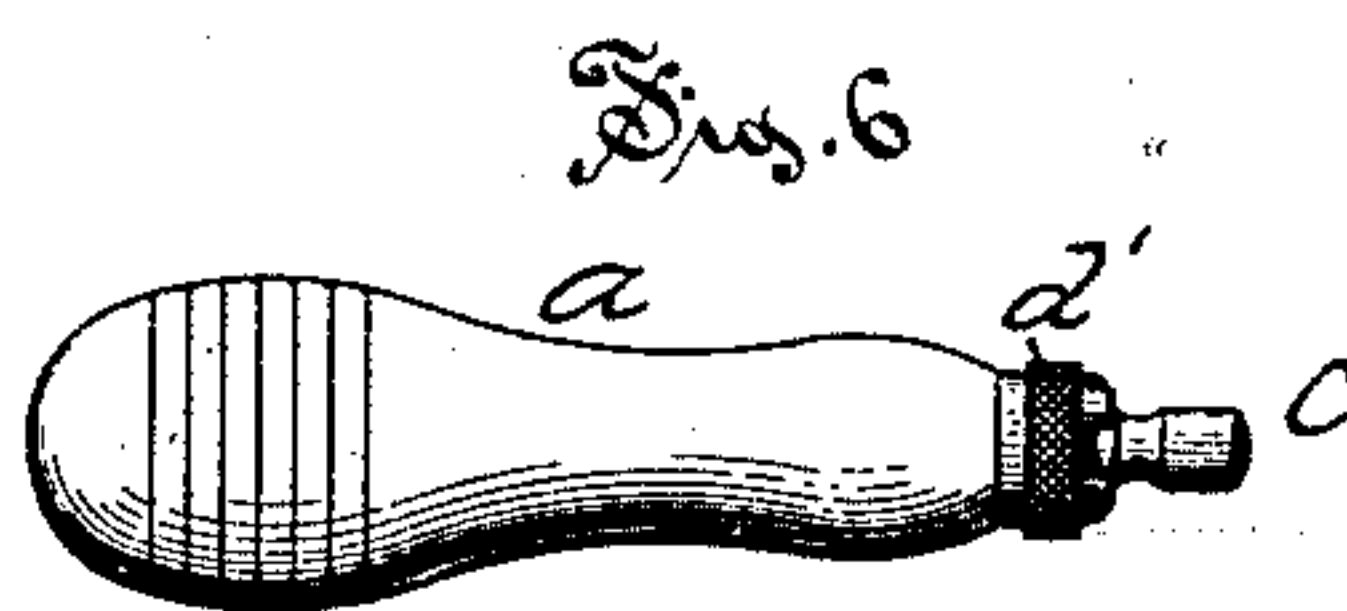
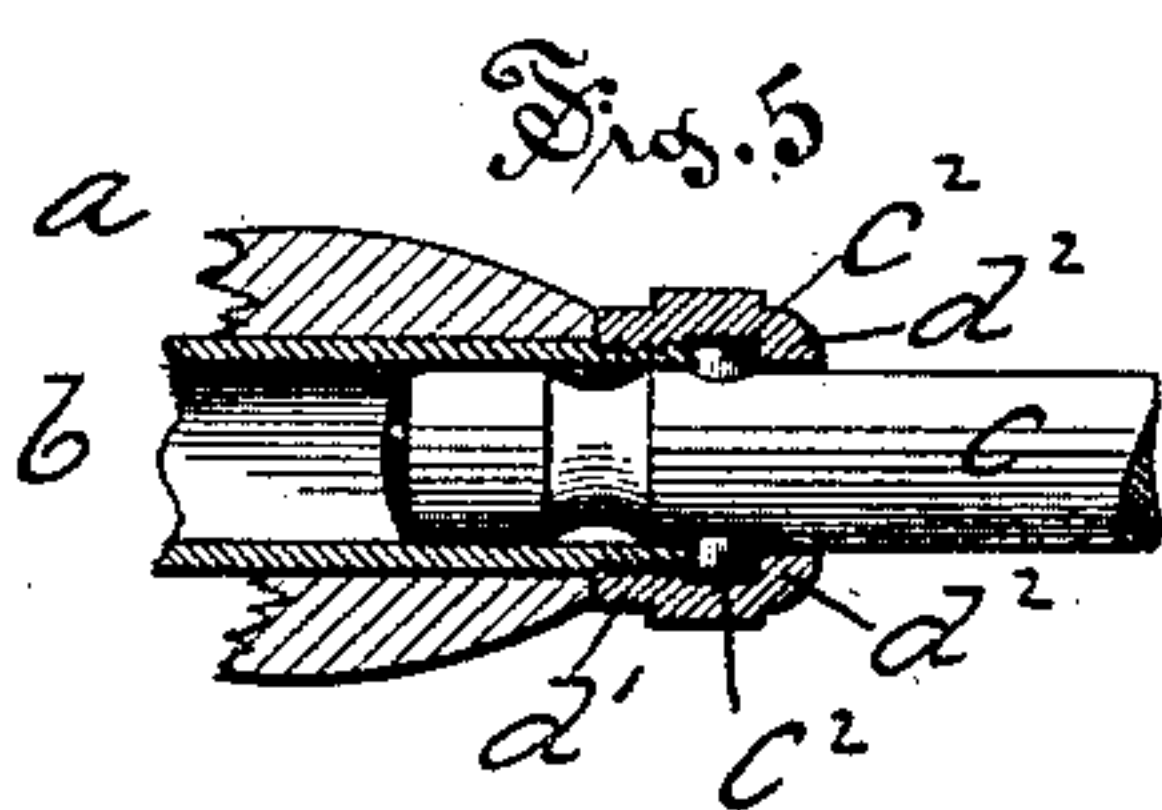
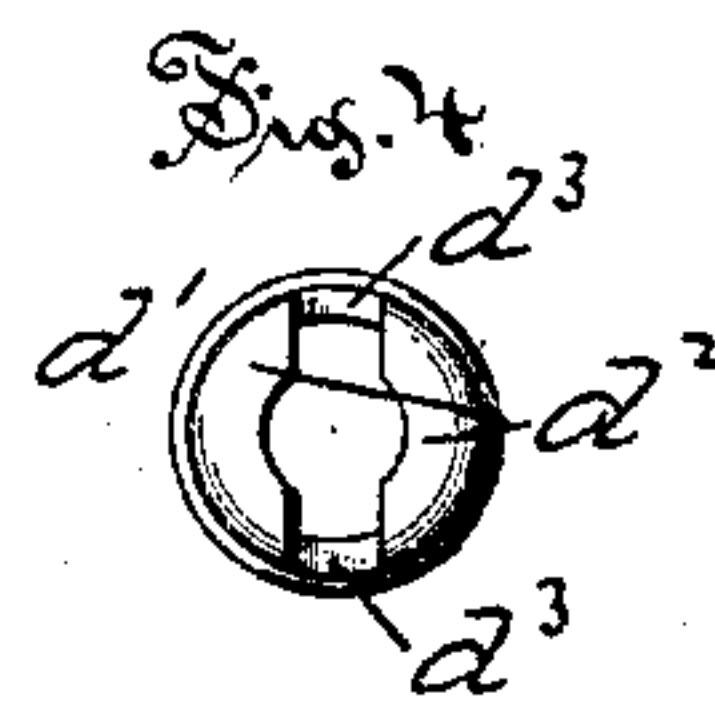
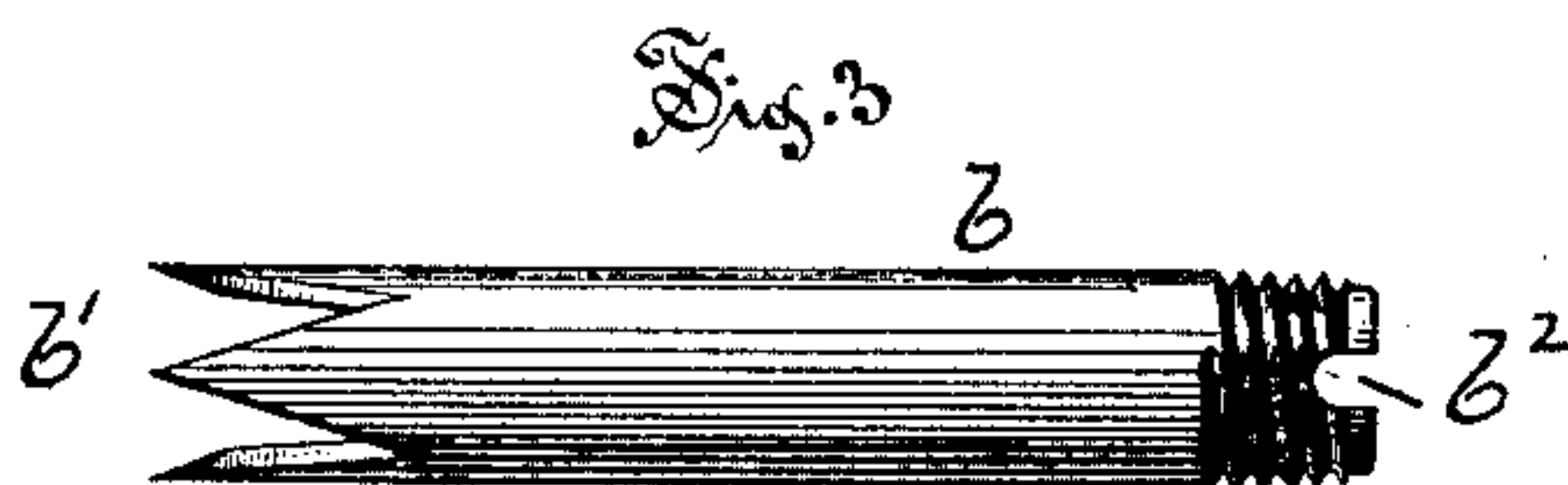
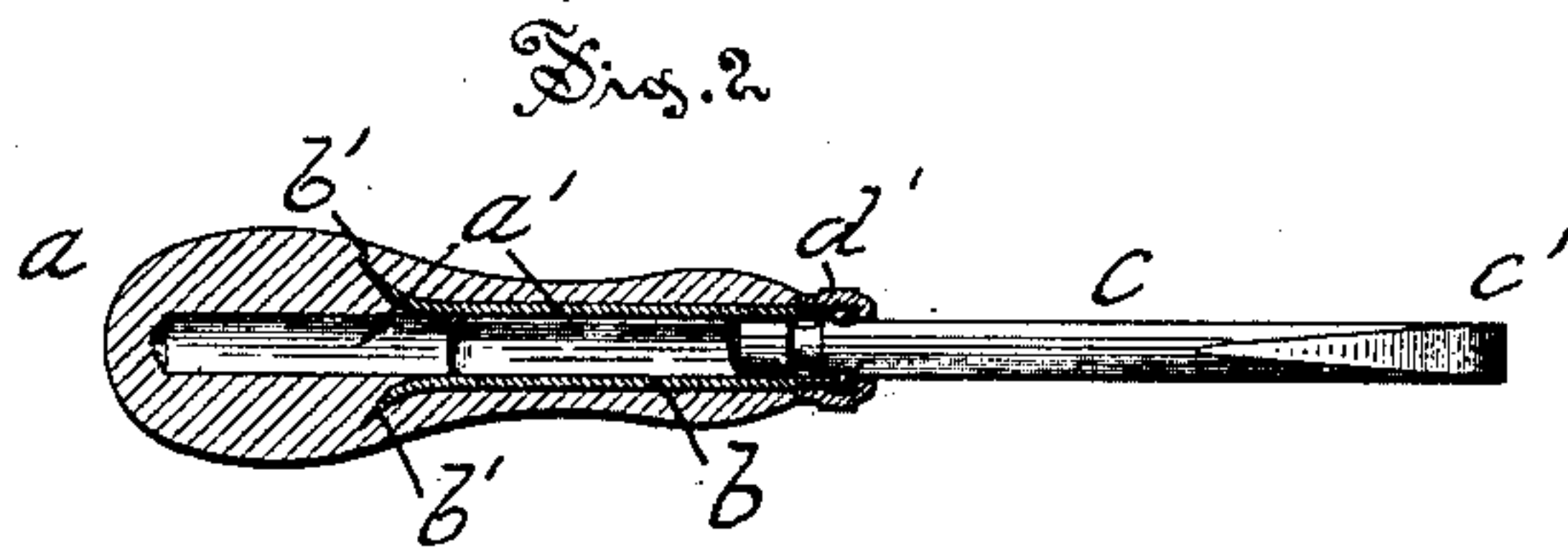
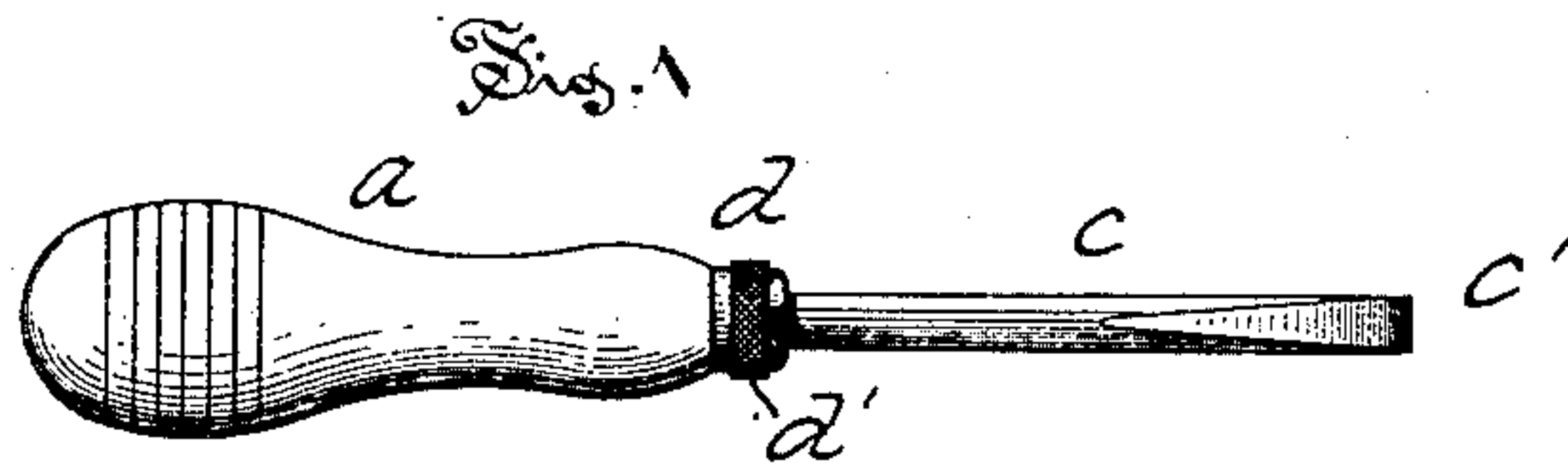


(No Model.)

L. BAILEY.
SCREW DRIVER.

No. 348,815.

Patented Sept. 7, 1886.



Witnesses:

W. M. Byorkman,
H. R. Williams,

Inventor

Leonard Bailey,
by Simonds & Burdett,
attys

UNITED STATES PATENT OFFICE.

LEONARD BAILEY, OF HARTFORD, CONNECTICUT.

SCREW-DRIVER.

SPECIFICATION forming part of Letters Patent No. 343,815, dated September 7, 1886.

Application filed May 3, 1886. Serial No. 200,917. (No model.)

To all whom it may concern:

Be it known that I, LEONARD BAILEY, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Screw - Drivers, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a screw-driver with a blade that may be firmly held in the handle in place for use, and may also be reversed in the holder or handle in convenient position to adapt the tool as a whole to be carried in the pocket of wearing-apparel; and to this end my improvement consists of a screw-driver or like tool having a handle of non-metallic material and a tubular socket-piece secured within the handle and adapted to take the strain off the blade to prevent splitting the handle; and it further consists in the combination of a handle having a socket-piece opening to the tool as a reversible blade, and a peculiar clamp device, whereby the blade of the screw-driver may be held in the handle in place for use or carriage, and in details of the several parts and their combination, as more particularly hereinafter described, and pointed out in the claims.

Referring to the drawings, Figure 1 is a side view of a screw-driver embodying my improvement. Fig. 2 is a side view of the blade and in longitudinal central section of the holder. Fig. 3 is a detail side view of the tubular socket on enlarged scale. Fig. 4 is a detail view of the front end of the tubular socket. Fig. 5 is a detail view in longitudinal section of the front end of the tubular socket and the clamp device on enlarged scale. Fig. 6 is a detail side view of the device, showing the blade reversed.

In the ordinary class of screw-drivers the blade is driven into a socket in the end of a wooden handle, and a ferrule is secured upon the outside of the handle at the small end to prevent the latter from splitting. Owing to the fact that the greater part of the strain in the use of the screw-driver comes upon this smallest and weakest part of the handle, the blade is apt to become loosened, and the ferrule is also apt to fall off on account of the shrinking of the wood, which leaves the handle to bear this strain unprotected by any ferrule.

A feature of my improvement consists in the use of a tubular metallic socket-piece fastened within a handle of wood or other suitable material more fragile than metal, which tubular socket-piece is so secured within the handle that the strain against rotation is borne by the strongest part of the handle or is distributed along a considerable portion of its length.

In the accompanying drawings, the letter *a* denotes a handle, that is made of any convenient material, as wood, rubber, or any composition of suitable matter, and has a central lengthwise socket, *a'*, opening at one end of the handle. The tubular socket-piece *b* is made of any convenient metal, as iron or brass, and is of such a diameter as to fit closely within the socket *a'* in the handle. The inner end of the socket-piece is preferably divided into a series of points, *b'*, that are beveled on the inside as well as drawn to a point sidewise, and this socket-piece is secured in the handle *a* by driving it endwise into the socket, against the bottom of which the points strike and turn outward into the substance of the handle, thus locking the socket-piece securely against rotation in the handle. This socket-piece may be of the full length of the socket *a'*, or it may be shorter, in the latter case the socket being bored a part of the way into the handle, the socket-piece then secured within it, and the socket further bored to make room for the blade. It is obvious that this tubular socket-piece *b* may be secured within the non-metallic handle by any convenient means, as by using cement or shellac, or by making a very tight fit of the piece *b* within the handle, as well as by the means above described, and of all such fastening means or devices I contemplate the use. The outer end of this socket-piece is threaded on the part that projects beyond the handle, and on opposite sides of the edge of this projecting end the mortises *b²* are cut.

The blade *c* of the driver is made preferably of round steel wire of merchantable size, tapered on opposite sides to form the point *c'*, and bearing near the upper end of the shank of the blade the locking-lugs *c²*, and these lugs are of proper outline and shape to fit snugly within the mortises *b²* in the end of the socket-piece.

The function of the locking-lugs is to pre-

vent the blade from rotating in the socket-piece, in which it fits closely, that part of the blade that extends within the socket-piece serving to steady the blade and prevent lateral play.

In order to secure the blade to the handle, I make use of the clamp device d , that consists, in this instance, of the nut d' , with an intumed flange, d'' , that overhangs the projecting lugs when the latter are placed in the mortises in the socket-pieces, the flange conforming to the shape of and snugly fitting about the shank of the screw-driver.

I do not limit myself to any particular shape as to cross-sectional outline of the tubular socket, nor the blade adapted to fit within the socket, but prefer the form above described as being the simplest and cheapest to make. The flange d'' of the nut d' is preferably cut away by the transverse slots d''' , so that the blade may be readily removed from the grasp of the flange by unscrewing the nut until these slots come opposite to the lugs. This enables the blade to be readily removed from the grasp of the clamp device and reversed, with the point thrust into the handle; but the same result may be attained by completely unscrewing the nut; and the slots in the flange d'' are not essential to the operation of the device. By means of this clamp device the reversible blade c may be held in the handle with the point c' projecting, so that the tool is in proper shape for use as a screw-driver; or the blade may be reversed and thrust within the socket

in the handle, only a small part of the shank projecting, and in this condition the tool is in convenient shape for carrying in the pocket of wearing-apparel.

I claim as my invention—

1. In combination with a handle, a , having a blade-socket, a' , a tubular socket-piece, b , fixed against rotation in the handle, and having a projecting threaded end with mortises b'' , a reversible blade, c , bearing locking-lugs c'' , and a clamp device, d , whereby the blade is secured to the socket-piece, within which it fits closely, all substantially as described.

2. In combination with a handle, a , having a blade-socket, a' , a socket-piece, b , with fastening-spurs b' , turned outward into the substance of the handle, and the projecting end having a screw-thread and mortises b'' , and a reversible blade, c , having a point, c' , and locking-lugs c'' , and the nut d' , with flange d'' , overhanging the locking-lugs, and thereby holding the blade against removal from the socket-piece, all substantially as described.

3. In combination with a handle, a , made of non-metallic material, as wood, a socket-piece, b , secured within the handle, and a blade, c , fitting closely within the socket-piece and held against removal therefrom by a clamp device, d , all substantially as described.

LEONARD BAILEY.

Witnesses:

H. R. WILLIAMS,
E. P. PELTON.