

(No Model.)

A. L. STEVENS.

SCREW DRIVER.

No. 371,226.

Patented Oct. 11, 1887.

Fig. 1.

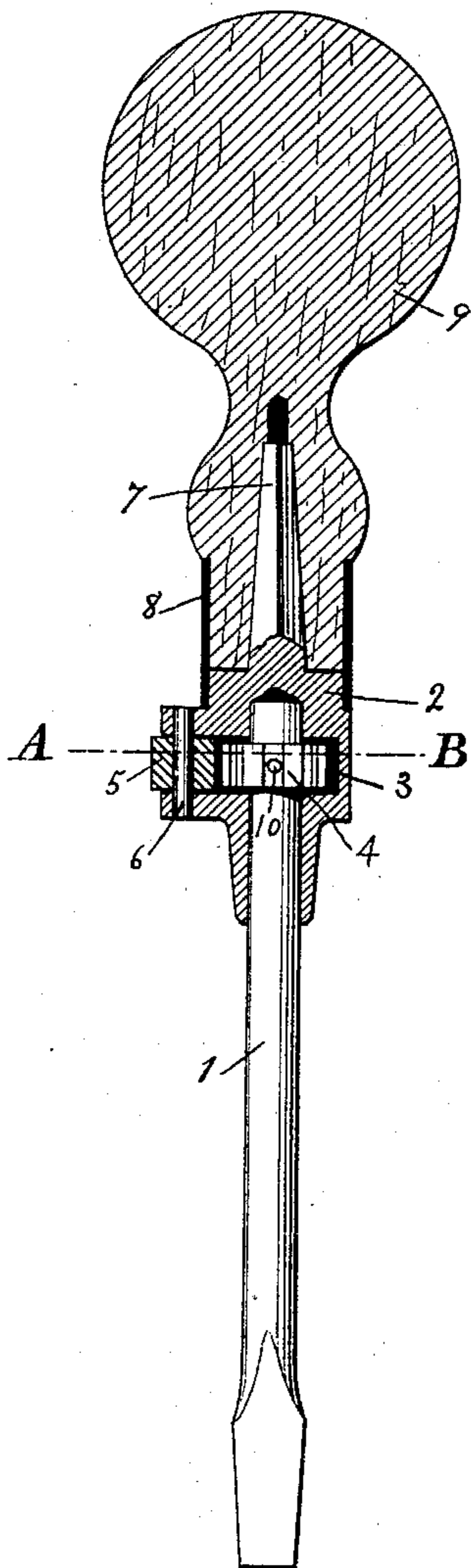


Fig. 3.

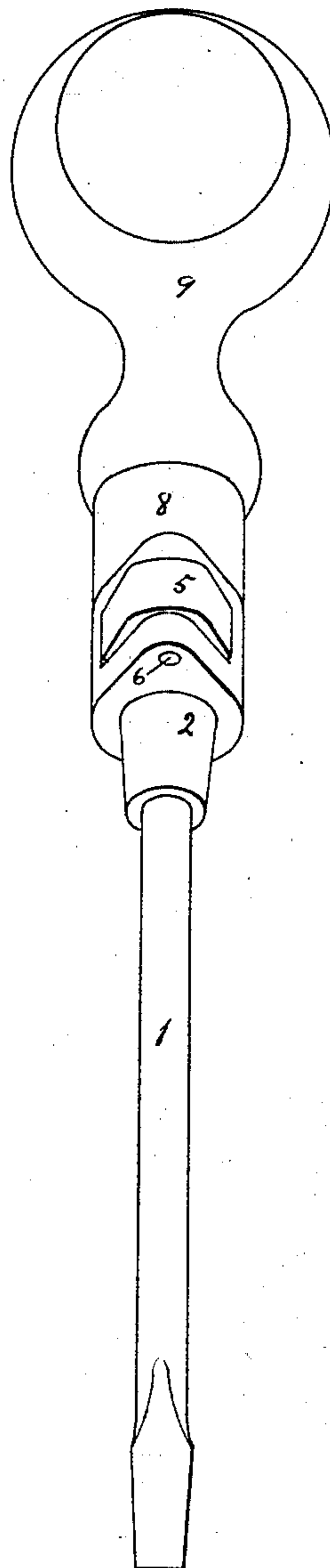
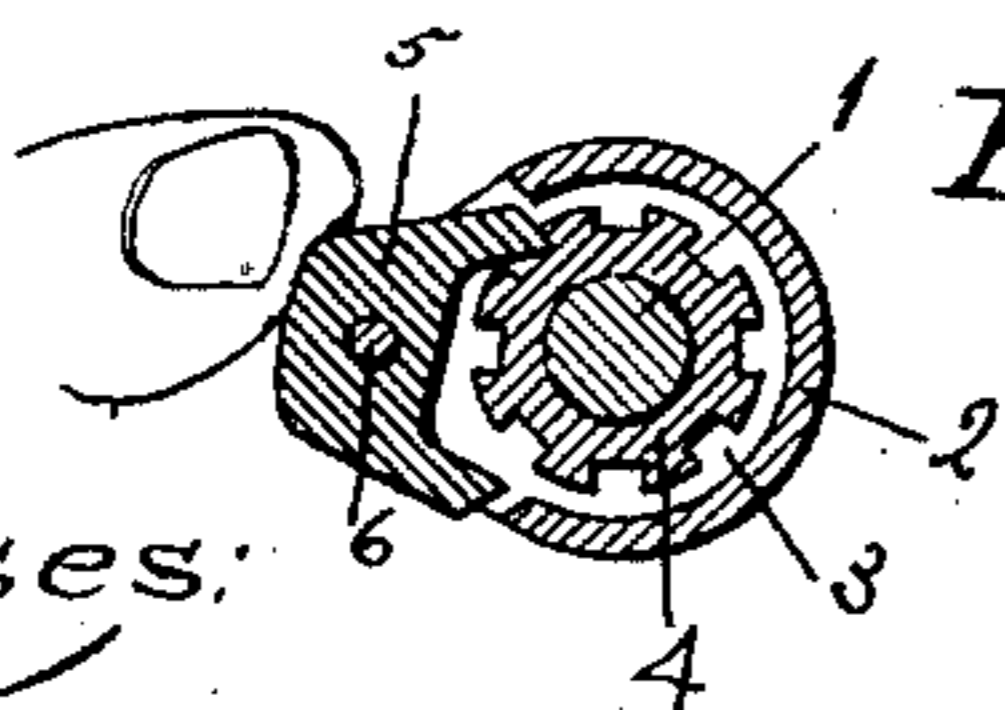


Fig. 2.



Witnesses:

W. H. Kepner
Amos Stevens

Inventor.

Arthur L. Stevens.

UNITED STATES PATENT OFFICE.

ARTHUR L. STEVENS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
WILLIAM D. WOOLDREDGE, OF SAME PLACE.

SCREW-DRIVER.

SPECIFICATION forming part of Letters Patent No. 371,226, dated October 11, 1887.

Application filed June 1, 1887. Serial No. 239,937. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR L. STEVENS, a citizen of the United States, residing at Philadelphia, State of Pennsylvania, have invented a new and useful Screw-Driver, of which the following is a specification.

My invention relates to that class of tools in which the bit or spindle is caused to rotate in either direction by an intermittent turning to and fro of the handle; and the object of my improvements is to reduce the number of parts to a minimum, and make a strong serviceable tool, not liable to get out of order, at small cost.

I attain my object in the following manner:

In the drawings, Figure 1 is a longitudinal section through a screw-driver. Fig. 2 is a cross-section through line A B, and Fig. 3 is a perspective view of the tool.

Similar numbers refer to similar parts throughout the several views.

The bit or spindle 1 has at or near one end the toothed or fluted pinion 4, secured by pin 10. This end of spindle with pinion is incased and free to rotate in the metal shank-piece 2, having a taper square shank, 7. The cored cavity 3 in shank-piece is open on one side to receive between the ears 10 the double or reversible two-pointed pawl 5, projecting beyond the ears 12, as at 11, and adapted to be pressed by the finger, as in Fig. 2, on either side of the pivot 6, on which it freely rocks. A metal ferrule, 8, is placed on the shank-piece, and a suitable handle driven onto the taper shank and into said ferrule, thereby securing the parts firmly together.

The operation will be clearly understood from the drawings, and is as follows:

One finger of the hand that grasps the handle is pressed lightly upon the pawl, and acts as a spring to engage it with the pinion. Should it be desired to rotate the tool from left to right, the finger is pressed on the right side of the pawl; if to the left, then the finger is placed on that side of the pawl.

A slight pressure from the finger on the pawl is sufficient to make a perfect ratchet arrangement that operates equally well in either direction, and avoids the objectionable use of springs and other small operating parts.

This arrangement is particularly adapted to screw-drivers, but can be used for other tools.

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

1. In a screw-driver, the combination, with a tool-bit having a pinion secured thereto, of a handle having a shank-piece having ears and formed with a cavity in which the pinion is arranged to rotate, and a pawl pivoted between the ears and having two points projecting beyond said ears on either side, to enable said pawl to be operated by a finger of the hand, substantially as set forth.

2. In a screw-driver, the combination, with a tool-bit having a pinion secured thereto, of a handle having a shank-piece formed with a cavity for said pinion to rotate in, and provided with ears, and the pawl secured between the ears and having two points projecting from between the before-mentioned ears on either side, to engage with either point of the pinion upon pressure by a finger of the hand, substantially as set forth.

3. In a screw-driver, the combination of a tool-bit and pinion secured thereto, with a shank-piece having cavity 3 and ears 12, and a pawl having two points projecting at either side beyond said ears, substantially as set forth.

4. The combination of the tool-bit 1, pinion 4, pawl 5, and shank-piece 2, taper shank 7, handle 9, with ferrule 8, as herein described.

5. A ratchet screw-driver consisting of a tool-bit, 1, pinion 4, pawl 5, pin 6, shank-piece 2, with taper shank 7, ferrule 8, and handle 9, substantially as herein described.

6. A ratchet screw-driver consisting of a tool bit or spindle with pinion secured thereto, a reversible finger-pawl to engage said pinion, a shank-piece inclosing the end of said spindle and having a cavity in which the pinion rotates, and also a taper shank and ferrule to secure the handle, all substantially as herein described.

7. A ratchet screw-driver consisting of the tool-bit 1, pinion 4, secured by pin 10, pawl 5, pivot-pin 6, shank-piece 2, having cavity 3, taper shank 7, handle 9, and ferrule 8.

ARTHUR L. STEVENS.

Witnesses:

AMOS STEVENS,
THOMAS BARNES.