No. 689,722. Patented Dec. 24, 1901.

F. HOOVER.

SCREW DRIVER AND HOLDER.

(Application filed May 6, 1901.)

(No Model.)

Fig. 2.

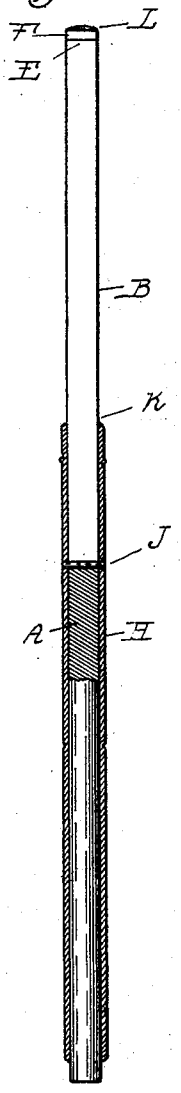


Fig. 1.

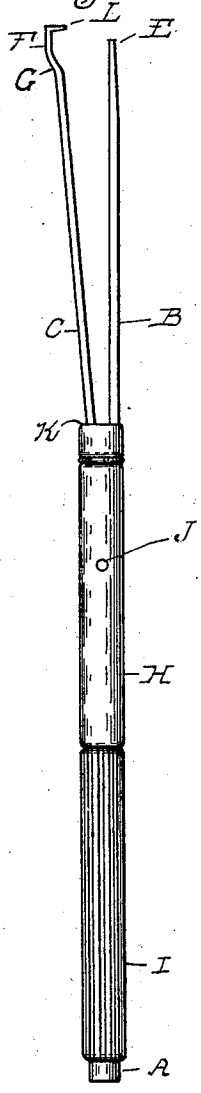


Fig. 3.

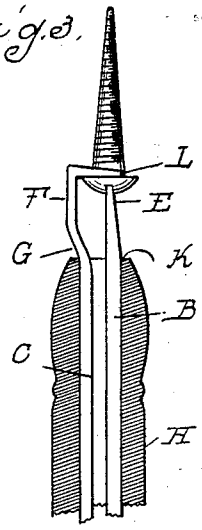
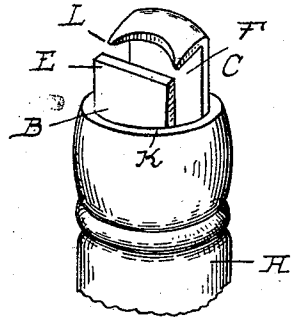


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANKLIN HOOVER, OF DETROIT, MICHIGAN.

SCREW DRIVER AND HOLDER.

SPECIFICATION forming part of Letters Patent No. 689,722, dated December 24, 1901.

Application filed May 6, 1901. Serial No. 58,995. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN HOOVER, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Screw Drivers and Holders, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention has reference to a combined screw driver and holder particularly designed for use in the construction or repair of pianos, where the screws to be inserted or withdrawn are usually located in places inaccessible to the hand of the operator.

The invention consists in the novel construction of a tool and in the peculiar arrangement and combination of its parts, as hereinafter described, and shown in the drawings, in which—

Figure 1 is a view in elevation of the improved tool. Fig. 2 is a sectional elevation thereof. Fig. 3 is a view in section of the outer end of the tool, and Fig. 4 is a perspective view of the outer end of the tool.

The reference-letter A designates a shank cylindrical in cross-section and having integral therewith and projecting from its outer end the spring-arms B and C. As shown, the arm B terminates in a screw-driving point E, while the complementary arm is provided at its extreme outer end with an inwardly-facing jaw F. To enable the jaw to be inserted beneath the screw-head, it projects beyond the driving-point E a slight distance and is provided with an inclined offset portion G.

H designates an elongated sleeve, which in this particular case constitutes a handle for the tool and is corrugated, as at I, at its inner end, so as to enable the operator to obtain a handhold thereon. The sleeve, as shown, engages the shank and spring-arms and is slidable thereon, so as to permit of its forcing the spring-arms in proximity to each other for the purpose of gripping and holding the screw in the manner indicated in Fig. 3. In order that the sleeve may be used as a handle for operating the tool, a guide-pin J is inserted through the outer end portion of the sleeve and between the spring-arms, as indicated in Fig. 2, the pin serving to limit the outward movement of the arms and also to prevent independent rotary movement of the latter relative to the sleeve.

In operation, the tool being in the position as shown in Fig. 1, the screw being first loosened, so as to space the head, the operator inserts the tool between the parts of the action in which the screw is located and engages the driving-point in the slot in the head. The sleeve is of sufficient length to permit of its being actuated by the operator and at the same time bear against the arms in proximity to their ends. The outward movement of the sleeve causes the jaw to move beneath the screw-head, and as the sleeve end reaches the inclined offset G the jaw is forced tightly in engagement with the screw, thus permitting the latter to be withdrawn and effectively preventing it from dropping within the instrument.

As a means of limiting the inward movement of the spring-arms I have provided a stop for the same adapted to strike against the outer jaw K of the sleeve. In this case the stop is formed by a portion L of the inwardly-extending part of the jaw.

From the description of the invention as set forth it will be seen that the combined driver and holder is so formed as to produce a tool of rigid construction capable of removing or inserting the screws and of effectively preventing their being detached from the driver. It is also obvious that in view of its simplicity of construction the cost of manufacture will be considerably reduced.

What I claim as my invention is—

1. In a screw driver and holder, the combination with two complementary spring-arms, a screw-driving point and an inwardly-facing jaw upon the outer ends of said arms, and an elongated sleeve slidable on said arms.

2. In a screw driver and holder, the combination with a shank member, of two complementary spring-arms extending from one end of the shank, a screw-driving point and an inwardly-facing jaw upon the outer end of the arms, the jaw projecting slightly beyond the point, and an elongated sleeve slidable on the shank and arms.

3. In a screw driver and holder, the combination with a shank member, of two complementary spring-arms integral with and projecting from one end of said shank, a screw-driving point and an inwardly-facing jaw upon the outer ends of the arms, the jaw projecting beyond the point, an elongated sleeve slidable on the shank and arms, and a guide-pin extending through the sleeve and between the arms, substantially as described.

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

FRANKLIN HOOVER.

Witnesses:
L. J. WHITTEMORE,
H. C. SMITH.