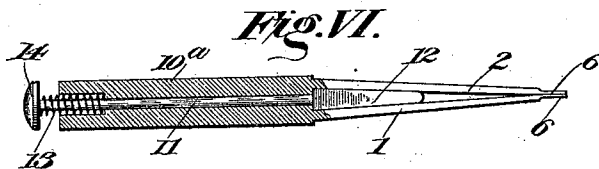
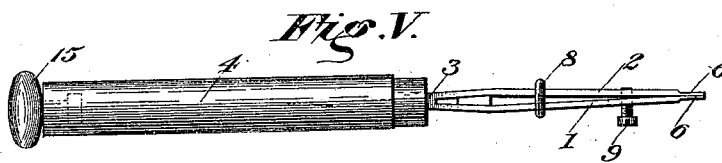
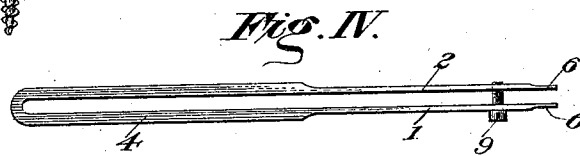
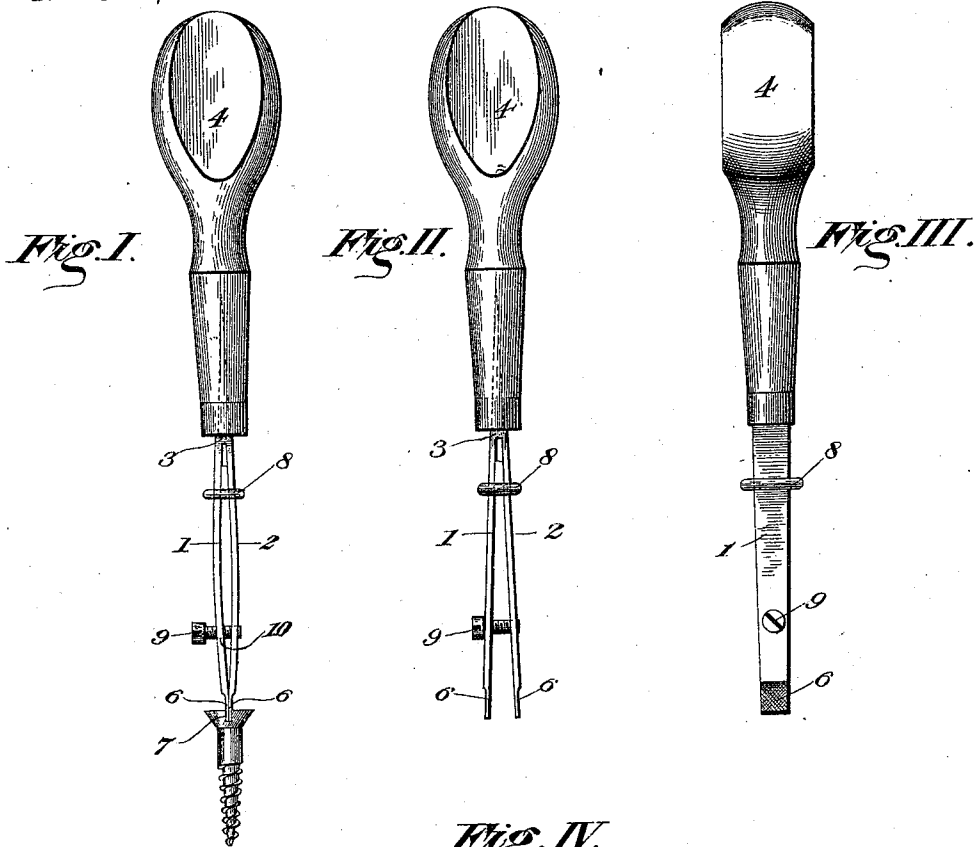


(No Model.)

J. R. BALSLEY.
SCREW HOLDER AND DRIVER.

No. 544,606.

Patented Aug. 13, 1895.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES R. BALSLEY, OF CONNELLSVILLE, PENNSYLVANIA.

SCREW HOLDER AND DRIVER.

SPECIFICATION forming part of Letters Patent No. 544,606, dated August 13, 1895.

Application filed March 14, 1895. Serial No. 541,782. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. BALSLEY, of Connellsville, county of Fayette, State of Pennsylvania, have invented certain new and useful Improvements in Screw Holders and Drivers, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to produce a bifurcated screwdriver having equally expandible legs, each susceptible of separation, and which is thereby adapted, upon being inserted into the slot of a screw-head, to retain the screw and to allow it to be set in places which are inaccessible to the fingers of an operator.

In the accompanying drawings, Figure I is a side elevation of one form of screwdriver inserted in a screw. Fig. II is a similar view showing it expanded. Fig. III is a view taken at right angles to that shown in Fig. I. Fig. IV is a modified form of handle. Fig. V shows a handle with a swivel top for use in light work. Fig. VI shows modified means for expanding the legs of the screwdriver.

Referring to the figures on the drawings, 1 indicates one of the legs, and 2 the other, of my bifurcated screwdriver. They are preferably equally expandible and may be made outwardly resilient and constructed united, as by a tang 3, to a handle 4, or they may be made of a single piece of metal with the handle made integral with themselves, as illustrated in Fig. IV.

In use the legs, as illustrated in Figs. I to V, are pressed together, so that their blades or nibs 6 may enter the slot 7 of a screw. For this purpose a compression-ring 8, which encircles the legs, may be employed. By sliding the ring toward the nibs the legs are pressed together and by drawing it backward they are expanded. I prefer also to employ a screw 9, which passes through an aperture 10 in one leg and enters a screw-threaded aperture in the other leg. By the adjustment of this screw the expansibility of the legs may be limited or the legs may be permanently compressed to render the screwdriver available in the ordinary way.

The legs are constructed directly opposite to each other, so that their flat sides work to

and from each other, and not shearwise, this provision being necessary to hold a screw squarely and firmly upon the nibs 6.

Instead of depending upon the outwardly-tending resiliency of the material of which the legs are composed for expanding or separating them, the form of tool shown in Fig. VI of the drawings may be employed, in which the handle 10 is made hollow to receive an expanding-rod 11. This expanding-rod carries a wedge-shaped end 12, which, being driven longitudinally between the legs, will divide them with a positive pressure, depending upon the degree of movement of the wedge. The legs in this form would preferably be constructed so as to stand normally in the closed position. I prefer in this form of construction to make the rod spring-actuated, as by a coil-spring 13, encircling the rod. A press-button 14 may be employed upon the outer end of the rod. Other means for actuating the expanding-rod may be employed, those illustrated being simply suggestive of the present preferred form.

For light work, as illustrated in Fig. V of the drawings, a swiveled head 15 may be employed upon the end of the handle.

In practice, for securing a better hold upon the screw-slot, I prefer to make the exterior surface of the nibs rough, like a file or rasp.

I am aware that a bifurcated screwdriver having one resilient side is not new; but that tool is clearly distinguishable from mine, because the tendency of the one resilient side is to cant the screw and interfere with the proper operation of the tool. Moreover, the single spring-lip interferes with the operation of the tool after the screw has been set in place, because if the screwdriver should become dislodged from the slot after the screw is set it would be difficult if not practically impossible to reinsert it. In my device the expansibility of both legs is equal, and the legs may be brought together, so that their nibs may be inserted into the screw-slot at any distance from which the screw may be reached.

What I claim is—

1. A bifurcated screw driver having equally expandible directly opposite legs and nibs on the ends thereof adapted to engage upon

their outside surfaces with the inner sides of a screw slot, and means for expanding the legs, substantially as set forth.

2. A bifurcated screw driver having equally
5 expandible directly opposite legs, and nibs
on the ends thereof whose outer surfaces are
adapted to engage and hold the inner surfaces
of a screw slot, means for expanding the legs,
and means for limiting the degree of expan-
10 sion, substantially as set forth.

3. A bifurcated screw driver having equally
expandible directly opposite legs, and nibs
on the ends thereof, whose outer surfaces are
adapted to engage with the inner surfaces of
15 a screw slot, and an expansive piece movable
between the legs and adapted to expand them

and press their nibs against the sides of a screw slot, substantially as set forth.

4. In a bifurcated screw driver having
equally expandible directly opposite legs, and 20
roughened nibs on the ends thereof, whose
outer roughened surfaces are adapted to en-
gage with the inner sides of a screw slot, and
means for expanding the legs, substantially
as set forth. 25

In testimony of all which I have hereunto
subscribed my name.

JAMES R. BALSLEY.

Witnesses:

THOMAS J. HOOPER,
ROBT. NORRIS.