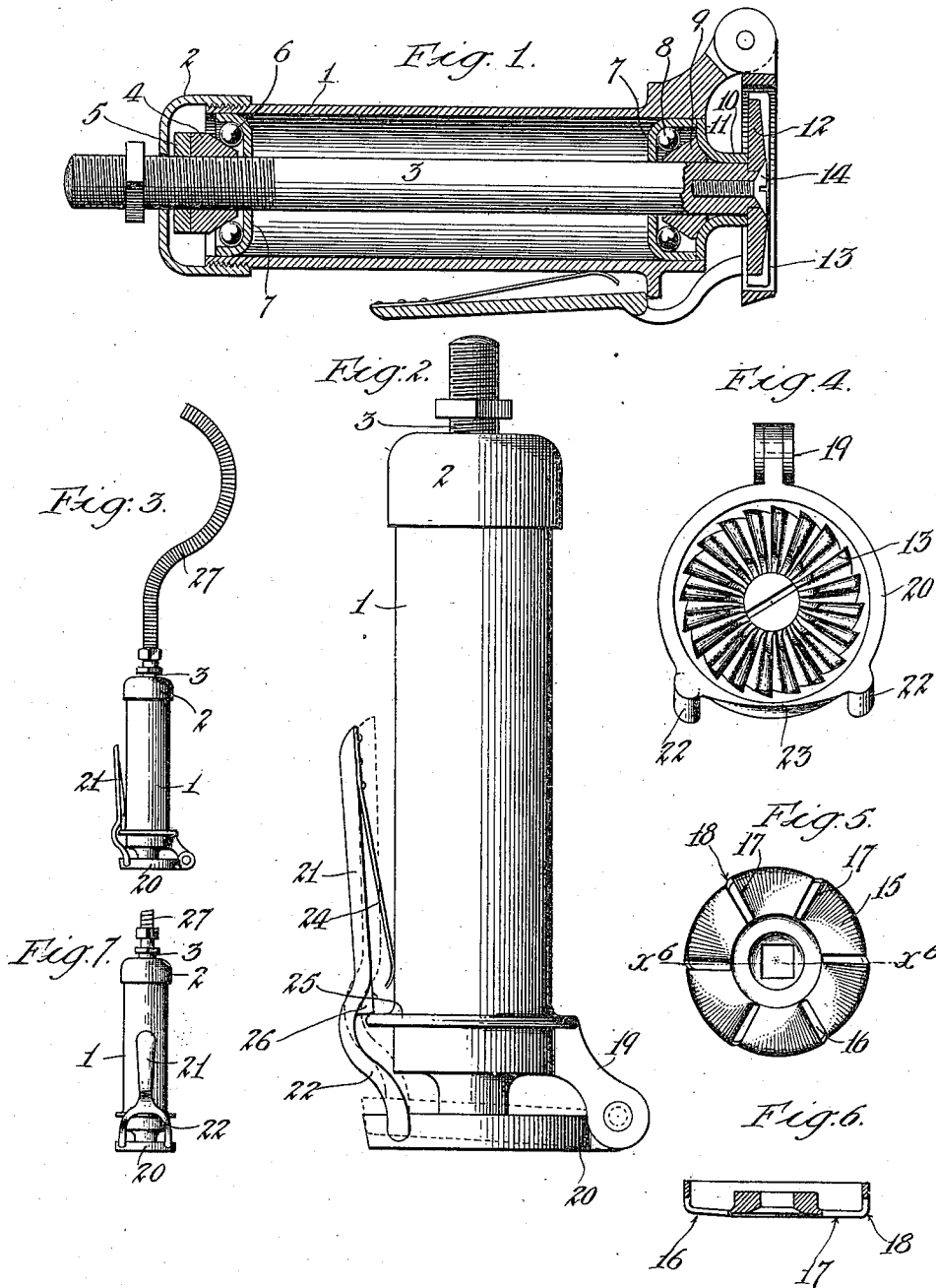


E. R. LANGFORD.
HOOF PARER.
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973,053.

Patented Oct. 18, 1910.



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UNITED STATES PATENT OFFICE.

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HOOF-PARER.

973,053.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWIN R. LANGFORD, a citizen of the United States, residing at Reno, in the county of Washoe and State of Nevada, have invented a new and useful Hoof-Parer, of which the following is a specification.

This invention relates to a device adapted to be used by horse-shoers, farriers, etc., for paring the hoofs of horses, mules, or other animals in fitting the shoes.

The object of the present invention is to provide a power operated cutting device for paring the hoof, by means of which the paring may be quickly performed and with utmost precision and accuracy, it being possible to regulate the device to vary the depth of cut. In addition to the rapidity and accuracy of work which may be produced by the device, it may also be operated with greater facility than the paring knife.

A further object is to enable the depth of cut to be adjusted while the device is in operation by a simple pressure of the hand of the operator upon the regulating device, the regulating mechanism responding immediately to produce the proper depth of cut desired.

A further object is to so construct the device that it may be used to cut the hoof close to the frog of the foot.

Other objects and advantages will be brought out in the following description.

Referring to the drawings: Figure 1 is a longitudinal, sectional view through the device. Fig. 2 is a side elevation of the device on a larger scale. Fig. 3 is a side elevation on a reduced scale showing the flexible shaft attached. Fig. 4 is an elevation of the cutting end of the device. Fig. 5 is a plan view of a different form of cutter. Fig. 6 is a section on line x^x — x^x Fig. 5. Fig. 7 is a front elevation of the device.

The instrument comprises a cylindrical barrel 1, on one end of which is screwed a cap 2. Extending centrally through the barrel 1 is a shaft 3, one end of which is threaded and screwed thereon is a cone 4 and lock nut 5. Cone 4 rides on a series of balls 6, which travel in a cup 7 which is arranged in the end of the barrel 1, the cap 2 serving to close the end of the barrel and also house and protect the ball bearing for the shaft 3. At the other end of the barrel

is a cup 7 in which a series of balls 8 is seated and it supports a cone 9 rigidly secured on the shaft 3. A sleeve 10 having a flared flange 11 is secured to the shaft 3 and rotates therewith, which closes that end of the barrel and protects the lower ball bearing.

Secured to the end of the shaft 3 is a rotating cutter 12. This cutter may be constructed in any preferred form. In Fig. 4, I have shown it as consisting of a series of closely arranged cutting blades 13 formed in its face and radiated from the center, the cutting edges of the blades 13 being in the same plane, as shown in Fig. 1. The end of the shaft 3 is square to receive the cutter and a screw 14 in the end of the shaft retains the cutter in position. If desired, the cutter shown in Fig. 5 may be employed. In this form the cutter comprises a dished disk 15 which is provided with six radial slots 16, the edges of which are beveled to form cutting edges 17. The material cut from the hoof passes up from the slots 16, so that the knife is self-clearing. The face of the disk is rounded at the edge and is cut back in front of each cutting edge, so that the outermost edge 18 projects from the periphery of the disk and is thus effective in cutting, the outermost edge 18 being a continuation of the cutting edge 17. The same is true of the form of knife shown in Fig. 4, in which the cutting edge 13 is continued around the edge of the disk.

A bracket 19 extends from the end of the barrel 1 and pivoted to the bracket is a guard ring 20, which, as clearly shown in Fig. 4, encircles the knife with ample clearance space between the edges of the knife and the ring. Formed integrally with the guard ring 20 is a hand lever 21, the latter being forked at 22 where it joins the ring 20, and the ring 20 between the two members of the fork 22, as clearly shown in Fig. 4, is beveled to a thin edge at 23 which enables the operator to cut close to the frog of the foot. A flat spring 24 is secured to the inner side of the hand lever 21 and bears against the barrel 1 and serves to normally hold the hand lever and guard ring in the position shown in Fig. 2. A flange 25 is provided on the end of the barrel 1 to guard the hand of the operator and enables the operator to hold the face of the cutter

against the hoof with sufficient pressure. The hand lever 21 is provided with a shoulder 26 which strikes the flange 25 while the lever is in its outermost position and thus acts as a stop to prevent the guard ring 20 from being swung any farther than its normal position, as shown in Figs. 1, 2 and 3. A flexible shaft 27 is secured to the upper end of the shaft 3.

10 In operation, as the shaft 3 is rotated, the operator presses the hand lever 21 in to retract the guard ring and expose a sufficient amount of the rotating cutting knife and presses the rotating cutting knife against 15 the hoof where it is to be pared and as the cutter rotates it pares the hoof. The depth of cut is regulated by the pressure which is applied to the hand lever 21. Thus if a deep cut is desired, the hand lever 21 will be moved close to the barrel 1 which will cause the cutting knife to protrude considerably beyond the guard ring; while, if but a shallow cut is desired, the lever 21 will be relaxed and moved down by the spring 24, so 25 that the guard ring will only expose a slight amount of the rotating cutter. The guard ring 20 acts not only to regulate the depth of cut, but also protects the operator, as it guards the sharp edge of the rotating cutter. 30 When the guard ring is in normal position, as shown in Fig. 2, the rotating cutter is completely surrounded and guarded and the instrument may be set on end resting on the guard ring or laid on its side without the rotating cutter coming in contact with anything, so that it is not necessary to stop the rotation of the cutter when interrupting work with the device momentarily.

While I have shown two forms of rotary cutters, it should be understood that other forms may be employed if desired, and I do not limit myself to the employment of any specific form of rotary cutter.

What I claim is:

45 1. A hoof parer comprising a barrel, a bearing at each end of the barrel, a shaft extending therethrough and rotatable in said bearings, a rotating cutter on the lower end of said shaft, a guard ring surrounding 50 the cutter and normally protecting the same, and means for retracting the guard ring so

that the cutter protrudes from the guard ring.

2. A hoof parer comprising a barrel, a shaft journaled therein, a revolving cutter 55 mounted on the shaft, a guard ring surrounding the cutter, spring means for normally holding the guard extended to cover and protect the cutter, and means for moving the guard ring relatively to the cutter 60 to expose the cutter the desired amount.

3. A hoof parer comprising a barrel, a shaft journaled therein, a rotating cutter carried by the shaft, a guard ring pivotally mounted on the barrel and surrounding the 65 cutter, and a hand lever extending from the guard ring along the barrel for adjusting the position of the guard ring.

4. A hoof parer comprising a barrel, a shaft journaled therein, a rotating cutter 70 carried by the shaft, a guard ring pivotally mounted on the barrel and surrounding the cutter, and a hand lever extending from the guard ring along the barrel for adjusting the position of the guard ring, said hand 75 lever having a forked connection with the guard ring, the said guard ring having a beveled edge between the members of the fork.

5. A hoof parer comprising a barrel with 80 a flange at one end, a shaft journaled in the barrel and projecting at the upper end of the barrel and adapted for the attachment of a flexible shaft thereto, a rotating cutter detachably connected to the end of the shaft, 85 a bracket extending from the end of the barrel, a guard ring surrounding the cutter and pivoted to the bracket, a hand lever rigidly secured to the bracket and extending along the barrel, spring means for moving the hand lever and guard ring out- 90 wardly, the said hand lever having a shoulder formed thereon and co-acting with said flange as a stop to limit the outward movement of the hand lever and guard ring. 95

In testimony whereof, I have hereunto set my hand at Reno, Nevada, this 24th day of January 1910.

EDWIN R. LANGFORD.

In presence of—

LYLE F. DURLEY,
J. E. MONROE.