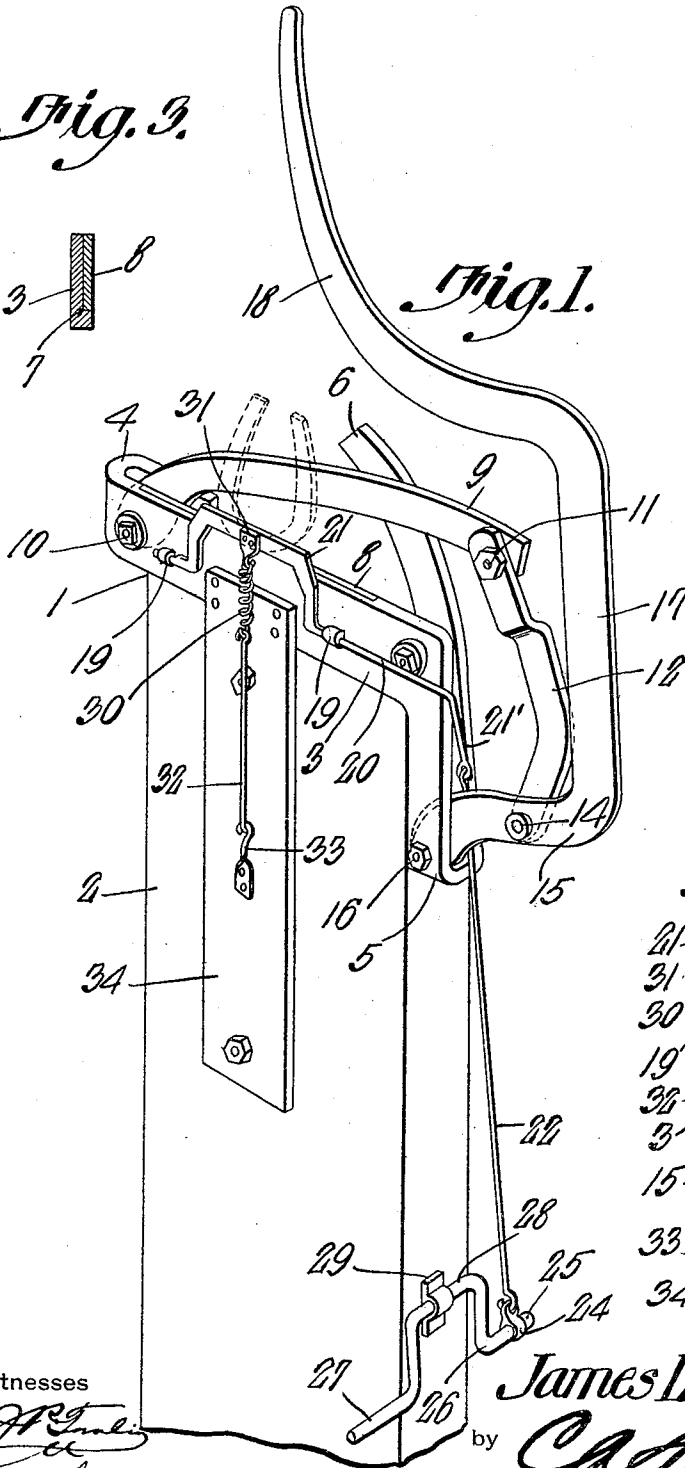
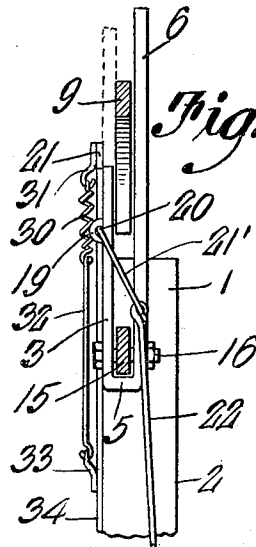


Fig. 2.



Witnesses

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TOE-CALK SHEARS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES L. ZANE, a citizen of the United States, residing at Farmington, in the county of Van Buren and State of Iowa, have invented a new and useful Toe-Calk Shears, of which the following is a specification.

The device forming the subject matter of this application is adapted to be employed for cutting toe calks from horse shoes.

The invention aims to provide a movable cutting member and to provide a rotatable presser foot adapted to press the shoe against the cutting member during the operation thereof.

A further object of the present invention is to provide novel actuating mechanism for the movable jaw and to provide novel means for limiting the lateral movement of the movable jaw during the cutting operation.

A further object of the present invention is to provide novel means for operatively connecting the actuating and cutting elements of the structure so that there will be no lost motion.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings—Figure 1 shows the invention in perspective; Fig. 2 is a side elevation, parts being broken away in sections; and Fig. 3 is a transverse section of a portion of the supporting structure, showing the fixed jaw mounted therein.

In carrying out the invention there is provided a supporting structure, denoted generally by the numeral 1. The supporting structure 1 includes a standard 2 to the upper end of which is secured a bar 3 having a loop 4 at one end extended in the general direction of the bar 3. At its other end, the bar 3 carries a depending loop 5 terminated in an upstanding, curved finger 6, the extremity of which lies above the body portion of the bar 3. That side of the bar 3 which is adjacent the finger 6 is recessed and shouldered as shown at 7 to receive the fixed jaw 8.

The invention further includes a movable jaw 9, preferably taken in the form of a curved lever, fulcrumed at one end as indicated at 10, in the loop 4 of the bar 3. The movable jaw 9 is in slidable contact with the finger 6, the finger 6 serving to direct the vertical movement of the jaw 9 with respect to the fixed jaw 8. Pivotaly connected with the free end of the jaw 9 as indicated at 11 is a link 12, the lower end of which is pivotally connected at 14 with a lever denoted generally by the numeral 15, the lever 15 being fulcrumed as at 16 in the depending loop 5 of the bar 3. The lever 15 is curved in its intermediate portion as indicated at 17, for a purpose to be described hereinafter, the lever 15 terminating in a hand grip 18.

The bar 3 is formed with bearings 19 in which is journaled a shaft 20, provided with an arched presser foot 21 mounted to rotate at right angles to the plane of movement of the movable jaw 9. One end of the shaft 20 terminates in a crank arm 21' pivotally connected with a link 22, the lower end of which is pivotally connected with a keeper 24, carried by one arm 25 of a pedal 26, the other arm 27 of the pedal being adapted to receive the foot of the operator, and the intermediate portion 28 of the pedal being journaled for rotation in a bearing 29 secured to one edge of the member 2.

Resilient means is provided for depressing the presser foot 21 and for swinging the same away from the movable jaw 9. This means includes a retractile spring 30 pivotally connected with the intermediate portions of the presser foot as indicated at 31, the lower end of the spring 30 being connected with a link 32 pivotally connected with a hook 33 secured to a reinforcing member 34 attached to, or formed integrally with the standard 2.

The practical operation of the device is as follows: The shoe from which the toe calk is to be clipped is placed vertically upon the bar 3, the toe calk projecting beyond the fixed jaw 8. The foot of the operator is placed upon the arm 27 of the pedal 26, causing a depression of the link 22 and, through the instrumentality of the crank arm 21, causing a rotation of the shaft 20, whereupon the presser foot 21 will be swung in a plane at right angles to the plane of movement of the movable jaw 9, the presser foot 21 engaging the shoe and holding the

same against the movable jaw 9, so that the movable jaw, when depressed, may clip away the toe calk. During the vertical movement of the movable jaw 9, the same is restrained against lateral movement by means of the finger 6, the finger 6 obviously preventing the movable jaw 9 from being thrust sidewise, due to the pressure of the presser foot 21. When the manually operable end 18 of the lever 15 is swung downwardly, the link 12 will cause the movable jaw 9 to descend, sliding along the face of the finger 6, the movable jaw 9 ultimately engaging the toe calk and shearing the same away. So soon as the pedal pressure is removed from the arm 27 of the pedal 26, the spring 30 will act to swing the presser foot 21 away from the shoe. Owing to the fact that the lever 15 is curved in its intermediate portion as indicated at 17, it is possible to dispose the crank arm 21' and the link 12 upon the same side of the machine, the construction of the lever being such that the lever may be operated without interfering with the elements under consideration. Since the lever 15 is fulcrumed as indicated at 16 in the depending loop 5 of the bar 3, a lateral movement of the lever is limited. Likewise, since the movable jaw 9 is fulcrumed as indicated at 10 in the loop 4 of the bar 3, a lateral movement of the fulcrumed end of the movable jaw is limited, a lateral movement of the free end of the movable jaw being limited by the finger 6. Having thus described the invention, what I claim as new is:

1. In a machine for cutting toe calks, a supporting structure including a fixed jaw; a movable jaw fulcrumed upon the supporting structure; a presser foot journaled for rotation upon the supporting structure for movement independently of the movable jaw and at right angles to the plane of movement of the movable jaw the foot being adapted to press the shoe against the movable jaw during the descent of the movable jaw to cut the calk, the presser foot including a crank arm; a link connected with the crank arm; a pedal upon the supporting structure, operatively connected with the link and spring means for retracting the presser foot and for elevating the pedal.

2. In a machine for cutting toe calks, a supporting structure including a bar provided at one end with a depending loop terminating in an upstanding finger; a fixed jaw carried by the bar; a movable jaw fulcrumed upon the bar and held in operative relation with the fixed jaw by the finger; a lever fulcrumed in the loop; and a link connected with the movable jaw and with the lever.

3. In a machine for cutting toe calks, a supporting structure including a bar provided at one end with a depending loop ter-

minating in an upstanding finger; a fixed jaw carried by the bar; a movable jaw fulcrumed upon the bar and held in operative relation to the fixed jaw by the finger; a lever fulcrumed in the loop; a link connected with the movable jaw and with the lever; and a presser foot rotatably mounted upon the supporting structure for movement at right angles to the plane of movement of the movable jaw and operable independently of the movable jaw.

4. In a machine for cutting toe calks, a supporting structure including a bar provided with a depending loop terminating in an upstanding finger; a fixed jaw upon the bar; a movable jaw fulcrumed upon the bar and slidably engaged with the finger; a lever fulcrumed in the loop; a link connecting the lever with the movable jaw; a presser foot mounted upon the supporting structure for rotary movement transversely of the plane of movement of the movable jaw and independently of the movable jaw, the presser foot including a crank arm; a link connected with the crank arm; and a pedal upon the supporting structure, operatively connected with the link.

5. In a machine for cutting toe calks, a supporting structure; a fixed jaw; a movable jaw fulcrumed upon the supporting structure; a lever fulcrumed upon the supporting structure; a link connecting the lever with the movable jaw; a presser foot journaled for rotation upon the supporting structure for movement at right angles of the plane of movement of the movable jaw, the presser foot including a crank arm located in the vicinity of the link; and means connected with the crank arm for operating the presser foot; the lever being curved in its intermediate portions to space the lever from the crank arm and from the link.

6. In a machine for cutting toe calks, a supporting structure including a fixed jaw; a movable jaw fulcrumed upon the supporting structure for movement in a fixed plane; a fixed member slidably engaged with the movable jaw to prevent lateral movement of the movable jaw; an independently operable presser foot journaled for rotation upon the supporting structure for movement at right angles to the plane of the movable jaw; means for operating the presser foot to thrust the same against the shoe and to thrust the shoe against the movable jaw; and spring means for swinging the presser foot from the shoe.

7. In a machine for cutting toe calks, a standard; a bar provided at its ends with loops, one of which loops extends along the top of the standard, the other of which loops extends along the side of the standard, the last specified loop terminating in an upstanding finger; a movable jaw pivoted in the first specified loop and engaged with the

finger against movement in one direction; a
lever fulcrumed in the last specified loop;
a link connecting the intermediate portion
of the lever with the free end of the movable
5 jaw to slide the movable jaw along the
finger; and a fixed jaw upon the bar, inter-
mediate the loops.

In testimony that I claim the foregoing
as my own, I have hereto affixed my signa-
ture in the presence of two witnesses.

JAMES L. ZANE.

Witnesses:

MARTIN HARNAGEL,
B. F. KITCHAM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
