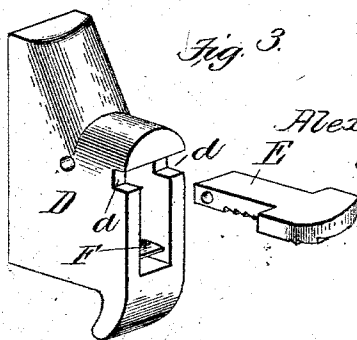
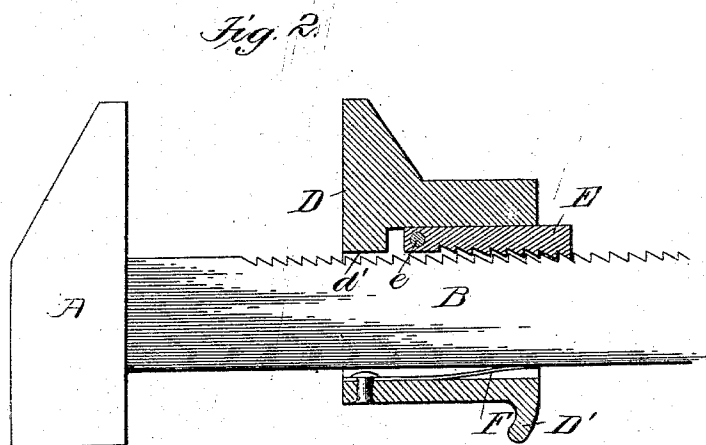
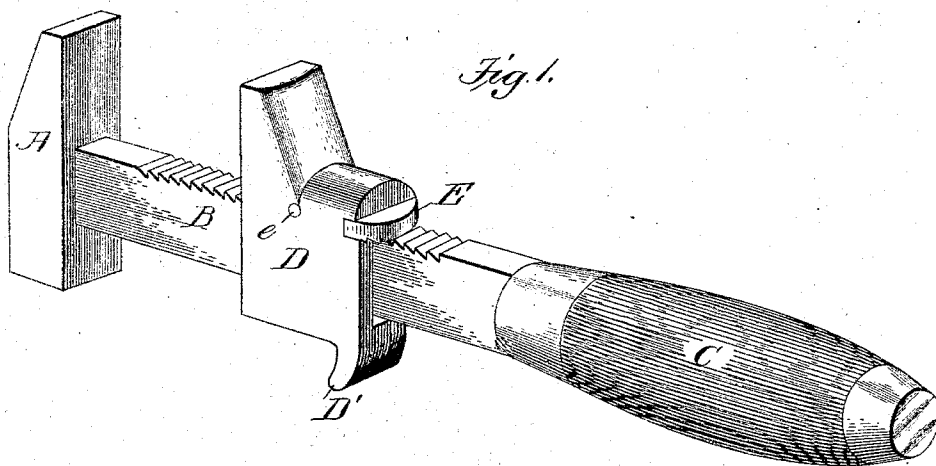


(No Model.)

A. L. BEDFORD.
WRENCH.

No. 511,190.

Patented Dec. 19, 1893.



Witnesses:

J. P. Cornwall
W. M. Zine.

Inventor
Alexander L. Bedford.

by Paul Bateman
his Atty.

UNITED STATES PATENT OFFICE.

ALEXANDER L. BEDFORD, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF
TO WILLIAM J. WALKER, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 511,190, dated December 19, 1893.

Application filed October 5, 1893. Serial No. 487,235. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER L. BEDFORD, a citizen of the United States, residing in the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Wrenches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, wherein
10 like symbols refer to like parts wherever they occur, and in which—

Figure 1 is a perspective view of my improved wrench. Fig. 2 is a detail view in side elevation, showing the sliding jaw in section. Fig. 3 is a detail perspective view of the
15 sliding jaw, with the toothed-plate removed.

My invention relates to a new and useful improvement in wrenches, and consists in the peculiar construction, arrangement, and combination of the several parts, all as will hereinafter be described and afterward pointed out in the claims.

Referring to the drawings, A indicates the rigid jaw; B, the toothed or roughened shank; and C, the handle; all of said parts being of
25 ordinary or approved construction.

D represents the sliding jaw, cored, as shown, for the passage of the shank there-through, which core is of such dimensions as to prevent lateral play, but permit the sliding jaw to be tilted or canted in such manner as to disengage the teeth of the toothed plate E, which is carried thereby, from the teeth on the shank. On the lower rear edge of this
30 sliding jaw D, I preferably form a lug or projection D', through the medium of which the operator can move the sliding jaw backward, at the same time tilting the same to disengage the teeth on the toothed plate E from the teeth on the shank, and permit the face of the lug or projection d' to ride over the teeth on the shank without mutilating the same.

The toothed plate E, heretofore referred to, is preferably in the form of a T, the tail of which is introduced in the core so as to form one of the walls thereof, its teeth being exterior. I preferably insert a pin e through the side walls of the sliding jaw and the tail of the toothed plate E, through the medium of which pin the plate is retained in position, and, by the removal of which, the plate may
40 45 50

be removed and another inserted, should its teeth become worn so as to refuse to bite the shank and hold the sliding jaw to its work. The cross of this T-shaped plate preferably finds a seat in recesses d in the inner side walls of the sliding jaw, which construction tends to add rigidity to the parts. Riveted, or otherwise secured, to the wall of the sliding jaw, opposite this toothed plate, is a spring F, preferably of a form commonly known as a strap or leaf spring, which spring exerts a pressure upon the shank B, so as to force the teeth of the plate E into engagement with the teeth on the shank, there being sufficient room in the core to permit this spring to play properly.

To force the sliding jaw toward the rigid jaw, it is only necessary to slide the same on the shank, when the teeth on the shank and the toothed plate will ride past each other, offering no obstruction or resistance. However, when the jaws are in operative position and pressure is placed thereupon, the action of the sliding jaw will be to tilt in the direction of the toothed plate, which will tend to bind the sliding jaw on the shank more tightly.

When it is desired to increase the span of the jaws, it is only necessary to pull upon the projection or trigger D', which will tilt the sliding jaw D inwardly against the action of the spring F and disengage the teeth of the plate E so that the sliding jaw will ride upon the teeth on the shank through the medium of the smooth surface d', said surface acting as a fulcrum—also, as a wear surface.

Having thus described my invention, I declare that what I claim is—

1. In a wrench, the combination with the rigid jaw and toothed or roughened shank, of a sliding jaw, cored for the passage of said shank, a toothed plate removably secured in and forming one of the walls of said core, said toothed plate being in the form of a T, the cross-bar of which is seated in recesses in the side walls of the jaw, and a spring, secured in the core, forming an opposite yielding wall thereof, for holding the toothed plate in engagement with the shank, substantially as described.

2. In a wrench, the combination with the rigid jaw A and toothed or roughened shank B, of the sliding jaw D provided with the

toothed or roughened plate E, said sliding jaw being formed with a lug or wear surface *d'* located in advance of the plate E and which is adapted to form a fulcrum for the sliding jaw to ride upon over the teeth on the shank B when the sliding jaw is tilted to disengage the teeth of the toothed plate E from the teeth on the shank, a lug or projection *D'* on the sliding jaw by which the same may be tilted, 10. and a spring F for normally holding the teeth

on the plate in engagement with the teeth on the shank, substantially as described.

In testimony whereof I hereunto affix my signature, in presence of two witnesses, this 28th day of September, 1893.

ALEXANDER L. BEDFORD.

Witnesses:

F. R. CORNWALL,
HUGH K. WAGNER.