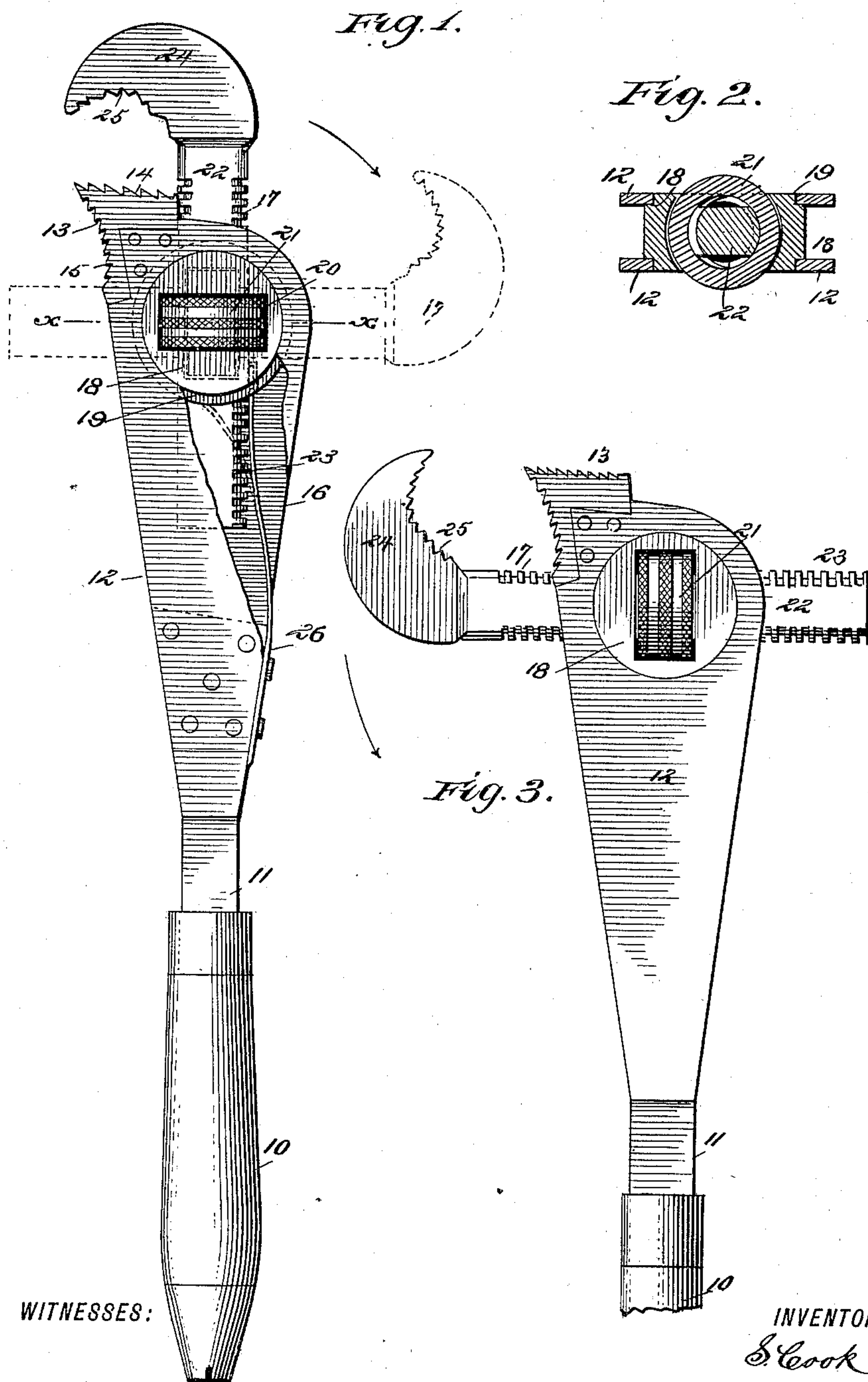


(No Model.)

S. COOK.  
WRENCH.

No. 401,819.

Patented Apr. 23, 1889.



WITNESSES:

William R. Davis.  
C. Sedgwick

INVENTOR:

S. Cook  
BY Munn & Co.

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

SIDNEY COOK, OF ORLANDO, FLORIDA, ASSIGNOR OF ONE-HALF TO EZRA F. SPERRY, OF SAME PLACE.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 401,819, dated April 23, 1889.

Application filed September 29, 1888. Serial No. 286,744. (No model.)

*To all whom it may concern:*

Be it known that I, SIDNEY COOK, of Orlando, in the county of Orange and State of Florida, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

My invention relates to an improvement in wrenches, and has for its object to simplify the construction of the same and provide a means whereby one jaw will be removable and adjustable, and wherein the movable jaw may be placed at various angles with respect to the fixed jaw and adjusted laterally while in any position.

The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the wrench partly broken away, illustrating the jaw as in a vertical position in positive lines and as carried to its downward position in dotted lines. Fig. 2 is a transverse section on line  $x$  of Fig. 1, and Fig. 3 is a side elevation of the movable jaw inserted in the body at the side instead of at the top.

In carrying out the invention the body of the wrench consists of a handle, 10, and a shank, 11, inserted in said handle in any approved manner, to which shank, at or near the upper end, the side pieces, 12, are riveted or otherwise fastened in such manner that the outer face of the shank will be flush with the outer face of the sides, as best illustrated in Fig. 1. The side pieces, 12, are preferably wider at the top than at the bottom, and are united at the top at one side by being rigidly secured to a fixed jaw, 13, the said jaw being provided with teeth 14 upon the upper surface, and teeth 15 upon the outer edge, as best illustrated in Figs. 1 and 2.

The upper toothed surface of the fixed jaw is preferably inclined from the outer edge inward and the outer toothed surface is slightly concaved. The said concaved surface may, however, be dispensed with and the

outer edge be inclined from the top downward and inward, if in practice it is found more desirable. By reason of the attachment of the side pieces to the shank and to the fixed jaw, a space, 16, is made to intervene the opposing inner faces of the said sides, whereby the detachable jaw 17 may be freely moved up or down between the sides.

A circular carrier, 18, is fitted in aligning apertures in the sides 12, near the top, and the said carrier is held between the sides free to revolve by reason of a rabbet, 18, being formed in each side near the periphery, in which rabbet the surface of the sides 12 surrounding the apertures is fitted, as best illustrated in Fig. 2. In placing the carrier in position the reduced sides are passed through the apertures in the sides of the body prior to the said sides being attached to the fixed jaw 13.

A rectangular recess, 20, is made in the carrier 18, extending through from face to face, and in the periphery a similar recess is made, extending diametrically through from edge to edge, with an enlargement forming a recess at or near the rear lower wall of the diametrical recess for the reception of the upper end of a spring, 26, hereinafter described. The latter recess intersects the rectangular recess 20, which is preferably located at the center of the carrier.

The aperture 20 is made of a rectangular contour throughout, or only at the outer face, the side walls in which latter event may be concaved, as best shown in Fig. 2. The recess 20 is adapted for the reception of a circular nut, 21, which is interiorly threaded and preferably exteriorly serrated, the nut being of sufficient diameter to permit of its extending slightly beyond the face of the carrier, when located in the recess, to facilitate manipulation.

The movable jaw 17 consists of a shank, 22, provided with a broken thread, 23, and curved or parrot-bill head 24, the under surface of which head is concaved and toothed, as best illustrated at 25 in Figs. 1 and 3.

For ordinary purposes the shank 22 of the removable jaw is introduced into the diametrical recess of the carrier and into the nut 21,



revolving in the transverse recess 20, where-  
upon, by the manipulation of the said nut,  
the head 24 may be made to approach the up-  
per toothed surface, 14, of the fixed jaw as  
5 near as may be desired. When the movable  
jaw is thus introduced into the body of the  
wrench, it is held in a vertical position and  
against the inner face of the fixed jaw 13 by  
means of a spring, 26, attached to one edge of  
10 the shank, at the rear, below the space 16, the  
upper end of the said spring being made to  
enter a recess in the periphery of the carrier  
at or near the rear lower wall of the diamet-  
rical recess produced therein.

15 The jaws may be accommodated to articles  
of various sizes by carrying the movable jaw  
downward in direction of the arrow in Fig. 1  
against the leverage of the spring 26. When  
the end of the spring leaves the said recess in  
20 the carrier, it impinges against the carrier,  
holding the said jaw rigidly in any position  
at an angle to the fixed jaw in which the said  
movable jaw may be left by the operator, and  
at whatever angle the movable jaw is placed,  
25 as the carrier follows the movement of the  
jaw, the same may be freely adjusted through  
the medium of the nut 21 either to or from  
the fixed jaw, as desired.

In the event that the wrench is to be used  
30 upon pipe or a similar article, the movable  
jaw is detached and the carrier revolved so  
that the diametrical recess therein, which has  
heretofore been vertical, will assume a hori-  
zontal position or a position transversely of  
35 the body. When this is accomplished, the  
end of the threaded shank 23 is introduced in  
the space 16, below the outer edge of the fixed

jaw, into the said diametrical recess, and into  
the nut, assuming the position illustrated in  
Fig. 3.

40 In adjusting the movable jaw to articles of  
various sizes the head is carried downward,  
as indicated by the arrow of Fig. 1, the fine  
adjustment being accomplished, as heretofore  
stated, through the medium of the revolving 45  
nut 21.

Having thus described my invention, what  
I claim as new, and desire to secure by Letters  
Patent, is—

1. In a wrench, the combination, with a 50  
body open at the top and sides and provided  
with a fixed jaw having teeth on its upper  
and outer faces, of a revolving carrier in the  
body and a movable jaw detachably and ad-  
justably secured in the said carrier, substan- 55  
tially as described, whereby provision is made  
for causing the movable jaw to work with  
either toothed face of the fixed jaw, as set  
forth.

2. In a wrench, the combination, with an 60  
open body provided with a fixed jaw having  
teeth on its upper and outer faces, of a car-  
rier fitted to revolve in the body and provided  
with apertures intersecting each other at right  
angles, a nut fitting in one of the apertures of 65  
the carrier, a movable jaw having a screw-  
threaded shank and passing through the car-  
rier and nut, and a spring secured to the body  
and engaging the carrier, substantially as  
herein shown and described.

SIDNEY COOK.

Witnesses:

W. F. HEIZER,  
CHAS. F. ROGERS.