No. 694,854. Patented Mar. 4. 1902.

E. HANNER.

TACK OR NAIL PULLER.

(Application filed July 12, 1901.)

(No Model.)

Fig. 1.

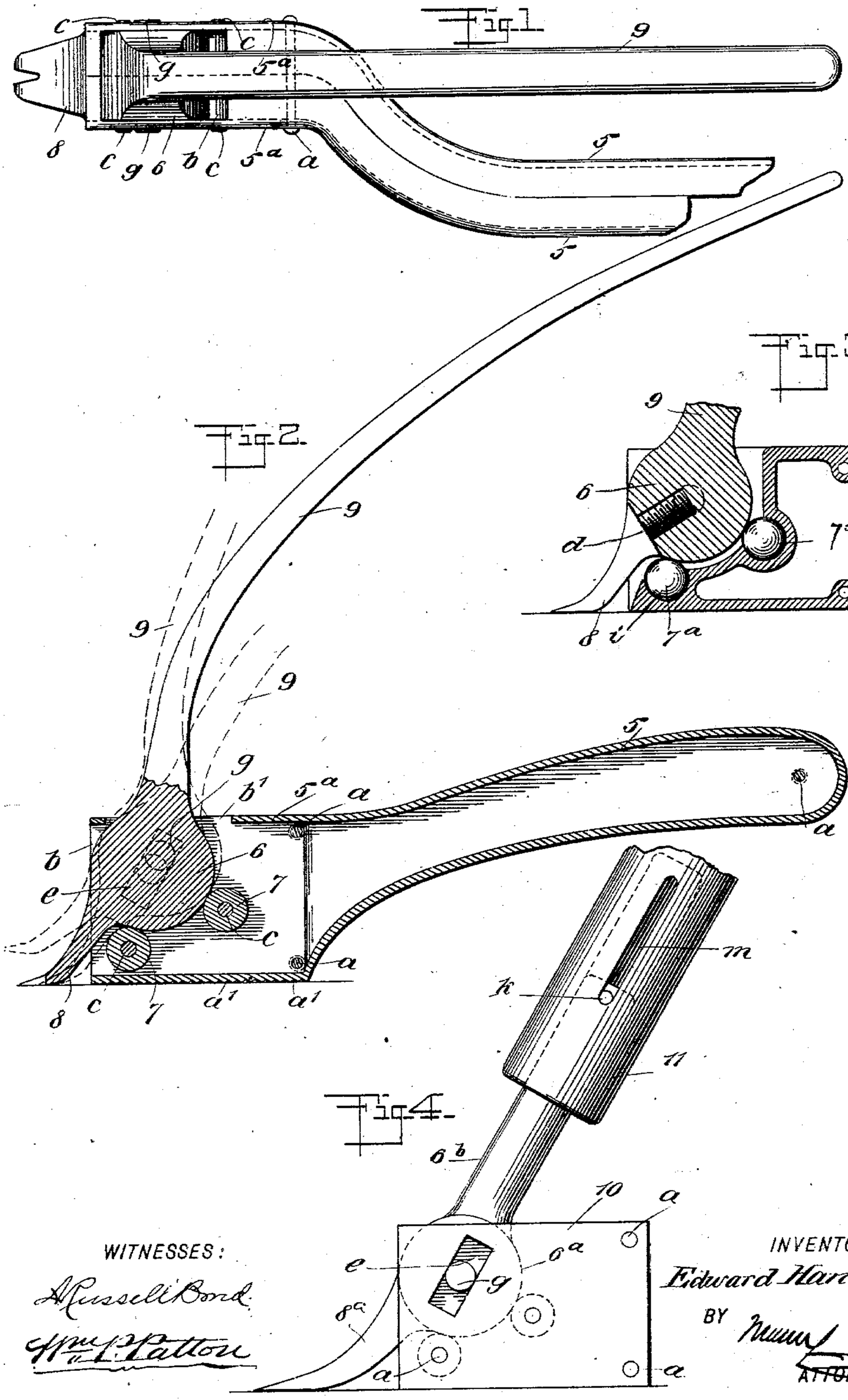

Fig. 2.

Fig. 3.

Fig. 4.

WITNESSES:

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EDWARD HANNER, OF RIDGWAY, PENNSYLVANIA, ASSIGNOR OF TWO-FIFTHS TO GEORGE W. HANNER, OF RIDGWAY, PENNSYLVANIA.

TACK OR NAIL PULLER.

SPECIFICATION forming part of Letters Patent No. 694,854, dated March 4, 1902.

Application filed July 12, 1901. Serial No. 68,009. (No model.)

To all whom it may concern:

Be it known that I, EDWARD HANNER, a citizen of the United States, and a resident of Ridgway, in the county of Elk and State of Pennsylvania, have invented a new and Improved Tack and Nail Puller, of which the following is a full, clear, and exact description.

This invention relates to a class of implements employed for the removal of tacks and nails from the material in which they have been driven, and has for its object to provide a novel and very efficient device of the character indicated which is inexpensive, practical, and convenient to use, which will reduce the labor incident to the extraction of tacks or nails, greatly reduce injury to the material from which the tacks or nails are extracted, and avoid injury to the hands which ordinary means sometimes entails.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined 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 plan view of the improvement. Fig. 2 is a partly sectional side view of the same. Fig. 3 is a sectional side view showing a slightly-changed construction of the working parts of the tack-puller, and Fig. 4 is a side view of the device arranged for pulling nails.

In Figs. 1, 2, and 3 of the drawings, that represent the invention as constructed for pulling tacks or small nails, 5 5 indicate two half-sections of the handle. The handle-sections 5 are each recessed upon one side, forming equal longitudinally-extending cavities therein, and at the forward ends of each of said half-sections a rectangular formation 5^a is provided, which portions 5^a when joined together constitute a box-like frame for the support of the working details of the device. The handle may also be made solid or in one piece, if preferred. From the box-frame 5^a the handle-sections curve upward and laterally, as indicated in Figs. 1 and 2, and these portions are joined together at their free edges and held as one piece by the screws or rivets *a*. The box-frame 5^a is open at the front end and is apertured in its top wall, as shown at *b b'*, these openings affording freedom for the insertion and operation of the peripherally-circular head-block 6. Rolling supports 7 7, which may be two or more, as preferred, are provided as seats for the curved lower edge of the head-block 6, and, as shown in Fig. 2, these supports may be in the form of antifriction-rollers loosely mounted upon transverse pintles *c*, respectively positioned one near the lower wall and open front end of the box-frame 5^a and the other pintle further rearward and at a greater distance above the bottom of the box-frame. A claw-foot 8 is projected forwardly and downwardly from the head-block 6, and this claw-foot may be formed integral with said head-block or be formed independently of the head-block and attachable to the block. Under the latter construction a screw-cut shank *d* is extended from the rear end of the claw-foot and is adapted to screw into a threaded socket formed to receive it in the forward edge of the head-block, as clearly shown in Fig. 3. From the upper edge portion of the head-block 6 a lever 9 is extended upwardly and rearwardly, said lever passing through the opening *b'* in the top wall of the box-frame 5^a, which opening extends such an extent rearwardly as will permit a free movement of the lever and head-block in the box-frame. The lower side of the box-frame 5^a is preferably corrugated, as shown at *a'* in Fig. 2, which provision enables the holding of the implement in position for service when employed to pull tacks. At a suitable point above the transverse rollers 7 opposite slots *e* are formed in the side walls of the box-frame 5^a, and in said slots trunnions *g* engage, which are alined projections from opposite sides of the head-block 6, at or near its center, or, if preferred, a loose rolling pin may extend through the head-block into said slots.

It will be seen that the described construction affords a double antifriction-support for the head-block 6, which by the vibratory movement of the lever 9 will be rocked upon the rollers 7, and by the engagement of the trunnions *g* or the rolling pin in the slot *e* the

head-block and claw-foot 8 will be adapted to assume the different positions represented by full and dotted lines in Fig. 2.

In the use of the tack-puller the members of the handle 5 are grasped in one hand and the lever 9 taken in the other hand of the operator, who places the claw-foot 8 in engagement with the head of a driven tack that is to be lifted, the lever 9 being fully elevated. The claw-foot 8, by manipulation of the handle 5, is held firmly against the under edge of the head of the tack it is to raise, and simultaneously downward pressure is exerted on the lever 9, which will cause the trunnions *g* or the rolling pin engaged in the slots *e* to move sufficiently forward and cause the claw-foot 8 to embed itself securely under the head of the tack. The head-block then coming in contact with the rollers 7 and downward pressure on the lever 9 being continued, the claw-foot will be caused to rock upward and forward, lifting the tack with ease, and without bending it, with greater certainty than is attainable by the use of the ordinary tack-puller.

In Fig. 3 the claw-foot, which is provided with the screw-shank *d*, may be readily exchanged if it becomes worn from use, or different sizes of the same may be substituted, as occasion may require. I have also shown in Fig. 3 bearing-balls 7^a, two or more of which may be employed, as preferred, and held loosely in pockets *i*, formed in the box-frame of the implement and afford antifriction-support for the head-block of the device, the operation in such case being similar to that already described.

In Fig. 4 the device is shown as adapted for use in pulling large nails from boxes. In this modification of the implement the claw-foot is somewhat elongated, and therefore is adapted to extend farther from the box-frame 10, that in this construction is devoid of a handle extension. From the upper side of the head-block 6^a extends the shank 6^b, which slidably engages within the hollow lower end of a lever 11, which is shown broken away, but which may be extended a suitable length for efficient service. The box-frame 10 is diagonally and oppositely slotted, as at *e*, to receive the axially-extended trunnions *g* or a loose rolling pin, and a pin *k* projects laterally from the shank 6^b, near its free upper end, into a longitudinal slot *m*, formed in the lower hollow portion of the lever 11 to prevent said lever from being disengaged from the shank 6^b. In operation the sharpened front edge of the claw-foot 8^a is firmly held against the under edge of the head of a driven nail that is to be extracted and is supported in position by the box-frame 10, the trunnions *g* or the rolling pin being at the top of the slots *e*, whereupon the operator quickly and forcibly slides the lever 11 upon the shank 6^b, so as to strike the top of the shank 6^b a smart blow, which will cause the rolling pin or the trunnions *g* to move forward, causing the claw-foot to be embedded beneath the head of the driven nail, so that a downward rocking movement of the lever 11 will extract the nail in an obvious manner. It will be seen that in case the package to be opened by the improved nail-puller is bound by iron straps or bands the claw-foot 8^a may be readily driven beneath such bands, and by rocking the lever 11 downwardly the nails that have penetrated the box material may be readily withdrawn.

Changes in minor construction and details may be resorted to without affecting the principles involved in my invention.

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

1. A tack-puller, comprising a box-frame, a handle thereon, antifriction-bearings held in the box-frame, a head-block rockably held in the box-frame and supported on the antifriction-bearings, a claw-foot extended forwardly and downwardly from the head-block, and a lever projected from the head-block.

2. A tack-puller, comprising a box-frame, an upwardly and laterally bent handle extended from one end of said box-frame, which frame is open at the opposite end, two spaced antifriction-bearings in the box-frame, a circularly-edged head-block seated upon the antifriction-bearings, diagonal slots in the box-frame, trunnions on the head-block engaging said slots, and a lever extended from the head-block through a slot in the upper side of the box-frame.

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

EDWARD HANNER.

Witnesses:
W. W. BARBOUR,
J. M. ACHMAN.