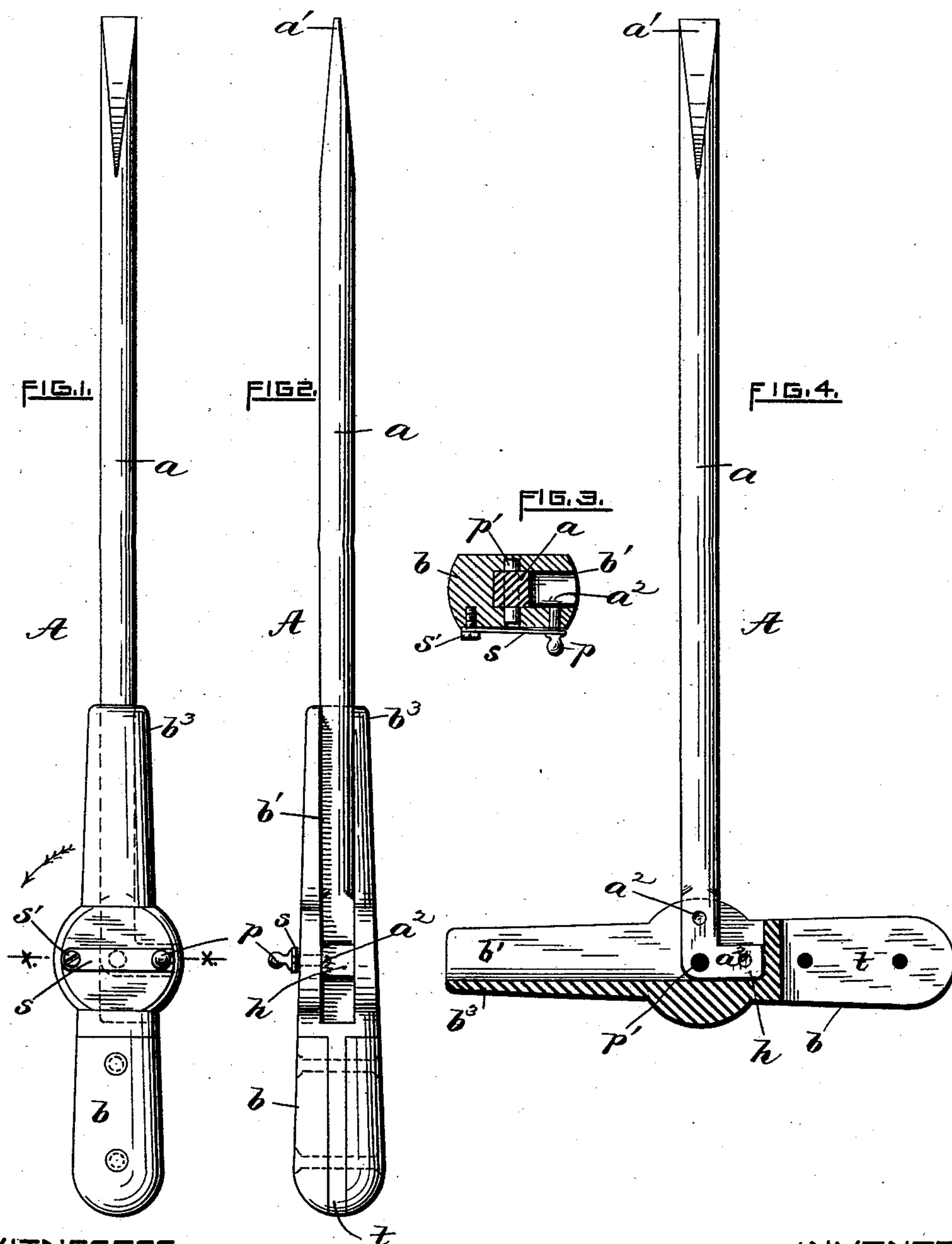


(No Model.)

M. J. BARTLETT.  
SCREW DRIVER.

No. 428,662.

Patented May 27, 1890.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

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## SCREW-DRIVER.

SPECIFICATION forming part of Letters Patent No. 428,662, dated May 27, 1890.

Application filed December 20, 1888. Serial No. 294,143. (No model.)

*To all whom it may concern:*

Be it known that I, MARCUS J. BARTLETT, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

In the construction of screw-drivers as usually made the arrangement of the handle and blade portions has been such, so far as I am aware, that the leverage is substantially invariable—that is to say, the longitudinal axes of the blade and handle are in the same plane, the handle being in effect a continuation of the blade. I do not mean to imply by this that the blade and handle are rigidly secured together, as I am familiar with articles of this class in which the parts named are readily separated, as in tool-handles. Ratchet-drivers are also well known.

The object I have in view is to produce a screw-driver which is not only adapted to be operated as usual, but one also in which the handle may be readily transferred to a horizontal position, or, in other words, the axis of the handle will lie at right angles with the blade, thereby for the time being enabling the operator to obtain a much better grip upon the handle, and obviously converting a greater percentage of the effort expended into useful work, the relative position of the parts being substantially the same as gimlets, hand-reamers, &c., provided with fixed handles. It frequently happens in driving screws—both wood and machine screws—that it is very desirable or necessary to force the screw home, or to a greater extent than is usually possible when the ordinary driver is employed. Sometimes a wrench is used to increase the leverage by passing the jaws thereof over the blade of the driver.

By means of my improved screw-driver a screw may be rapidly inserted into the material in the usual way up to the last turn or two, when now, if more leverage is required

to force the screw home, the handle may be quickly swung into a position crosswise of the blade, thereby, as before stated, enabling the operator to expend his power to the best advantage.

My invention consists, essentially, of a screw-driver blade having its upper end bent at an angle with the blade's axis, a handle portion pivoted at or near its center to the blade, and a spring-pin or other equivalent means arranged to retain the axis of the handle transversely of the axis of the blade or in line therewith, as desired.

In the annexed sheet of drawings, Figures 1 and 2 represent front and side elevations of my improved screw-driver, the handle standing in the usual or normal relation to the blade. Fig. 3 is a cross-sectional view taken through line  $x x$  of Fig. 1; and Fig. 4 is a side view, in partial section, showing the handle when turned to act as a wrench. In this position the greatest leverage may be obtained.

The following is a more detailed description of my improved screw-driver:

A, referring to the drawings, designates the improved article as a whole.

$a$  indicates the blade portion, the end  $a'$  of which is flattened to engage the slot of a screw-head, as usual. The opposite end of the blade is bent at right angles, thereby forming the short lateral extension  $h$ .

$b$  indicates the handle portion of the screw-driver, the same being provided with a groove or channel  $b'$ , which extends from the lower end of the handle to a point somewhat beyond the center, as clearly shown. The center of the handle longitudinally is enlarged, and is provided with a transverse pin  $p'$ , on which the blade  $a$  is mounted to turn.

$s$  is a flat spring secured by a screw  $s'$  to the side of the handle and adjacent to the pin  $p'$ . The free end of the spring is provided with a small pin  $p$ , having a well-rounded point which extends through the side of the handle and readily engages a hole  $a^2$ , formed in the blade. By means of the spring-pin  $p$  the blade is held in position, thereby securing the parts together in a comparatively rigid manner.

I would state that the blade and handle are made of steel or other suitable metal. In or-



der to reduce the weight, the outer portion of the handle may consist of wooden cheek-pieces, which are riveted to the sides of a thin tongue  $t$ , extending from and forming an integral part of the metallic portion of the handle, as clearly shown in the drawings.

The operation may be stated substantially as follows: In case the screw-driver A is to be used in the ordinary manner the handle and blade will be adjusted to the position shown in Fig. 1, the spring-pin  $p$  then engaging the hole  $a^2$ , formed in the lateral extension  $h$  of the blade. This extension also serves to relieve the pivot-pin  $p'$  from excessive pressure when strain is applied to the driver, as in inserting screws. Now, in order to provide the screw-driver with means whereby a greater torsional strain or leverage may be applied, the pin  $p$  is first withdrawn from the notch or hole  $a^2$  of the extension  $h$ , and the handle then turned on the pivot  $p'$  (see arrow direction Fig. 1) ninety degrees, the spring-pin at the same time automatically engaging a corresponding hole  $a^2$ , formed in the shank of the blade, the handle then lying transversely of the blade, as shown in Fig. 4, the advantage of the enlargement or extension  $h$  of the blade being as apparent when torsional pressure is applied to the handle in this position as before stated with reference to the position shown in Fig. 1. The operator may now grasp the handle  $b$  firmly in his hand, the blade extending therefrom between the two middle fingers. After use the handle may be readily returned to its original or normal position

(shown in Fig. 1) by simply withdrawing the pin  $p$  and swinging the handle backwardly, the shank thereby being made to rest in the bottom of the groove  $b'$ , the said pin springing into the corresponding hole of the extension.

I am well aware that certain tools or implements have been provided with handles arranged to form a T—as, for example, gimlets, reamers, &c. Therefore I do not claim, broadly, such construction; but

What I do claim as my invention is—

1. As an improved article of manufacture, the screw-driver hereinbefore described, consisting of the blade  $a$ , having its upper end bent at right angles therewith and arranged to engage a spring-pin, a handle portion pivoted at or near its center to the blade, and a spring-pin for retaining the blade in position after adjustment, substantially as shown and set forth.

2. The combination, with a screw-driver blade having its upper end bent to one side, of a grooved enlarged handle  $b$ , pivoted at or near its center to said blade, and a spring-pin or equivalent means arranged to retain the axis of the handle transversely of the axis of the blade or in line therewith, as desired, substantially as hereinbefore described.

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

MARCUS J. BARTLETT.

Witnesses:

CHARLES HANNIGAN,  
GEO. H. REMINGTON.