(No Model.)

W. B. GILMORE.

SCREW DRIVER.

No. 306,237. Patented Oct. 7, 1884.

Fig. 1.

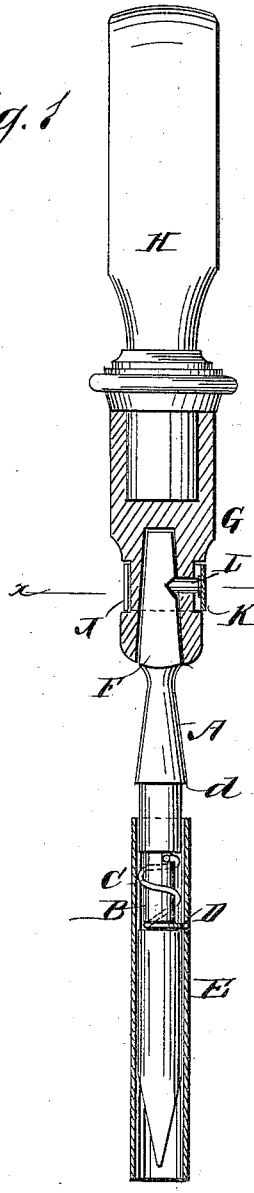


Fig. 3.

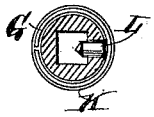
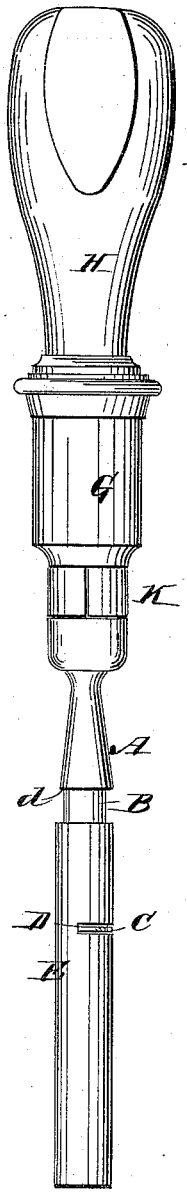


Fig. 2.



WITNESSES:

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WILLIS B. GILMORE, OF MINNEAPOLIS, MINNESOTA.

SCREW-DRIVER.

SPECIFICATION forming part of Letters Patent No. 306,237, dated October 7, 1884.

Application filed June 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIS B. GILMORE, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and Improved Screw-Driver, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved screw-driver for holding the screw on the end of the bit, and which screw-driver is also so constructed that the bit can easily be removed from the handle and replaced by another.

The invention consists of a screw-driver bit provided with an annular recess to contain a loose spring, with one end entering an aperture or connected with a surrounding sleeve fitted upon the bit of the driver.

The invention also consists in the combination, with a socket-piece on a handle, of a pin held in the socket-piece and a spring-band surrounding the socket-piece and pressing the pin inward.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional view of my improved screw-driver. Fig. 2 is a longitudinal view of the same. Fig. 3 is a sectional plan view of the same on the line *x x*, Fig. 1.

The screw-driver bit A is provided with an annular recess, B, in which a coiled spring, C, is held, one end of the spring resting against the top edge of the recess, and the other passing into or through a transverse slot, D, in a sleeve, E, surrounding the bit A, and adapted to slide on the same. The spring C presses the end of the sleeve E a short distance beyond the cross-edge of the bit, and at the opposite end of the bit a shoulder, *d*, is formed, against which the top of the sleeve E can abut. The upper tapered end, F, of the bit fits into a corresponding opening in a socket-piece, G, secured on the lower end of the handle H, which socket-piece is provided with an exterior annular groove, J, in which a split ring, K, is held, which rests against the outer end or head of a pin, L, held in the socket-piece in such a manner that its inner beveled end projects into the opening in the socket-piece. When the end edge of the bit A is passed into the groove in a screw-head, the end of the sleeve E surrounds the screw and prevents it from dropping from the screw-driver. The end edge of the sleeve E is always pressed against the face of the object into which the screw is driven, thus preventing slipping of the screw-driver. The sleeve E also forms a guide for the bit, and the spring C keeps the end of the sleeve E beyond the end edge of the bit. If the tapered part F of a bit is passed into the opening or socket in the socket-piece G, it presses back the pin L, and then the inner beveled end of the said pin is pressed into the notch in the part F of the bit, thus holding the bit in place. To remove the bit it is only necessary to pull out the same, as the beveled edge of the notch in the part F, acting on the inner end of the pin L, pushes the same outward.

I am aware that broadly it is not new to employ a sleeve acted upon by a spring in connection with the bit of a screw-driver, said sleeve being connected by a tubular screw-plug screwed to said sleeve and resting upon a shoulder or boss of the screw-driver bit, the lower end of said spring resting upon a sheath or separate sleeve.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a screw-driver, the combination, with the bit A, having the annular recess B and the annular shoulder *d*, of the sleeve E and the spring C, with one end resting against the upper edge of said recess, and its other end extending into or through a slot, D, of said sleeve, and resting upon the lower edge of the recess of the bit, whereby both the sleeve and spring are connected to the bit and the sleeve is projected beyond the point of the bit, substantially as shown and described, and for the purpose set forth.

2. In a screw-driver, the combination, with the handle H, of the socket-piece G, having an annular groove, J, the split ring K, held in the said groove, and of a pin, L, held in the socket-piece, which pin is pressed inward by the spring-ring, substantially as herein shown and described.

WILLIS B. GILMORE.

Witnesses:
C. C. ROLLIT,
H. E. DAY.