

(No Model.)

G. H. SMITH.
HORSESHOE GROOVER.

No. 468,702.

Patented Feb. 9, 1892.

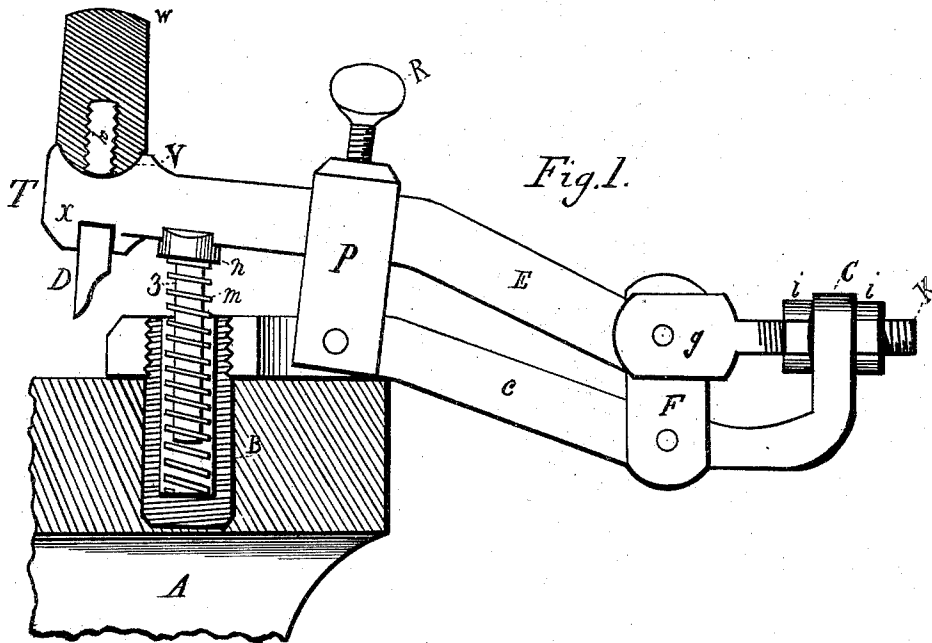


Fig. 1.

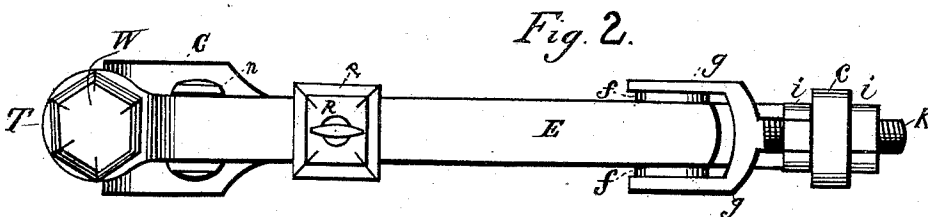


Fig. 2.

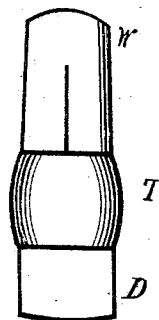


Fig. 3.

WITNESSES:

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GEORGE H. SMITH, OF SKIPPACK, PENNSYLVANIA.

HORSESHOE-GROOVER.

SPECIFICATION forming part of Letters Patent No. 468,702, dated February 9, 1892.

Application filed March 24, 1891. Serial No. 386,280. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. SMITH, of Skippack, in the county of Montgomery and Commonwealth of Pennsylvania, have invented a new and Improved Horseshoe-Groover, of which the following is a full, clear, and exact description.

My invention relates to an improvement in horseshoe-groovers, and has for its object to provide a groover simple in its construction, readily and expeditiously attached to an anvil, and which, when not set for use, may be conveniently removed and placed out of the way.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of the entire machine, showing it attached to an anvil in working position. Fig. 2 is a top view of the device. Fig. 3 is a front view showing broad side of bit.

The machine is composed of two arms C and E, which are connected, as shown in Fig. 1, by two vertical plates F F. These said plates are riveted to each arm in such a manner as to allow the upper arm E to be movable in a lateral direction.

In carrying out the invention, A represents the anvil, into the aperture of which is fitted the standard B (see Fig. 1) for the purpose of holding the groover in position. The standard B is screwed to the lower arm C, as shown in Fig. 1. The said standard B is hollow for almost its entire length, and in the said hollow is contained a spiral spring *m*. Extending along the interior of the spring *m* for a distance of two-thirds of the length thereof is a shaft *z*, the upper end of which is in the form of a slotted bearing. This slotted bearing is held in position by arm E, and its object is to keep the spring in position to receive the full force of every blow from the hammer. The spring *m* is necessary in order that the arm E immediately after receiving a blow from the hammer at the cap W may spring back in position to receive each

and every succeeding blow. (See Fig. 1.) To arm C is riveted clip P in a vertical position, as will be seen on reference to Fig. 1. Through the top of clip P there passes thumb-screw R, as shown in Figs. 1 and 2. The purpose of clip P is to limit the return movement of arm E, and the thumb-screw R, passing through clip P, is intended to regulate the said movement. At that end of arm E which is marked T (see Fig. 1) a hole is made through the said arm E, and the upper surface of the arm at this point is formed with a cup-shaped recess and on the under side with a slot *x*. The bit D, which is that portion of the machine making the indentation or groove, is made with its shaft threaded for about one-half the length thereof. This shaft, which is marked *h* in Fig. 1, passes through the arm E at T, so that the bit D fits into the slot *x*, while the thread on the said shaft *h* enables the cap W, which always receives the full force of the hammer and which is also threaded, to be screwed on sufficiently tight to rest in the cup V. This is intended to prevent the jamming of the thread on the shaft *h* by allowing the force of the blow from the hammer to come on the cup V.

The outside lower portion of the cap W is constructed in a hexagonal form, so that it may be screwed on the threaded shaft *h* by the use of a wrench, as shown in Fig. 2.

In order to adopt the groover to any width of horseshoe, a yoke *g*, with a threaded shaft K, is provided. The said yoke *g* is pivoted to plates F F at the end of arm E. The threaded shaft K of the yoke passes through a hole at the end of arm C, and is there secured by two nuts *i i*, as shown in Fig. 1. The proper manipulation of the nuts *i i* renders arm E capable of being thrown backward or forward, as the different widths of the different horseshoes to be grooved may require. When not in use, the groover may be entirely detached from the anvil and laid away for future use.

The bit D, being simply screwed to the cap W, makes it possible for it to be taken out at any time and any other bit substituted.

The slightly circular motion which arm E always has when in action gives a similar movement to the bit D. The indentation or groove, therefore, which is made by bit D will

always be an evenly but slightly inward one. It is a labor-saving device, in that it enables one man to do the work which has always hitherto required two men.

5 Having thus fully described the device, I claim as new and desire to secure by Letters Patent—

1. In a horseshoe-groover, the combination of the arms C and E, the upper arm E having
10 a vertical movement and provided at its outer end with a bit-passage which terminates on its upper surface in a cup-shaped bearing V and on its under surface in a slot *x*, into which
15 passage is inserted a screw-threaded bit D, provided with a screw-threaded cap W, whereby the bit is held securely in position and at the same time wear on the threads is greatly relieved, substantially as described.

2. In a horseshoe-groover, the combination
20 of the arms C and E, the arm E having a vertical movement and carrying at its outer end a grooving-bit and the arm C having secured to it a standard B, a shaft working in said standard and provided at its upper end with
25 a bearing in which the bit-carrying arm E

rests, and an operating-spring *m*, substantially as and for the purpose described.

3. In a horseshoe-groover, the combination of the arms C and E, the arm E having a vertical movement and carrying a grooving-bit
30 and working in conjunction with spring-actuating means by which said arm is automatically returned to its normal raised position, a yoke P, and a thumb-screw R for limiting
35 the return movement of the bit-carrying arm, substantially as described.

4. In a horseshoe-groover, the combination of the arms C and E, the arm E having a vertical and lateral movement and carrying a
40 grooving-bit and working in conjunction with a spring-actuating means for returning the said arm to its normally-raised position, a yoke *g*, having threaded shaft K, operating
45 arm E to give it a lateral movement for cutting grooves in shoes of different widths, substantially as described.

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Witnesses:

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