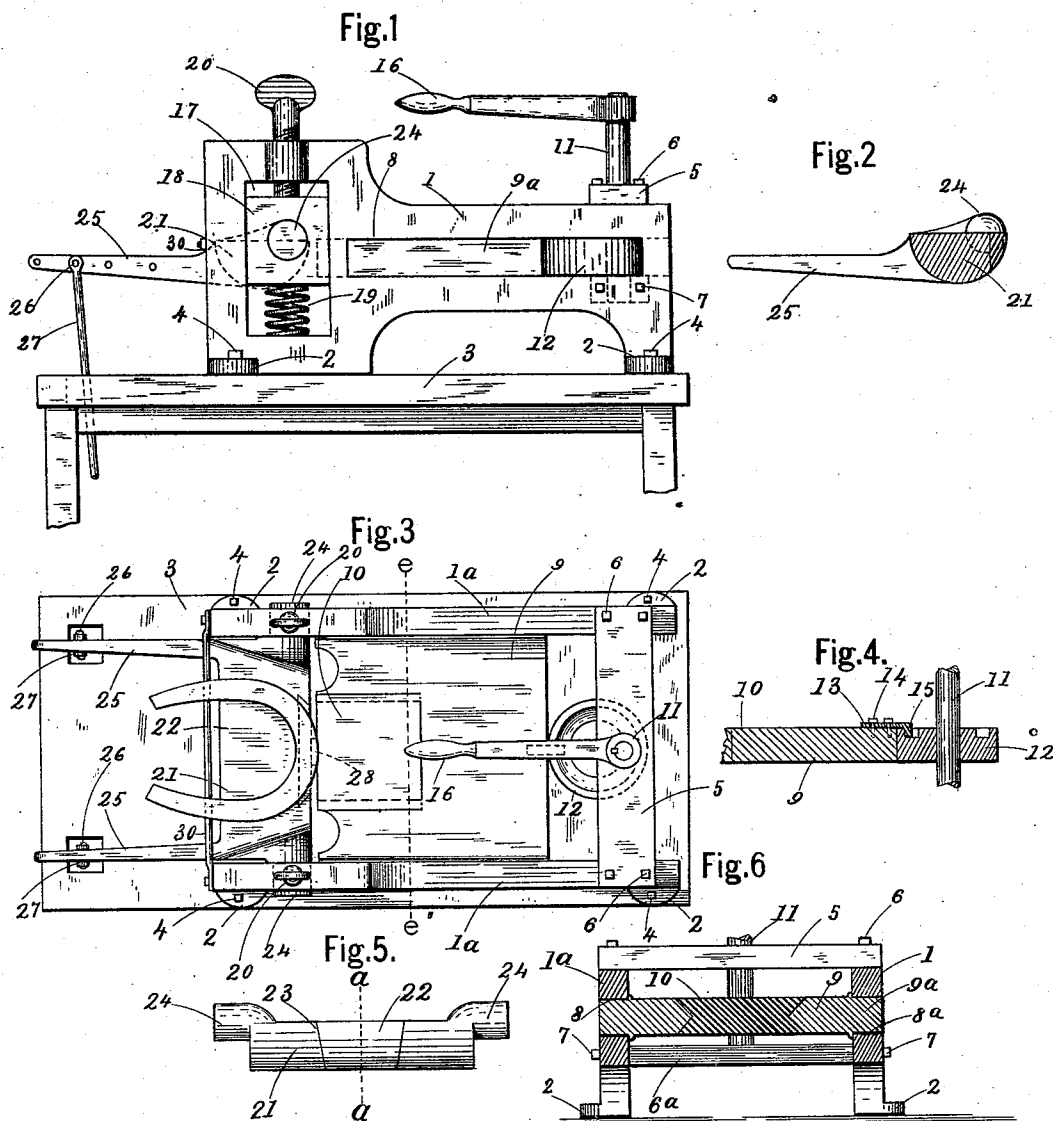


(No Model.)

L. F. TARBELL.
MACHINE FOR SHARPENING HORSESHOE CALKS.

No. 531,659.

Patented Jan. 1, 1895.



Witnesses.

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UNITED STATES PATENT OFFICE.

LEONARD F. TARBELL, OF WESLEY, NEW YORK.

MACHINE FOR SHARPENING HORSESHOE-CALKS.

SPECIFICATION forming part of Letters Patent No. 531,659, dated January 1, 1895.

Application filed September 6, 1894. Serial No. 522,249. (No model.)

To all whom it may concern:

Be it known that I, LEONARD F. TARBELL, a citizen of the United States, residing at Wesley, in the county of Cattaraugus and State of New York, have invented certain new and useful Improvements in Machines for Sharpening Toe and Heel Calks for Horseshoes, of which the following is a specification.

My invention relates to an improved machine for sharpening toe and heel calks for horse shoes, and will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation, showing the machine complete, the treadle by which it is operated being omitted. Fig. 2 represents a vertical section on or about line *a-a*, Fig. 5, through one of the operating dies. Fig. 3 is a top plan view of the machine, showing a horse shoe in position for having the toe calk sharpened. Fig. 4 represents a longitudinal section through a portion of the slide, cutting also centrally through the eccentric and its connecting piece. Fig. 5 represents an end view of the eccentric die and its two trunnions, showing also the operating face view of the removable die. Fig. 6 represents a vertical transverse section through the machine on or about line *e-e*, Fig. 3.

The two side frame pieces 1 and 1^a, are made preferably of cast iron and are each provided with feet 2, secured to a table 3, by bolts 4. At the rear of the frames, at the top, is a cross-bar 5, secured thereto by bolts 6, and directly below it, between the side frames, is secured by bolts 7, a cross-bar 6^a. Through the side frame piece 1, is a rectangular opening 8, and in the opposite frame piece 1^a, is another similar opening 8^a, both openings being in the same horizontal plane and directly opposite each other.

9, represents a slide having a portion of its sides 9^a, adapted to fit in said openings 8 and 8^a, so that it can be moved longitudinally back and forth. At the front end of the slide is a hardened steel die 10, adapted to slide into an opening made to receive it, substantially as shown in Figs. 3 and 6, and is thereby made removable when required. Mounted on a vertical shaft 11, which is fitted in suitable bearings in the upper and lower cross-bars 5 and

6^a, is a horizontally rotative eccentric 12, adapted to bear against the rear end of the slide 9. It is kept in contact with the end of the slide by a hook shaped bar 13, secured at one end to the slide by bolts 14, and having its opposite downward bent end 15, extending into a circular groove in the eccentric. See the sectional view Fig. 4. The top end of the shaft 11, is provided with a handle 16, by which the eccentric is operated.

From the above description it will be seen that the slide 9, may be made to move or reciprocate backward and forward by causing the eccentric to oscillate back and forth by means of the handle 16. The side frame pieces 1 and 1^a, are also provided at the front with vertical rectangular openings 17, in which are nicely fitted the boxes 18, (see Fig. 1) supported and kept upward by spiral springs 19. The limit of the upward movement of the boxes 18, is adjusted by the set-screws 20.

At the front of the machine is mounted in the boxes 18, an eccentric cam 21, having a hardened steel die 22, adapted to fit in a dovetail opening 23, in said eccentric cam, so that it can be easily removed when necessary and provided with the trunnions 24, which fit in the boxes 18. On each side of the eccentric cam is an arm or lever 25, by which it is operated, and to each arm 25, is pivoted by pins 26, a connecting rod 27, having their lower ends connected with a pivoted treadle made in any well known way for operating the device.

A horse shoe calk (a toe calk for instance) is sharpened by placing the shoe on the flat top of the eccentric cam, substantially as shown in Fig. 3, so that the toe calk 28, (shown by dotted lines) is between the working faces of the dies 10, and 22. The hand lever or handle 16, is moved so as to bring the die 10, forward to the required distance. The arms 25, are now turned downward, substantially as hereinbefore mentioned which operation turns the eccentric cam on its trunnions and causes the die 22, to press forward and compress the toe calk sufficiently to give it the required form or sharpness. The springs 19 allow the eccentric cam to move downward slightly during the operation.

30 represents a cross bar for supporting the rear portion of a horse shoe when the oppo-

site portion is being operated upon, but if desired a horse shoe can be held by the hand while being operated upon by the machine.

I claim as my invention—

- 5 In a machine for sharpening toe and heel calks for horse shoes, a horizontally movable slide mounted in slideways in the frame of the machine; carrying at its front end a hardened steel die and means for giving it its required
10 movements forward and back, in combination with an eccentric cam having a hardened steel

die in its working face and provided with trunnions mounted and adapted to rock in boxes located in the forward portion of the machine and resting upon downward yielding supports, arms connected with said eccentric cam and means substantially as above described for operating it. 15

LEONARD F. TARBELL.

Witnesses:

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