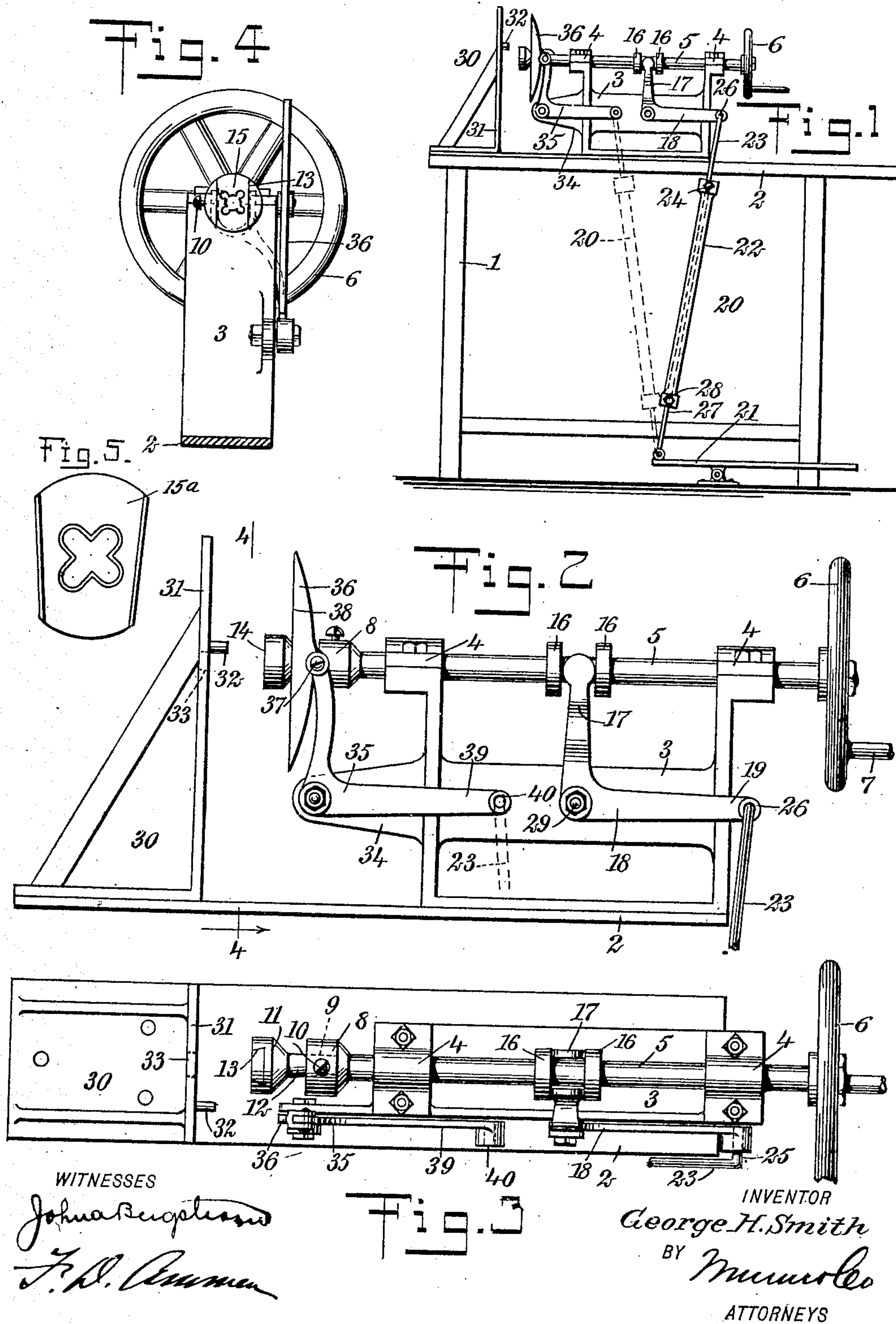


G. H. SMITH.
MACHINE FOR CALKING HORSESHOES.
APPLICATION FILED MAY 26, 1908.

916,797.

Patented Mar. 30, 1909.



WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE H. SMITH, OF GREAT FALLS, MONTANA.

MACHINE FOR CALKING HORSESHOES.

No. 916,797.

Specification of Letters Patent.

Patented March 30, 1909.

Application filed May 26, 1908. Serial No. 435,027.

To all whom it may concern:

Be it known that I, GEORGE H. SMITH, a citizen of the United States, and a resident of Great Falls, in the county of Cascade and State of Montana, have invented a new and Improved Machine for Calking Horseshoes, of which the following is a full, clear, and exact description.

This invention relates to a machine for placing calks in horseshoes and removing the same.

The object of the invention is to produce a machine of simple construction which can be operated so as to effect the operation of inserting calks in horseshoes, threading the shoes, and also providing means for holding the shoes while the machine is operating upon them. The machine also can be used to remove worn calks from shoes which are being repaired.

The invention consists in the construction and combination of parts, to be more fully described hereinafter and particularly set forth in the claims.

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

Figure 1 is a side elevation of a machine constructed according to my invention; Fig. 2 is a side elevation of a portion of the machine upon an enlarged scale; Fig. 3 is a plan, parts being shown as broken away; Fig. 4 is a section taken on the line 4—4 of Fig. 2; and Fig. 5 is a detail of a special socket which may be used in connection with the machine.

Referring more particularly to the parts, 1 represents the frame of the machine which comprises a horizontal table or bench 2, upon which there is supported a spindle frame 3 which presents bearings 4 for the horizontal spindle or shaft 5. This spindle projects to the right, and is provided with a hand wheel 6, having a handle 7 for rotating the spindle. The forward end of the spindle is formed into a socket head 8 having a tapered bore 9, at the side of which a set screw 10 is mounted for securing the tools in the head, as will be readily understood. As illustrated, the socket head 8 is represented as holding a chuck 11 which has a tapered tang 12 which extends into the tapered bore and is secured in the socket head by the set screw 10, as shown. This

chuck is formed with a transverse dovetail groove 13 on its forward face 14, which face is disposed in a plane at right angles to the axis of the spindle. This groove is slightly tapered so that it may hold in position a movable tool such as the die 15 illustrated in Fig. 4. The body of this die has a form which fits the dovetail groove, and the die is slid into position, as will be readily understood.

The spindle 5 is provided with two rigid collars 16, between which there is received the end of a forked arm 17 formed upon a bell crank lever 18, said bell crank lever having a horizontal arm 19, to which an extensible link 20 is attached. The lower end of this link is attached to a foot treadle or treadle lever 21 mounted on the floor, as indicated. The extensible link 20 comprises a long tubular sleeve 22, in the upper end of which a stem 23 is received, said stem being clamped in any desired extended position by a set screw 24. The upper end of this stem 23 is formed with a laterally bent pintle or pin 25, which is removably mounted in an opening 26 formed in the end of the arm 19, as shown. The lower end of the extensible link 20 comprises a stem 27, which extends into the tubular sleeve and is secured rigidly thereto by a set screw 28, the lower end of the stem 27 attaches directly to the treadle, as indicated. The bell crank 18 is pivotally mounted on a pin 29 on the spindle frame 3. From this arrangement it should be understood that the treadle 21 affords means for sliding the spindle longitudinally in its bearings so that the chuck 11 may be made to approach a shoe rest or bracket 30 which is mounted on the table 2. This bracket presents a vertical plate 31 to the chuck, and this plate is provided with a forwardly projecting stud 32, the purpose of which will appear more fully hereinafter. In alignment with the spindle 5, the plate 31 is provided with an opening 33 which will permit a drill mounted in the socket head, to pass completely through the plate in drilling the horseshoe.

The spindle frame has a horizontal arm 34, near the outer extremity of which a bell crank lever 35 is pivotally mounted. This bell crank lever has an upwardly extending arm to which a clamp 36 is pivotally attached at 37. This clamp 36 presents an elongated vertical edge 38 toward the bracket 30, and its rear side is curved so that

it simulates the form of a crescent. The bell crank lever 35 has a horizontal arm 39 which is formed with an opening 40 in the end thereof. When the clamp 36 is being used the bell crank lever 35 is connected to the extension link 20, as indicated by the dotted lines in Fig. 1. In order to change the extension link as suggested, it is only necessary to pull the pin 25 from the opening 26 and extend the link so that the pin can be placed in the opening 40. It will be then understood that by means of the treadle 21, the bell crank lever 35 can be rocked so as to advance the clamp to the plate 31 in such a way that the clamp presses the outer face of the shoe against the plate and holds the same fixed. The bell crank lever 35 evidently affords means to be operated for advancing the clamp, while the pedal 21 may be operated independently but simultaneously to advance the chuck by means of the lever 18.

In using the machine, a drill may be secured in the socket head so as to drill a horseshoe which is held against the forward face of the plate 31. The drill will of course rotate the horseshoe, but as soon as the shoe strikes the stud 32, the stud prevents further rotation and the drill will then advance through the shoe. Instead of the die 15, a special socket 15^a or socket wrench may be used for seating the calks in the opening formed by the drill. By means of the die 15 the calk may be threaded. The handle 7 affords means at all times for rotating the spindle, while the bell crank levers 18 and 35 may be operated so as to advance the spindle and the clamp to the bracket.

Having thus described my invention, I claim as new and desire to secure by Letters Patent,—

1. In a machine of the class described, in combination, a frame, a spindle mounted to slide and rotate therein and having a socket head adapted to hold a tool, a bracket having a plate adjacent to said socket head and having a projection adapted to engage a horseshoe held thereupon before said socket head, means for rotating said spindle, means for sliding said spindle, a clamp having a

jaw near said bracket, and means for advancing said clamp to said bracket to hold a horseshoe thereupon.

2. In a machine of the class described, in combination, a frame, a spindle mounted to slide and rotate therein, a socket head carried by said spindle and adapted to carry a tool, means for rotating said spindle, a bracket having a plate adjacent to said socket head to receive a horseshoe, a lever engaging said spindle for sliding the same, a second lever, a clamp mounted on said second lever and adapted to hold a horseshoe on said bracket, a treadle, and an extension link connected with said treadle and adapted to be attached to either of said levers.

3. In a machine of the class described, in combination, a frame, a spindle mounted to slide and rotate therein, a socket head on said spindle adapted to carry a tool, a bracket opposite said socket head having a projection adapted to engage a horseshoe held thereupon, a clamp, a lever carrying said clamp and adapted to apply the same to hold a horseshoe on said bracket, a hand wheel carried by said spindle for rotating the same, a treadle, and a lever connected with said treadle and engaging said spindle to slide the same.

4. In a machine of the class described, in combination, a frame, a spindle mounted to slide and rotate in said frame, a socket head on said spindle, a bracket opposite said socket head and adapted to hold a horseshoe, a bell crank lever, a clamp pivotally attached thereto and adapted to hold a horseshoe on said bracket, a second bell crank lever engaging said spindle to slide the same longitudinally, a treadle lever, and an extension link connected with said treadle lever and adapted to be connected with either of said first levers.

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

GEORGE H. SMITH.

Witnesses:

WILLIAM S. FRARY,
ANNA GMAHLING.