

(No Model.)

J. KOELZER.
SCREW DRIVER.

No. 470,687.

Patented Mar. 15, 1892.

Fig. 2.

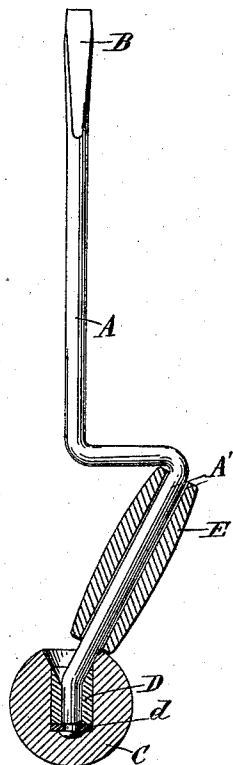
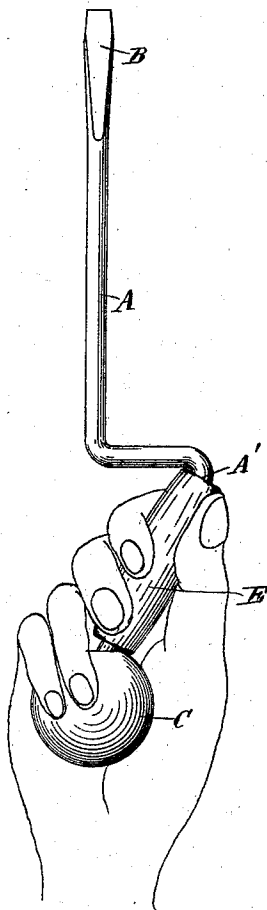


Fig. 1.



Witnesses.
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Inventor.
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By his Attorney.
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UNITED STATES PATENT OFFICE.

JOHN KOELZER, OF MINNEAPOLIS, MINNESOTA.

SCREW-DRIVER.

SPECIFICATION forming part of Letters Patent No. 470,687, dated March 15, 1892.

Application filed September 7, 1891. Serial No. 404,937. (No model.)

To all whom it may concern:

Be it known that I, JOHN KOELZER, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Screw-Drivers; 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 is in the nature of a stock or stem for operating screw-drivers and similar tools. It was especially designed for use as a screw-driver.

As is well-known, it is in many classes and conditions of work either utterly impracticable or very inconvenient to use more than one hand for holding and turning a screw-driver or similar tool, and the employment of the ordinary screw-driver in such cases is slow and tedious on account of the fact that the grip must be shifted at every turn. An ordinary bit-stock cannot be substituted to gain time, because the conditions of the work will not permit its use. An instance or example is afforded in the case of pianos and organs, where a multitude of small long screws must be removed. My invention was designed to meet the necessities of this class of work. To this end I employ as the stock or stem for carrying the tool a crank-shaft having the driving portion of the crank continued from the head of the shaft toward the foot of the same at an acute angle to the axis of the shaft. The stock may therefore be held and turned by one hand without shifting the grip. A speed of action equal to that of an ordinary brace and bit is obtainable, while the tool is as simple and cheap to make as an ordinary screw-driver. The stock may be operated by the crank-shaft alone, the head of the shaft being held in the palm of the hand and the shaft revolved by the thumb and fingers in engagement with the driving portion of the crank. I prefer, however, to add a pressure-head, seating the same so that it will freely turn on the head of the shaft, and also a finger-piece or crank-handle, which is loosely sleeved on the driving portion of the crank. When employed as a screw-driver, I prefer to form the blade and crank-shaft integral with

each other or in one piece, as it is thereby made strong and durable and is very cheap to make.

The invention is illustrated in the accompanying drawings, wherein like letters refer to like parts throughout.

Figure 1 is a perspective of the tool, showing the way in which it is held and operated by the hand. Fig. 2 is a view of the tool, partly in elevation and partly in section.

A A' represent the crank-shaft or stock, of which A' is the driving portion of the crank extending from the head of the shaft at an acute angle to the axis of the same, as before stated.

B is the blade of the screw-driver or other tool, shown as formed integral with the stock.

C is the pressure-head, seated to turn freely on the head of the crank-shaft. As shown, the connection is made by a bushing D and a washer *d*, fitting over the head of the shaft and secured in the pressure-head C by glue or other adhesive material, the extremity of the shaft being flanged or spread outside the washer to hold the bushing in position. Both the bushing D and the socket for the same in the pressure-head C are formed conical, flaring outward at their mouths to permit clearance to the driving portion of the crank.

E is the finger-piece or crank-handle, loosely sleeved on the driving portion of the crank. The pressure-head and crank-handle may be made of any suitable material.

The application, operation, and advantage of the device are obvious. The tool is held and operated by one hand without changing the grip, the pressure-head being held in the palm of the hand and the crank-handle or finger-piece between the thumb and fingers of the same.

It is of course evident that other forms of tool might be substituted for the screw-driver, and that the stock or shaft might be made separate instead of integral with the tool and the connection be made by an ordinary bit-socket. On account of cheapness, however, and strength and durability I prefer to form the tool and stock in one piece.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination, for operating screw-drivers and similar tools, of the stock or stem

for carrying the tool, consisting of the crank-shaft having the driving portion of the crank continued from the head of the shaft at an acute angle to the axis of the same and a pressure-head seated to turn on the shaft-head, substantially as described.

2. The combination, with the pressure-head, of the crank-shaft for carrying the tool seated to turn in the pressure-head and having the driving portion of the crank continued from the head of the shaft at an acute angle to its stem, and a finger-piece or crank-handle sleeved on the driving portion of the crank, substantially as described.

3. The tool described and shown, compris-

ing the integral blade and crank-shaft A A' B, the driving portion of said crank being continued from the head of the shaft at an acute angle to the axis of the same, the pressure-head C, seated to turn on the head of the crank-shaft, and the finger-piece or handle E, sleeved on the driving portion of the crank.

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

JOHN ^{his} + KOELZER.
mark

Witnesses:

JAS. F. WILLIAMSON,
E. F. ELMORE.