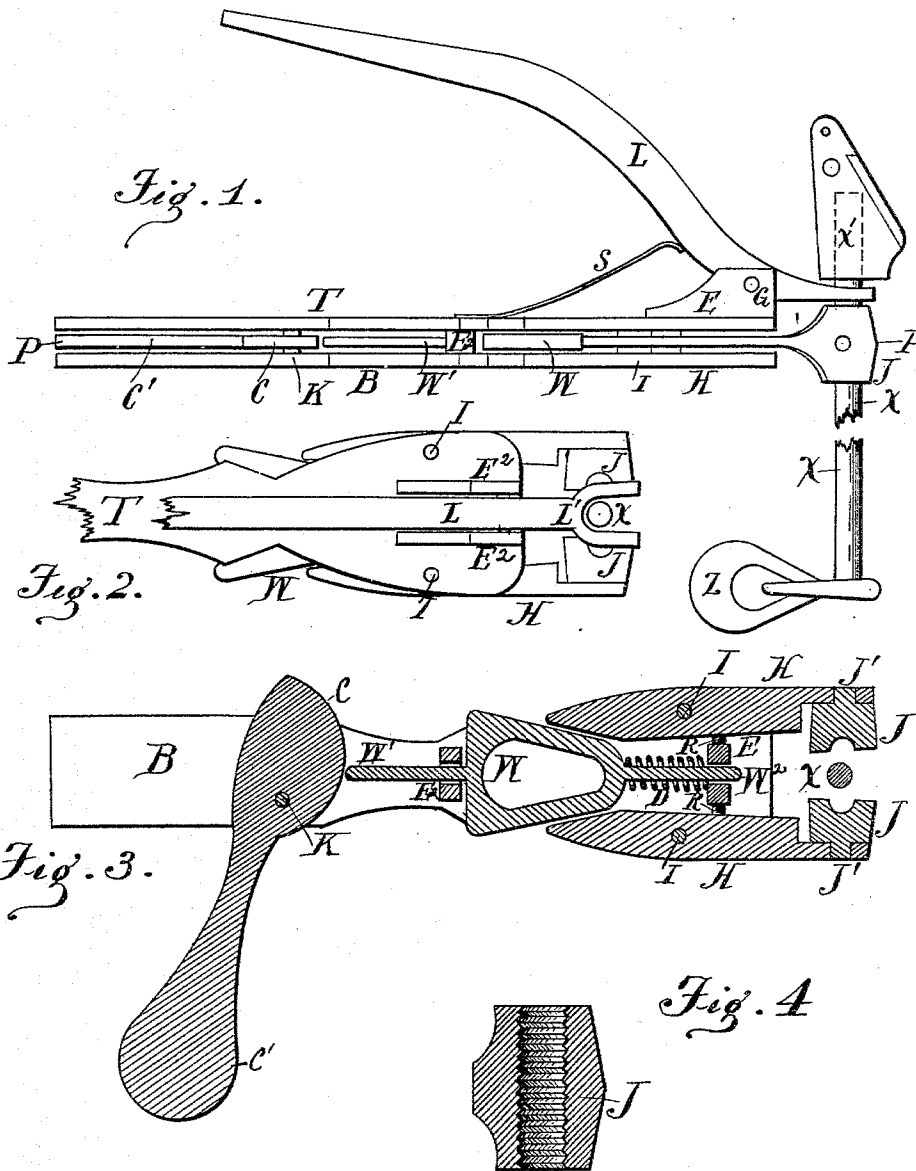


(No Model.)

W. NELSON.
HAMMER STEM EXTRACTOR.

No. 545,374.

Patented Aug. 27, 1895.



Witnesses:
A. R. Appleman
R. Caldwell

Inventor:
Walter Nelson
Geo. H. Holgate atty

UNITED STATES PATENT OFFICE.

WALTON NELSON, OF POTTSVILLE, PENNSYLVANIA.

HAMMER-STEM EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 545,874, dated August 27, 1895.

Application filed June 1, 1894. Serial No. 513,141. (No model.)

To all whom it may concern:

Be it known that I, WALTON NELSON, a citizen of the United States, residing at Pottsville, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Hammer-Stem Extractors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to tools or instruments used by piano-makers to remove hammer-stems or similar articles in making or repairing piano-actions; and my object is to provide an instrument that will do the work speedily and surely without removing the action from the case. I attain my object by use of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my invention in position for removing a hammer-stem. Fig. 2 is a portion of my invention, giving a top view. Fig. 3 is a horizontal cross-section of Fig. 1 through the line P P. Fig. 4 is a view of the face of one of the jaws J.

In all the views similar letters of reference indicate like parts.

In the drawings, B is a bottom plate and T a top plate, to which is secured the lugs E E, in which, on the rivet G, works a lever L.

S is a spring to keep the lever-handle in the position shown.

J J are holding-jaws swiveled at J' J' to the levers H H, which work on the rivets I I through said levers and the top plate T and bottom plate B.

W is a wedge having the stems W' and W² passing through the blocks E² E³, which may be secured to either the top or bottom plate, or both.

D is a spiral spring fitting on the stem W² and between the wedge W and block E, as shown.

C is a cam having the handle C' and working on the rivet K.

X X is a hammer-stem having the hammer Z and hammer-butt O attached. The end of the lever L at L' is formed in the shape of a fork, as shown in Fig. 2.

To operate my device the jaws J J are placed around the hammer-stem to be removed. The

forked end of the lever L is placed under the hammer butt or head, as the case may be. The handle of the cam C is pressed back, which forces the wedge W between the ends of the levers H H, thus closing the jaws J J firmly on the stem X. The lever L is then pressed down, which forces the stem out of the socket X' of the hammer-butt O.

In general practice it has heretofore been necessary to remove the piano-action from the case and box or cut out the stem. In some cases this has been positively required, while with my device the stem can be readily removed and reset without taking out the action.

In use hammer-stems become loosened, warped, or twisted, resulting in the striking of imperfect blows. With my device the stems can be removed and reset without disturbing any other portion of the piano-actions.

While my device is designed particularly for the purposes specified, there are many other uses to which it may be put in piano construction and repairing.

In repairing or regulating pianos it is very often necessary to firmly hold a stem or part, or remove a stem with one hand while the other hand is used in holding a different part. My device is particularly useful under such conditions, as it can be operated readily with one hand, and the spring S, as well as the springs D and R R, always bring the movable parts back to their original positions as soon as released. The jaws J J being swiveled I am enabled to grasp and hold firmly a twisted or warped stem as readily as a straight one, and the concaved portion of the faces of the jaws being grooved or threaded prevents any slipping of the stem.

What I claim and desire to secure by Letters Patent is—

1. A piano maker's tool for removing the stems from the hammer butts or heads, consisting of a clamping device having swiveled jaws and suitable levers, means for operating the levers in combination with a forked end lever, as and for the purpose described.

2. In a piano maker's tool or instrument for removing or resetting hammer stems, the clamping device shown having swiveled jaws that may be set at any angle, in combination

with the forked end lever L, as and for the purposes set forth.

3. In the piano maker's tool or instrument herein shown and described, the combination
5 of the top and bottom plates T and B, the cam C with handle C', wedge W having guide stems W' W², blocks E², E², spring D, levers H H and opening springs R R, swiveled jaws J J, lugs E E, spring S, with the forked end

pivoted lever L, arranged substantially as shown and for the purposes herein set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WALTON NELSON.

Witnesses:

THEO. F. BATDORFF,

HARRY LITTLE.