S. HARRIS.

Combined File and Screw-Driver.

No. 196,354. Patented Oct. 23, 1877.

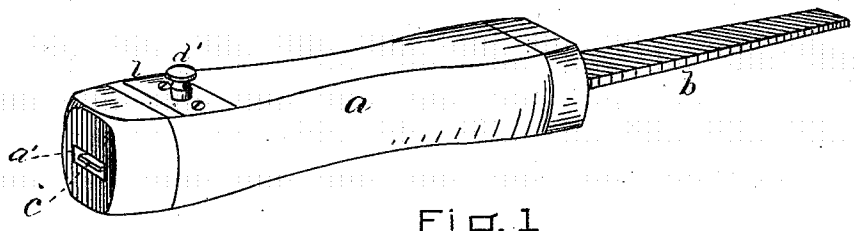


Fig. 1.

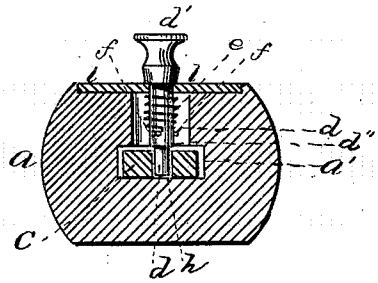


Fig. 2.

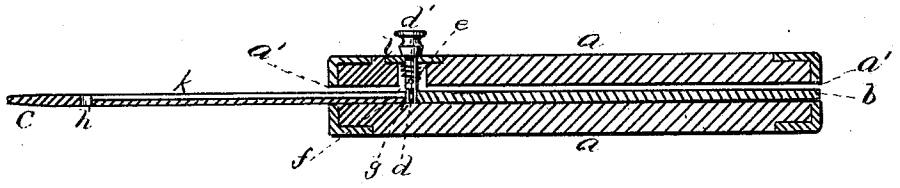


Fig. 3

WITNESSES

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SAMUEL HARRIS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN COMBINED FILE AND SCREW-DRIVER.

Specification forming part of Letters Patent No. **196,354**, dated October 23, 1877; application filed April 30, 1877.

To all whom it may concern:

Be it known that I, SAMUEL HARRIS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful improvement, consisting of a Combined File and Screw-Driver, which improvement is fully set forth and described in the following specification and accompanying drawing, in which—

Figure 1 is a view, in perspective, of my device with the file in position for use. Fig. 2 is a cross-section of the same. Fig. 3 is a longitudinal section with the screw-driver in position for use.

Similar letters of reference indicate corresponding parts.

a represents a double handle, having a hole, *a'*, running longitudinally entirely through it. Within this hole *a'* are two instruments, riveted together—viz., a file, *b*, and a screw-driver, *c*. These may be made in one piece, if desired.

d is a pin, provided with a head or knob, *d'*, and a shoulder, *d''*. Around this pin, confined between the plate *l* and small pins *f f*, is a spring, *e*.

When the file is in position for use, the pin *d* lies in the opening *h*, made in the screw-driver, being held therein by the spring *e*. This holds the file in position, as seen in Figs. 1 and 2.

When it is desired to use the screw-driver, the pin *d* is lifted by means of the handle *d'* out of the opening *h* in the screw-driver, and the file is pushed in, the pin running in the groove *k* in the screw-driver until it drops in the opening *g* in the file. The screw-driver is then firmly in position for use.

The groove *k*, provided with the openings *g h* at the ends thereof, prevents the tool from dropping out of the handle, and, in combination with the pin *d*, arranged as described, constitutes a much surer and more reliable means for holding the tool in place in the required positions than a set-screw applied directly or indirectly thereto, without the use of the said groove or openings.

The instrument can be accurately made, so that the file and screw-driver do not rattle in the handle, and are capable of doing their work satisfactorily.

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

The combination of the tool with the groove *k*, the pin *d*, provided with the spring *e*, shoulder *d''*, small pins *f f*, knob *d'*, the holes or openings *h* and *g* at the ends of handles, all arranged and constructed substantially as and for the purpose herein set forth.

SAMUEL HARRIS.

Witnesses:

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