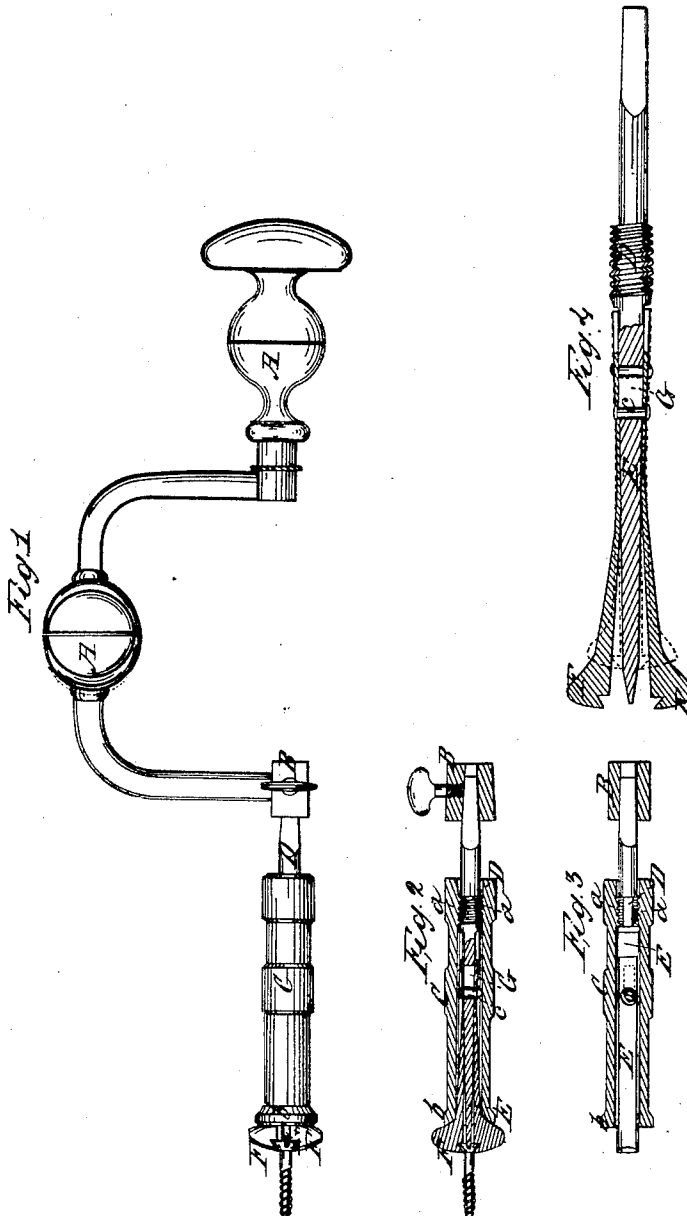


J. W. SWITZER.
SCREW DRIVER.

No. 9,457.

Patented Dec. 7, 1852.



UNITED STATES PATENT OFFICE.

JACOB W. SWITZER, OF BASIL, OHIO.

SCREW-DRIVER.

Specification of Letters Patent No. 9,457, dated December 7, 1852.

To all whom it may concern:

Be it known that I, JACOB W. SWITZER, of Basil, in the county of Fairfield and State of Ohio, have invented a new and useful
5 Self-Holding Screw-Driver; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in
10 which—

Figure 1, is a side elevation of a brace and bit stock and my improvement attached to the same. Fig. 2, is a section of the bit stock and my improvement. Fig. 3, is also a section,
15 of the same but in a different position. Fig. 4, is a view showing my improvement detached from the stock.

Similar letters of reference in each of the several figures indicate corresponding parts.
20 The nature of my invention consists in combining with the ordinary brace and bit stock a self holding screw driver, constructed substantially in the manner as hereinafter described—for holding the screw firmly
25 while the operation of driving or withdrawing it is carried on; this advantage is due to the screw rather than to the driver.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.
30

A, represents the brace, and B the stock—both of which are made in the ordinary manner.

C, is a hollow barrel of about 4 or five
35 inches in length; on the inner periphery of which near the back end a female thread *a*, about 3-quarters of an inch in length, is cut—into which a male thread cut on the round portion D, of the screw driver E, fits
40 and works inward and outward when it is desired to change the position of the screw driver or draw it farther in or force it out. The manner in which the screw driver D, E, and spring catches E, E, are arranged in
45 the barrel will be seen in Figs. 2 and 3 of the drawing.

The screw driver E, is made flat on two of its sides for a greater portion of its length—and is made to extend from the
50 stock B, which holds it, to the front end *b*, of the barrel C, in the manner shown in Figs. 1 and 2, and has placed against its two flat sides two thin elastic spring catches E, E, which are made to slide outward, as
55 shown in Fig. 4 in black lines, when it is desired to take hold of the head of a screw,

after the screw has been started by the screw driver E, and to slide inward after the jaws have been placed around the head so as to bite more firmly and securely on the screw, 60 as shown in Fig. 4 in red lines. G, is a slot cut entirely through the flat portion of the screw driver E, in which the bolt or pin *c*, which passes through and connects the two spring catches together, works freely back 65 and forth as the brace A, is turned and the screw driver E, moved inward or outward. The spring catches E, E, are made of a shape to correspond to the head of the screw as shown in Figs. 1 and 2, in which figures, 70 they are represented as biting on the screw, and in Fig. 4, in the position, (in red lines) which they occupy, when the screw is about being started.

This apparatus is attached to the stock 75 and brace in the ordinary manner by a set screw.

Operation: When it is desired to drive a screw into a certain place it is only necessary to place the head of it between the jaws 80 of the spring catches E, in the manner shown in Fig. 1, and turn the brace in the ordinary manner and when the screw has been driven into the wood to its neck, and it is necessary to drive it entirely home, or 85 countersink it—the operator must lay hold of the hollow tube with his left hand, while the brace is in motion, and hold it firmly, and by so doing it will be seen that the jaws will at once unscrew and be detached 90 from the screw's head. And also when it is desired to withdraw a screw it will be seen that by holding the tube as before with the left hand the jaws will take hold of the head firmly and hold it fast until it is with- 95 drawn.

What I claim as my invention and desire to secure by Letters Patent, is—

The screw driver E, spring catches E, E, attached to the flat portions of the screw 100 driver, and permitting longitudinal as well as lateral adjustment, and the barrel C in which the whole is placed, in combination with the brace and stock A, B, or their equivalents—the whole being constructed 105 and arranged and operating in the manner and for the purpose substantially as herein set forth.

J. W. SWITZER.

Witnesses:

H. B. Apt,
A. T. MASON.