(No Model.)

# T. F. STEVENSON.

## NAIL PULLER.

No. 589,041. Patented Aug. 31, 1897.

Fig. 1.

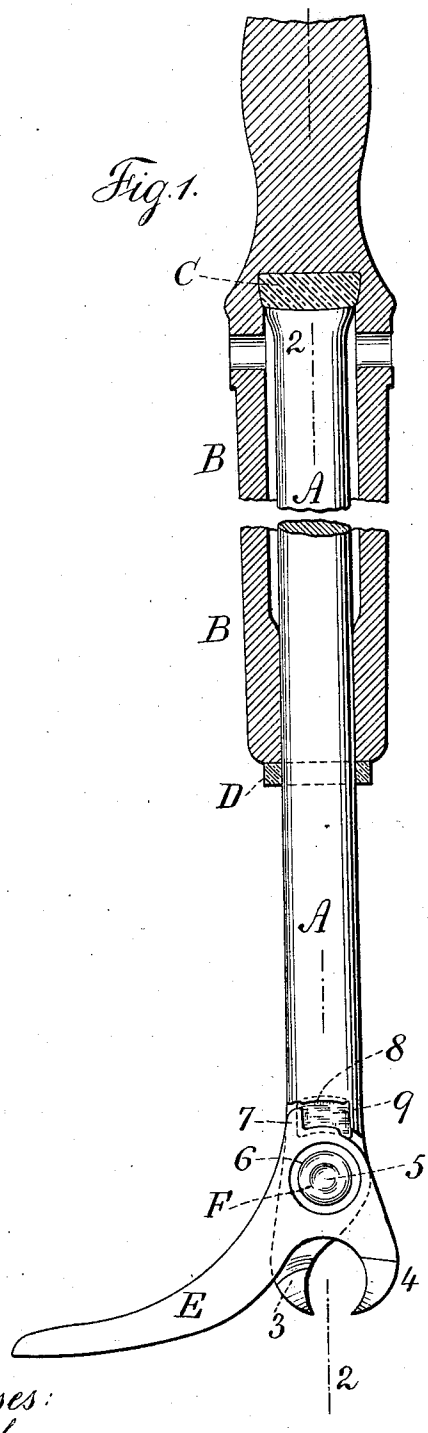
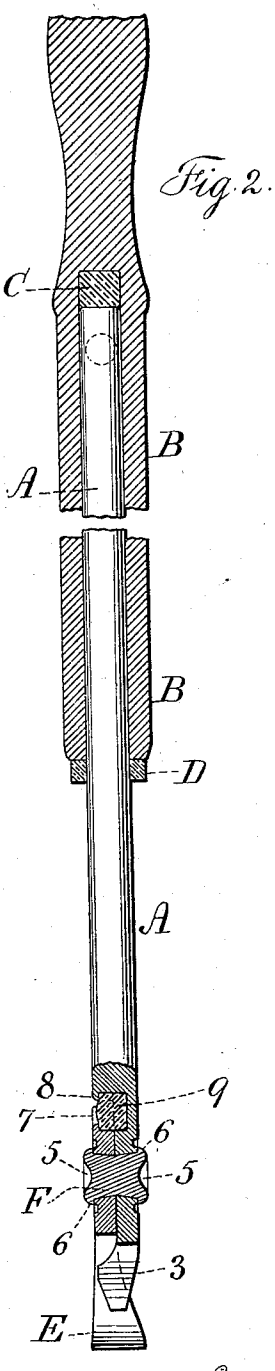



Fig. 2.




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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

THOMAS F. STEVENSON, OF BROOKLYN, NEW YORK.

## NAIL-PULLER.

SPECIFICATION forming part of Letters Patent No. 589,041, dated August 31, 1897.

Application filed November 2, 1896. Serial No. 610,811. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS F. STEVENSON, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Nail-Pullers, of which the following is a specification.

Nail-pullers have heretofore been made with one jaw at the end of a stem or shank, and the second jaw pivoted thereon and having a lever or foot extending out to rest upon the surface of the wood from which the nail is to be pulled, and a hammer in the form of a weight that is slid upon the shank for giving percussion and driving the points of the jaws into the wood adjacent to the nail-head.

In nail-pullers of this character difficulty has been experienced in consequence of the pivot screw or rivet becoming loose under the severe strain and concussion to which the parts are subjected, and in addition to this, where a spring has been employed to open the jaws, the same is liable to become bent or misplaced while in use, and the party using the same is liable to injure the hand by grasping the shank at such a point that the end of the hammer will strike the hand with an unpleasant concussion or injury to the skin, and the hammer as it strikes the end of the shank makes a noise which is very objectionable, especially in offices or rooms, where these nail-pullers are frequently employed in opening boxes.

The present invention is made for overcoming the difficulties before mentioned; and it consists in the peculiarity of construction and combinations of devices hereinafter set forth and claimed.

In the drawings, Figure 1 is a side elevation of the nail-pulling jaws with the hammer or percussive head in section. Fig. 2 is a cross-section at the line 2 2 of Fig. 1, showing the improved rivet and the rubber spring in place.

The shank A is advantageously elliptical in section, and upon it the tubular ram or hammer B slides, and there is a cross rivet or head to prevent the parts separating, as heretofore usual, and I insert at the upper end of the tube a layer of rawhide at C, which is tightly forced into place, so as to hold within the ram and intervene between the end of the shank and the point of contact of the ram with the shank, so that the blow is given through the rawhide to the shank as the ram or hammer is actuated by hand in the usual manner, and the rawhide does not become injured materially while in use, and it effectually deadens the noise without lessening the effectiveness of the blow from the ram or hammer.

Around the shank A, I place a band D, of india-rubber, and the same contracts, and there is sufficient friction to hold the band in position, so that the party using the hammer will not grasp the shank above this band D, and hence the hand will be out of the way, so as not to be injured by the lower end of the ram or hammer.

At the lower end of the shank A is the jaw 3, which is in the shape of a claw or hook, and the other jaw 4 is upon the rolling lever E, and the pivot F unites the parts together, and upon this pivot the jaws swing as the head of the nail is grasped and withdrawn.

It has heretofore been difficult to connect the rolling lever E with the shank adjacent to the jaw 3 in a reliable manner, so that the pivot would not be liable to break, to wear loose, or to unscrew. I find that by employing a rivet for the pivot and riveting up the ends of such pivot by suitable dies, so as to form in the ends of such pivot recesses or cavities 5, and also to spread the metal over the exterior surfaces of the jaws, as at 6, the holes through which the rivet passes will be made tapering or slightly conical, so that the middle of the rivet will be the smallest and the outer ends of the rivet will be larger than the middle, so that it is impossible for the jaws to become loose on the rivet except as the conical surfaces of the rivet and the inner sides of the heads may wear away, and for this reason the joint is much more durable. There is nothing that can become loose and the parts could not separate, even by one head of the rivet breaking off, and it is not necessary to bore the holes for the pivot conical, because the outer ends of the holes will be enlarged by the spreading of the rivet in forming the recesses 5.

Upon the rolling lever E a toe 7 is provided, and in the side of the shank A a recess is provided with a flanged edge 8, and a block of

india-rubber 9 is to be forced into the recess beneath the flanged edge 8 and against the toe 7, or the projecting portion of the shank can be pressed or hammered down to form a flange for the block of rubber after the rubber has been inserted in place, so that by this means the block of rubber can be put under a sufficient pressure to act as a spring in restoring the parts to their normal positions and opening the jaws, and the rubber will be compressed and spread out laterally as the tool is made use of in drawing a nail.

This nail-puller is very durable, as well as cheap to construct, and should the rubber of the spring become injured another block can be easily cut and forced into place after the former block has been pried out.

I claim as my invention—

1. The combination with the shank having a jaw at the end and the rolling lever having the second jaw, of a pivot composed of a rivet that is smallest in the middle and larger toward both ends for preventing looseness and lessening wear, substantially as set forth.

2. The combination with the shank and the tubular ram or hammer in a nail-puller, of a band of rubber surrounding the shank as and for the purposes set forth.

3. The combination with the rolling lever and jaw having a flanged toe upon the upper part of the lever, of the shank to which the rolling lever is pivoted, such shank having a flanged recess in its side adjacent to the toe on the rolling lever and a block of rubber held in the recess by the flange and forming a spring for opening the jaw, substantially as set forth.

Signed by me this 28th day of October, 1896.

THOS. F. STEVENSON.

Witnesses:
GEO. T. PINCKNEY,
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