

A. H. WEBERBAUER.
 TOOL FOR EXTRACTING PIANO HAMMER HEADS AND SHANKS.
 APPLICATION FILED APR. 8, 1909.

946,296.

Patented Jan. 11, 1910.
 2 SHEETS—SHEET 1.

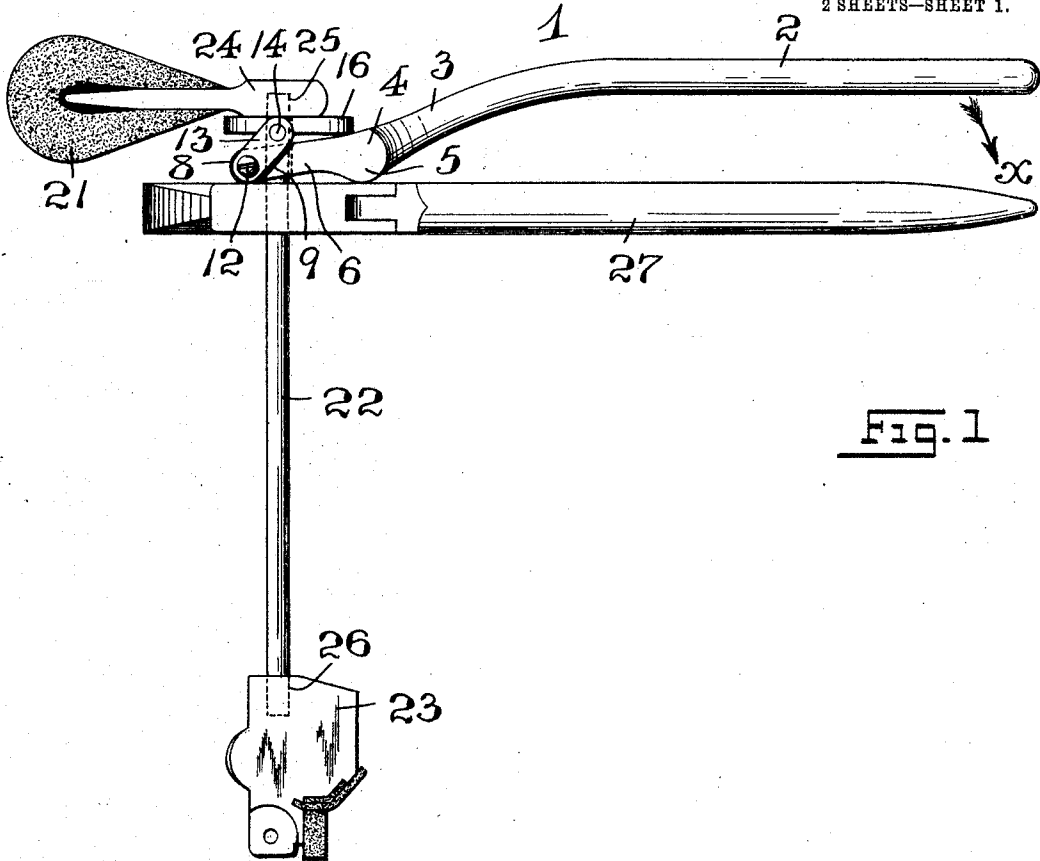


Fig. 1

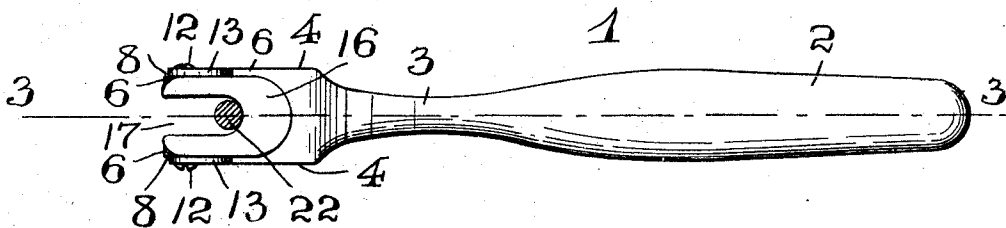


Fig. 2

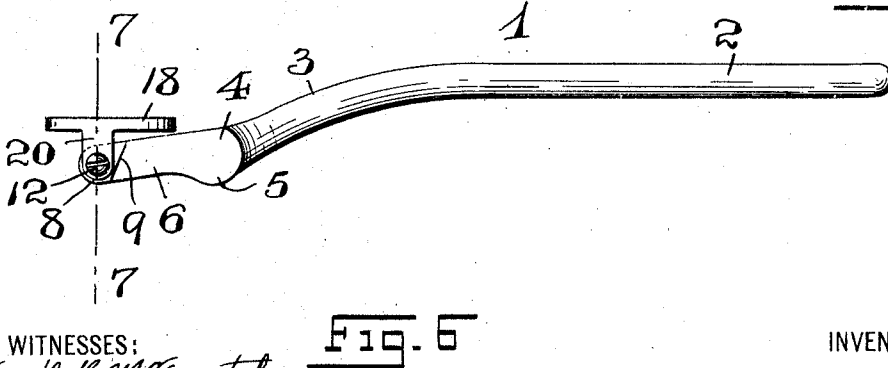
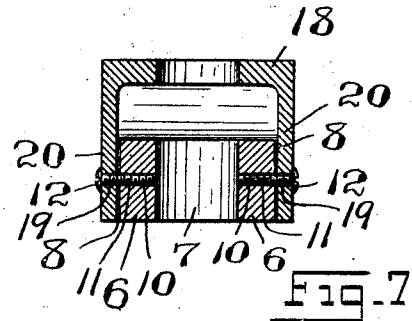
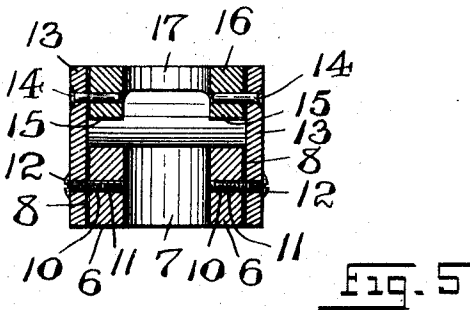
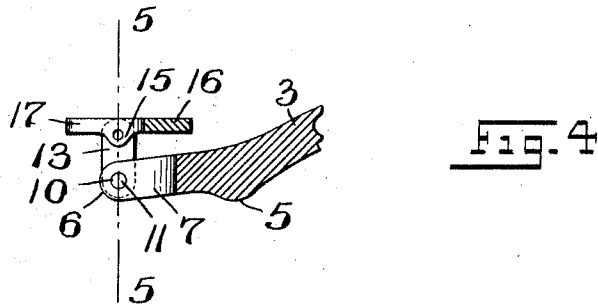
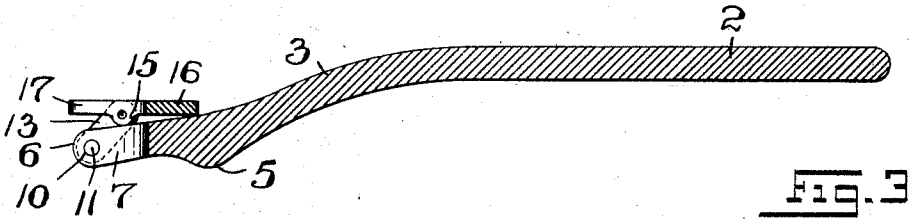
WITNESSES:
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UNITED STATES PATENT OFFICE.

ARTHUR H. WEBERBAUER, OF NEWARK, NEW JERSEY.

TOOL FOR EXTRACTING PIANO HAMMER HEADS AND SHANKS.

946,296.

Specification of Letters Patent.

Patented Jan. 11, 1910.

Application filed April 8, 1909. Serial No. 488,604.

To all whom it may concern:

Be it known that I, ARTHUR H. WEBERBAUER, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Tools for Extracting Piano Hammer-Heads and Hammer-Shanks; 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, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

This invention relates, generally, to means employed in the removal in pianos of the wooden heads or hammers from the shanks or hammer-rods, and for the removal of the shanks or hammer-rods from the wooden cross-bar or base upon which they are mounted; and, the present invention relates, more particularly, to a novel and simply constructed tool or implement which can be easily employed for the separation of the piano-hammer or head from its hammer-rod or shank, or for the removal of said rod or shank from the wooden cross-bar or base, as will hereinafter more fully appear.

The present invention, therefore, has for its principal object to provide a novel and simply constructed and easily operated tool or implement for the purposes herein-above stated, and which may be termed a piano-hammer-head or shank extractor.

Other objects of the present invention not at this time more particularly enumerated will be clearly understood from the following detailed description of the same.

With the various objects of the present invention in view, the said invention consists, primarily, in the novel piano-hammer-head or shank-extractor hereinafter more fully set forth; and, the invention consists, furthermore, in the novel arrangements and combinations of the various devices and parts, as well as in the details of the construction of the same, all of which will be more fully described in the following specification and then finally embodied in the clauses of the claims which are appended to and which form an essential part of this specification.

The invention is clearly illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of the usual form of piano-hammer and an end view of the base-bar upon which the shanks of the hammers are mounted, said view showing in connection therewith, and in side elevation, an ordinary pliers clamped about the hammer-rod or shank, and one form of piano-hammer-head and shank-extractor embodying the principles of the present invention, said view illustrating the manner of using the said extractor in the removal of the hammer-head from the hammer-rod or shank. Fig. 2 is a top or plan view of the piano-hammer-head and shank-extractor; and Fig. 3 is a longitudinal vertical section of the same, said section being taken on line 3—3 in said Fig. 2, showing the parts in their normal initial positions. Fig. 4 is a detail vertical section of the extracting end-portion of the tool or implement, showing the parts thereof in their operative positions during the act of extraction. Fig. 5 is a transverse vertical section, said section being taken on line 5—5 in said Fig. 4, and being made on an enlarged scale. Fig. 6 is a side elevation of a piano-hammer-head and shank-extractor of a slightly modified construction, but still embodying the features of the present invention; and Fig. 7 is a transverse vertical section of the same, said section being made on an enlarged scale and said section being taken on line 7—7 in said Fig. 6.

Similar characters of reference are employed in all the above described views, to indicate corresponding parts.

Referring now to the said figures of the drawings, the reference-character 1 indicates the complete tool or implement illustrating one embodiment of the present invention, the said tool or implement comprising a body or member 2, which provides a suitable handle or grasping portion adapted to be grasped and held by the operator, the said member or handle being formed with a forwardly extending and slightly downwardly curved portion 3. The said downwardly curved portion 3, as will be seen more particularly from an inspection of Fig. 2 of the drawings, is formed with a widened part, as 4, which is provided upon its under surface with a protuberance

or projection 5, forming a shoe or lug for the purposes to be presently more fully described. The said widened part 4 is also formed with a pair of forwardly extending fingers 6, said fingers being provided with a space 7 between them, and each finger 6 being formed in its outer face with a recessed or cut-away portion 8 and an angularly arranged shoulder or offset 9, as will be clearly seen from Figs. 1 and 6 of the drawings. The reduced portions of the said fingers 6 are provided, as will be seen more particularly from Figs. 5 and 7 of the drawings, with pin-receiving holes 10, which are preferably screw-threaded, as shown, so as to receive the screw-threaded shanks 11 of suitable screws which are provided with the heads 12. Loosely arranged upon said screws, so as to be capable of oscillatory movements in said recessed or cut-away portions 8, and, under normal conditions, to rest against said shoulder or offsets 9, are suitable links 13. Extending inwardly from the upper end-portion of each link 25 is a pivot-pin or post 14, and pivotally mounted upon the projecting portions of said pins are the perforated ears or lugs 15 of a self-adjusting presser or extractor-plate or element 16, said plate or element 30 16, as will be seen from an inspection of Figs. 2, 3, 4 and 5 inclusive, being made with an elongated opening or slot 17, corresponding to the opening or space 7 between the fingers 6.

35 Instead of loosely connecting the presser or extractor-plate or element by means of the links 13 to the sides of the fingers 6, the tool or implement may be provided with a presser or extractor-plate 18 which is provided with fixed ears or lugs 20, provided with holes 19, and which are integrally connected with and extend in downward direction from said plate, as clearly shown in Figs. 6 and 7 of the drawings. These ears 45 or lugs 20 extend into the recessed or cut-away portions 8 and are pivotally arranged upon the screws 11, as clearly illustrated.

50 Having thus in a general way described the construction of the piano-hammer-head and shank extractor, I will now briefly set forth the manner of using the same for the purpose of removing a hammer-head 21, when broken or damaged, from the hammer-rod or shank 22, or for the purpose of removing the rod or shank from the usual 55 base-bar 23 upon which the said rods or shanks 22 are mounted within the body of a piano.

60 As shown in dotted outline in Fig. 1 of the drawings, each hammer-head is provided in the wooden part 24 thereof with a socket 25 in which the upper end-portion of the rod or shank 22 is arranged and secured by means of glue. In a like manner, the lower 65 end-portion of the rod or shank 22 is ar-

ranged in a receiving socket 26 in the base-bar 23, and is secured in its fixed position by means of glue.

When it is desired to remove or extract the lower end-portion of the rod or shank 22 70 from said socket 26; or, when it becomes necessary to disconnect the hammer-head from the upper end-portion of the rod or shank 22, Fig. 1 showing the application of the hammer-head and shank-extracting tool or 75 implement to the rod or shank 22 for the extraction of the hammer-head, the openings 7 and 17 of the tool are arranged about the upper portion of the rod or shank 22, as shown in Figs. 1 and 2 of the drawings, 80 with the presser or extractor-plate resting directly against the lower face of the wooden part 24 of the hammer-head 21, the handle-portion of the tool or implement 1 being held in the one hand by the operator. With 85 the other hand, the operator now clamps an ordinary pair of pliers, as 27, about the rod or shank 22, so that the projection or protuberance 5 rests directly upon the pliers 27 in the manner clearly illustrated in said Fig. 1 90 of the drawings. Still holding the pliers in its fixed and firmly clamped relation to the said rod or shank 22, the operator moves the handle-portion 2 in the direction of the arrow *a*, in Fig. 1, thereby using the projec- 95 tion or protuberance 5 as a fulcrum. The result will be, that the presser or extractor-plate 18 is forced in an upward direction against the under face of the parts 24 of the hammer, thereby readily removing the ham- 100 mer from its previously secured position upon the upper end-portion of the rod or shank 22, as will be clearly evident. In a similar manner, by reversely arranging the pliers and the extractor-tool or implement 105 upon the lower portion of the hammer-rod or shank 22, the lower end-portion of the said rod or shank can be easily detached from the receiving socket 26 in the base-bar 23.

110 I am aware that changes may be made in the arrangements and combinations of the various devices and parts without departing from the scope of my present invention as set forth in the foregoing specification and as defined in the claims which are ap- 115 pended thereto. Hence, I do not limit my invention to the exact arrangements and combinations of the devices and parts as described in the said specification, nor do I 120 confine myself to the exact details of the construction of the said parts as illustrated in the accompanying drawings.

I claim:—

1. A piano-hammer and shank-extracting tool, comprising a body or member formed 125 with a grasping portion, said body or member being provided with a forked end adapted to embrace a hammer-shank, and means forming an integral part of and extending downwardly from said body or member serv- 130

ing as a fulcrum to move said grasping portion in an upward direction toward the hammer or the shank-carrying base-bar of a piano, substantially as and for the purposes set forth.

2. A piano-hammer and shank-extracting tool, comprising a body or member formed with a grasping portion, said body or member being provided with a forked end adapted to embrace a hammer-shank, a presser-plate connected with said body or member and means forming an integral part of and extending downwardly from said body or member serving as a fulcrum to move said grasping portion in an upward direction toward the hammer or the shank-carrying base-bar of a piano, substantially as and for the purposes set forth.

3. A piano-hammer and shank-extracting tool, comprising a body or member formed with a grasping portion, said body or member being provided with a forked end adapted to embrace a hammer-shank, a presser-plate connected with said body or member adapted to be brought in engagement with the hammer or with the shank-carrying base-bar of a piano, said presser-plate being provided with a slotted part adapted to embrace the hammer-shank, a means of pivotal connection between said presser-plate and the forked end of said body or member of the tool, and means forming an integral part of said body or member serving as a fulcrum to move said presser-plate in an upward direction, substantially as and for the purposes set forth.

4. A piano-hammer and shank-extracting tool, comprising a body or member formed with a grasping portion, said body or member being provided with a forked end adapted to embrace a hammer-shank, a presser-plate connected with said body or member adapted to be brought in engagement with the hammer or with the shank-carrying base-bar of a piano, said presser-plate being provided with a slotted part adapted to embrace the hammer-shank, pivot-pins extending from said presser-plate, and pivot-pins extending from the forked end of said body or member of the tool, and links pivotally connected with said pivot-pins, substantially as and for the purposes set forth.

5. A piano-hammer and shank-extracting tool, comprising a body or member formed with a grasping portion, a pair of fingers extending from said body or member, said fingers having a space between them so as to be adapted to embrace a hammer-shank, and each finger being formed with a recessed face and an angular shoulder, a presser-plate provided with a slotted part adapted to embrace the hammer-shank, a means of pivotal connection between said presser-plate and the recessed faces of said fingers, and means forming an integral part of said body or

member serving as a fulcrum to move said presser-plate in an upward direction, substantially as and for the purposes set forth.

6. A piano-hammer and shank-extracting tool, comprising a body or member formed with a grasping portion, a pair of fingers extending from said body or member, said fingers having a space between them so as to be adapted to embrace a hammer-shank, and each finger being formed with a recessed face and an angular shoulder, a presser-plate provided with a slotted part adapted to embrace the hammer-shank, links pivotally connected with said presser-plate and the recessed faces of said fingers, said links normally resting against the shoulders of said fingers, substantially as and for the purposes set forth.

7. A piano-hammer and shank-extracting tool, comprising a body or member formed with a grasping portion, said body or member being provided with a forked end adapted to embrace a hammer-shank, and means connected with said body or member adapted to be brought in engagement with the hammer or with the shank-carrying base-bar of a piano, and a fulcrumal projection or shoe extending from the lower face of the body or member of said tool, substantially as and for the purposes set forth.

8. A piano-hammer and shank-extracting tool, comprising a body or member formed with a grasping portion, said body or member being provided with a forked end adapted to embrace a hammer-shank, and a presser-plate connected with said body or member adapted to be brought in engagement with the hammer or with the shank-carrying base-bar of a piano, and a fulcrumal projection or shoe extending from the lower face of the body or member of said tool, substantially as and for the purposes set forth.

9. A piano-hammer and shank-extracting tool comprising a body or member formed with a grasping portion, said body or member being provided with a forked end adapted to embrace a hammer-shank, a presser-plate connected with said body or member adapted to be brought in engagement with the hammer or with the shank-carrying base-bar of a piano, said presser-plate being provided with a slotted part adapted to embrace the hammer-shank, and a means of pivotal connection between said presser-plate and the forked end of said body or member of the tool, and a fulcrumal projection or shoe extending from the lower face of the body or member of said tool, substantially as and for the purposes set forth.

10. A piano-hammer and shank-extracting tool, comprising a body or member formed with a grasping portion, said body or member being provided with a forked end adapted to embrace a hammer-shank, a presser-plate connected with said body or

member adapted to be brought in engagement with the hammer or with the shank-carrying base-bar of a piano, said presser-plate being provided with a slotted part
 5 adapted to embrace the hammer-shank, pivot-pins extending from said presser-plate, and pivot-pins extending from the forked end of said body or member of the tool, and links pivotally connected with said
 10 pivot-pins, and a fulcrumal projection or shoe extending from the lower face of the body or member of said tool, substantially as and for the purposes set forth.

11. A piano-hammer and shank-extract-
 15 ing tool, comprising a body or member formed with a grasping portion, a pair of fingers extending from said body or member, said fingers having a space between
 20 them so as to be adapted to embrace a hammer-shank, and each finger being formed with a recessed face and an angular shoulder, a presser-plate provided with a slotted part adapted to embrace the hammer-shank, and a means of pivotal connection
 25 between said presser-plate and the recessed faces of said fingers, and a fulcrumal projection or shoe extending from the lower face of the body or member of said tool,

substantially as and for the purposes set forth.

12. A piano-hammer and shank-extract-
 ing tool, comprising a body or member
 formed with a grasping portion, a pair of
 fingers extending from said body or mem-
 ber, said fingers having a space between
 35 them so as to be adapted to embrace a hammer-shank, and each finger being formed with a recessed face and an angular shoulder, a presser-plate provided with a slotted
 part adapted to embrace the hammer-shank,
 40 links pivotally connected with said presser-plate, and the recessed faces of said fingers, said links normally resting against the
 shoulders of said fingers, and a fulcrumal
 projection or shoe extending from the lower
 45 face of the body or member of said tool, substantially as and for the purposes set forth.

In testimony, that I claim the invention set forth above I have hereunto set my hand
 50 this 6th day of April 1909.

ARTHUR H. WEBERBAUER.

Witnesses:

FREDK. H. W. FRAENTZEL,
 FREDK. C. FRAENTZEL.