

No. 812,503.

PATENTED FEB. 13, 1906.

C. H. LANG.
PIANO HAMMER EXTRACTOR.
APPLICATION FILED APR. 14, 1905.

Fig. 1.

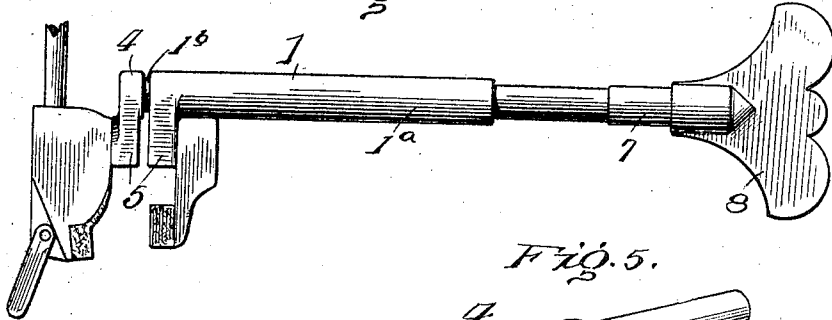


Fig. 5.

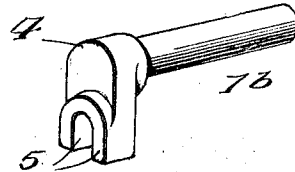


Fig. 2.

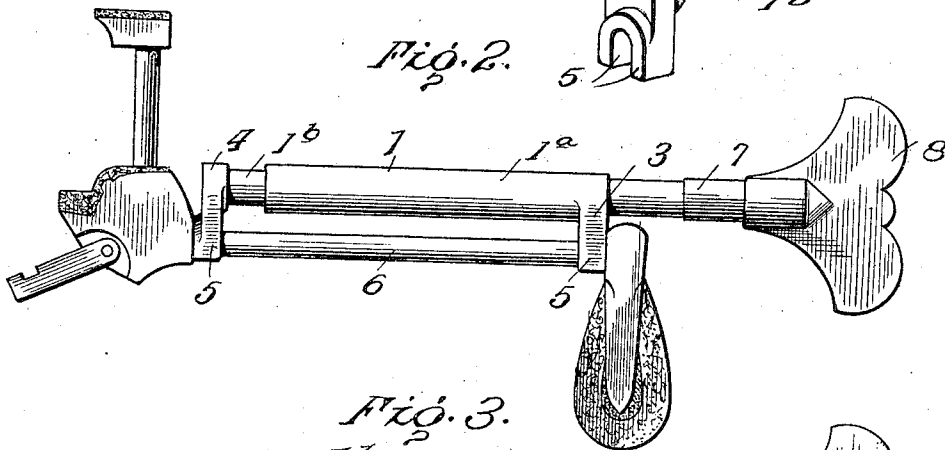


Fig. 3.

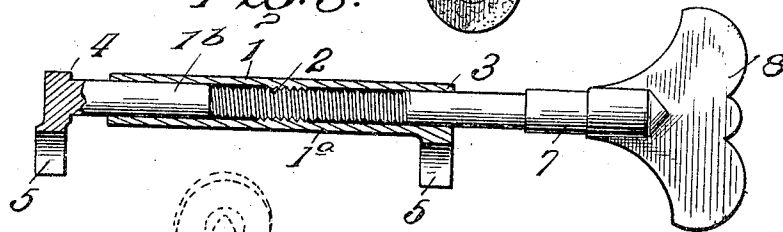
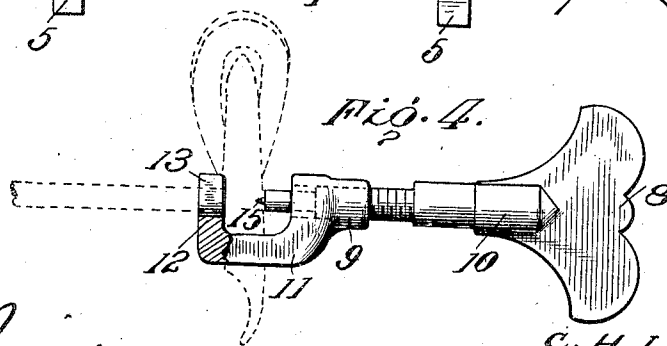


Fig. 4.



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PIANO-HAMMER EXTRACTOR.

No. 812,503.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed April 14, 1905. Serial No. 255,690.

To all whom it may concern:

Be it known that I, CARL H. LANG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Piano-Hammer Extractors, of which the following is a specification.

As is well known, piano-actions embody a stem carrying a hammer glued thereto, which hammer under certain conditions becomes loose, giving rise to a click or noise and making necessary regluing of the hammer in retuning the instrument.

This invention consists of a simple tool which has been devised particularly for removing hammers from stems in piano-actions and bumpers also, if the latter are used, the tool being of such a construction that it does not mar or clamp the stem or endanger breakage of the latter, the above being defective features of the tools in common use designed for this work.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a side elevation showing one application of the invention as when in use. Fig. 2 is a view showing the tool when applied in a different way from that illustrated in Fig. 1. Fig. 3 is a vertical longitudinal sectional view of the tool alone. Fig. 4 is a perspective view showing a modified construction of the invention applied. Fig. 5 is a perspective view of the movable section of the shank of the device.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

In upright pianos now being manufactured the piano-action includes a stem carrying a hammer at one end and having a butt, the hammer and butt being partially bored to receive the ends of the stem when the latter are glued thereto. The preferred construction of the tool comprising this invention is designed to facilitate extracting stems from bumpers and hammers, and, referring to the drawings, the numeral 1 indicates the shank of the tool, said shank being made in sections, (designated 1^a and 1^b.) The shank-section 1^a is of tubular form, having a longitudinal opening therethrough, and said shank-

section is provided with an internally-threaded portion 2 at a point about intermediate its ends. The shank-section 1^b is solid and is arranged to telescope in the section 1^a, the two sections thus being slidable one relative to the other. Projected from an end of the shank-sections 1^a and 1^b are pressure members 3 and 4, respectively, said pressure members constituting integral extensions of the shank-sections aforesaid. The members 3 and 4, which project laterally from the sections of the shank, are bifurcated at their outer ends, as shown at 5, so as to receive the stem 6 of the action. When the stem 6 is engaged by the members 3 and 4 of the tool, it will be noted that the said stem is in parallel relation to the shank.

The tool is provided with an adjustable member 7 for actuating the section 1^b, which is relatively movable with regard to the section 1^a, which may be described to be relatively fixed. The actuating member 7 consists of a stem provided at its outer end with a finger-piece 8 and at its opposite end with screw-threads to enable the same to be screwed into the threaded portion 2 of the shank-section 1^a. When screwed into the shank-section 1^a, the actuating member 7 is adapted to engage the inner end of the shank-section 1^b, so as to impart longitudinal movement to the latter with regard to the first-mentioned section. The member 1^b may be disposed at either end of the section 1^a, Fig. 1, showing the pressure member 4 adjacent the member 3, whereas Fig. 2 illustrates the member 4 remote from the member 3. In either application of the invention the pressure members 3 and 4 may be separated by turning the stem 7 by means of the finger-piece 8, and the members 3 and 4 may be in contact with the bumper and hammer, so as to force these parts from the stem without injuring them or marring the stem in any manner. The manner of applying the tool in extracting the stem from the bumper or hammer gives rise to no likelihood of breakage of the stem, since this part is subjected to no strain whatever.

Fig. 4 illustrates a modified form of the invention, the structure of the tool shown in this figure being particularly designed for removing hammers from grand pianos and old upright pianos, in which the stems of the action run entirely through the hammer. The tool in Fig. 4 is adapted to push the stem from the hammer and consists of a shank 9 of

tubular formation, which shank is internally threaded to receive the adjustable actuating member 10, the latter being somewhat similar to the member 7 above described. An end portion of the shank 9 curves from the body thereof, as shown at 11, and forms a solid curved extension of said shank. The curved extension 11 has a pressure member 12, being bifurcated, as shown at 13, similar to the construction of the members 3 and 4, described hereinbefore. The stem of the member 10, which is threaded into the shank 9, is approximately in line with the bifurcate portion 13 of the member 12, so that this stem may have its inner end placed in contact with the extremity of the action-stem 14, which passes through the hammer, the member 12 being disposed upon the opposite side of the hammer, bearing against this side thereof. The screw-stem 10 may be turned so as to force the stem 14 of the action out of the hammer in a manner readily apparent, and in order to obviate all likelihood of slipping of the inner extremity of the member 10, which might injure the opening in the hammer, the end portion of the member 10, which bears against the stem of the action, is provided with a small central point 15.

Having thus described the invention, what is claimed as new is—

1. In an extracting-tool of the class described, the combination of a shank composed of a tubular internally-threaded fixed section, a movable section adapted to tele-

scope in the tubular fixed section, a bifurcated pressure member extending laterally from each section on the shank, and an actuating member adapted to screw into the fixed section to engage the movable section for operating the latter.

2. In an extracting-tool of the class described, the combination of a shank composed of a relatively fixed tubular section, a relatively movable section adapted to telescope in the tubular section, an independent actuating member operating in the tubular portion of the fixed section and coacting with the movable section to actuate the same, and a pressure member extending from each of the sections.

3. In an extracting-tool of the class described, the combination of a shank composed of a tubular fixed section internally threaded at a point about intermediate its ends, a movable section adapted to telescope in either end of the fixed section, a pressure member projected laterally from each section of the shank, and a threaded actuating member adapted to be screwed into the tubular portion of the fixed section from either end thereof for actuating the movable section.

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

CARL H. LANG. [L. s.]

Witnesses:

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