(No Model.)

J. F. SMITH.

WRENCH.

No. 547,039. Patented Oct. 1, 1895.

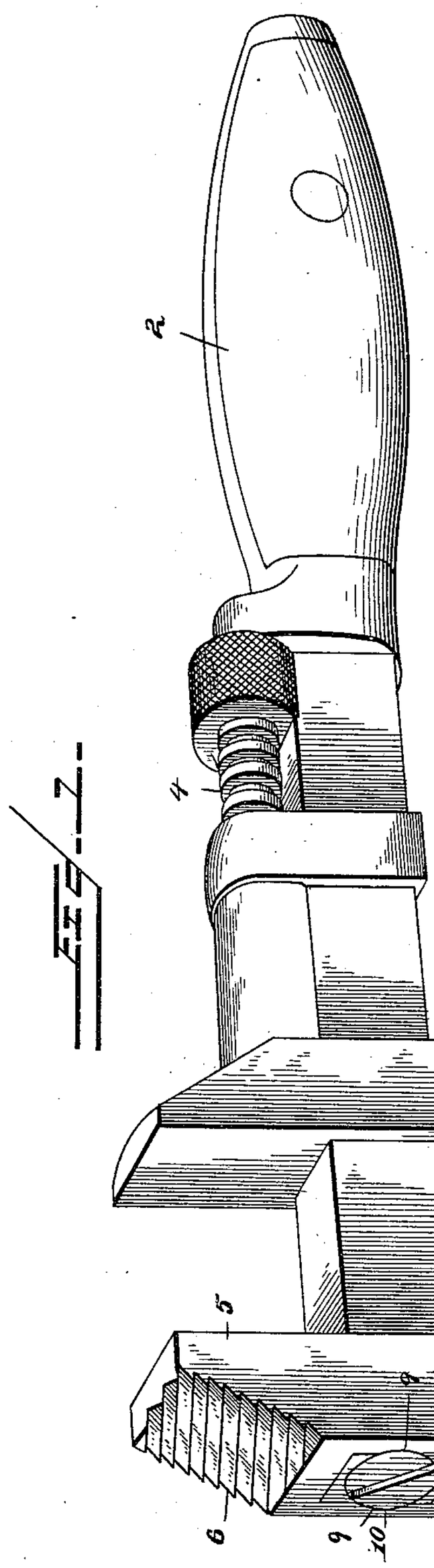

FIG. 2.

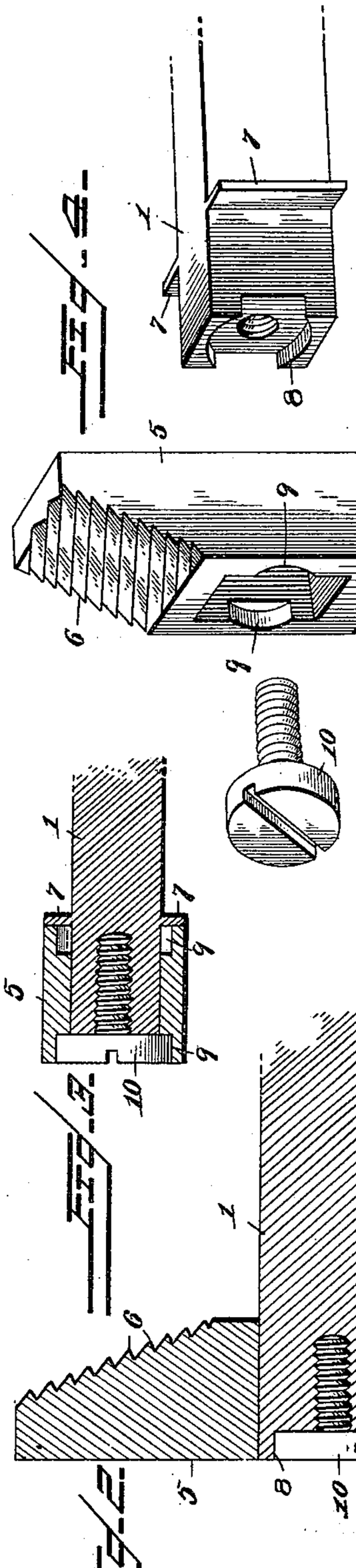

FIG. 3.

FIG. 4.

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UNITED STATES PATENT OFFICE.

JAMES F. SMITH, OF GROSVENOR DALE, CONNECTICUT.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 547,039, dated October 1, 1895.

Application filed July 27, 1895. Serial No. 557,363. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. SMITH, a citizen of the United States, residing at Grosvenor Dale, in the county of Windham and State of Connecticut, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to an improvement in wrenches, and has for its object to provide means for reversing what is ordinarily the stationary jaw of a monkey-wrench and providing one of the faces of said jaw with teeth or serrations, thus adapting the wrench to be used either as an ordinary nut-wrench or as a pipe-wrench, as required.

The primary object of the invention is to secure the reversible jaw to the shank of the wrench in such manner that the securing device will be contained wholly within such jaw, leaving nothing to project beyond the outer face of said jaw to interfere with the proper working of the wrench.

To this end the invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully set forth, illustrated in the drawings, and finally embodied in the claim.

In the accompanying drawings, Figure 1 is a perspective view showing the application of the present improvement to an ordinary monkey-wrench. Fig. 2 is an enlarged detail longitudinal section through the reversible jaw and the contiguous end of the shank of the wrench. Fig. 3 is a transverse section taken at right angles to Fig. 2. Fig. 4 illustrates in detached perspective the reversible jaw, a portion of the wrench-shank, and the retaining-screw.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the drawings, 1 designates the rectangular shank of an ordinary monkey-wrench, the same being supplied with the usual handle 2 and a longitudinally-movable jaw embracing and slidingly mounted upon said shank.

4 indicates the usual threaded bolt or shank, which is interposed between the sliding jaw and a stationary lug projecting from the shank of the wrench for the purpose of adjusting said sliding jaw toward and away from the stationary jaw, (indicated at 5.)

All of the parts above referred to are similar in construction and arrangement to the ordinary monkey-wrench, with the exception of the stationary jaw, and will not, therefore, need further description therein.

What is ordinarily termed the "stationary" or "fixed" jaw of the wrench is for the purposes of carrying out this invention made removable and reversible. This jaw resembles the usual fixed jaw in its general shape, differing only in that the inclined outer face of the nose of the jaw is formed with a series of obliquely-disposed teeth or serrations 6, which upon the reversal of such jaw adapt the wrench to be used as a pipe-wrench. In order to adapt the jaw 5 to be reversed, it is formed with a rectangular aperture or opening, which corresponds in shape and size to the cross-sectional shape of the shank 1. The jaw 5 fits snugly upon the end of the shank, and its position is regulated by means of an oppositely-disposed pair of laterally-projecting shoulders 7, preferably formed integrally with said shank. When resting upon these shoulders, the outer face of the jaw is exactly flush with the extremity of the shank 1. In order to secure the jaw 5 in place upon the shank, a circular socket or countersink 8 is formed in the extremity of the shank, as shown, the diameter of such socket or countersink being somewhat greater than the transverse thickness of the shank. This socket or countersink is extended at diametrically-opposite points into the inner and outer faces of the reversible jaw 5 in such manner as to form what may be termed "segmental recesses" 9, the bases of which are disposed in the same plane with the base of the circular socket or countersink in the extremity of the shank. In this manner an oppositely-disposed pair of shoulders are formed within the reversible jaw, which are adapted to receive the pressure of a flat-headed screw 10, the threaded shank of which enters a longitudinally-disposed threaded socket in the end of the wrench-shank, the head of said screw occupying said circular socket or countersink and having its outer face flush with the outer face of the reversible jaw and the extremity of the shank, in the manner

illustrated in the drawings. It will be understood that the segmental recesses 9 are formed in the rectangular opening in the reversible jaw, adjacent to the opposite faces of said jaw, so as to accommodate the head of the screw 10 under either adjustment of the jaw.

By means of the construction above described it will be apparent that by simply loosening and removing the screw 10 the outer jaw of the wrench may be instantly reversed for adapting said wrench either as an ordinary monkey-wrench or as a pipe-wrench. By reason of the particular formation of the circular socket or countersink in the end of the shank of a wrench and the segmental recesses and shoulders formed within the rectangular opening in the reversible jaw the head of the retaining-screw lies wholly within the plane of the outer face of the reversible jaw, thereby avoiding all projections beyond the outer face of the reversible jaw, thus protecting said retaining-screw from injury and facilitating the operation of the wrench. I am aware that it is not new to make the outer jaw of a monkey-wrench reversible for the purpose described. The trouble with devices of this nature has been, however, that the retaining-screw or other device projected beyond the outer face of the reversible jaw in such manner as to interfere with the proper working of the wrench, and also rendering said retaining device liable to injury, so that it might not be removed when desired with the requisite ease. The aim of this invention has been to overcome the objectionable feature just referred to, and this will be made the subject-matter of the subjoined claim.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

In a monkey wrench, the combination with the shank thereof provided with oppositely disposed shoulders, of a reversible jaw formed with an opening corresponding in size and shape to the cross sectional shape of the wrench shank and also formed with oppositely disposed segmental recesses, the bases of which form shoulders which are disposed in the same plane with the base of a circular socket or countersink in the end of the wrench shank, and a retaining screw having its threaded shank in engagement with a corresponding socket in said shank, and its head arranged partially within the countersink in the end of the wrench shank and partially within the segmental recesses in the reversible jaw, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES F. SMITH.

Witnesses:
CHARLES ARNOLD,
E. C. WOOD.