

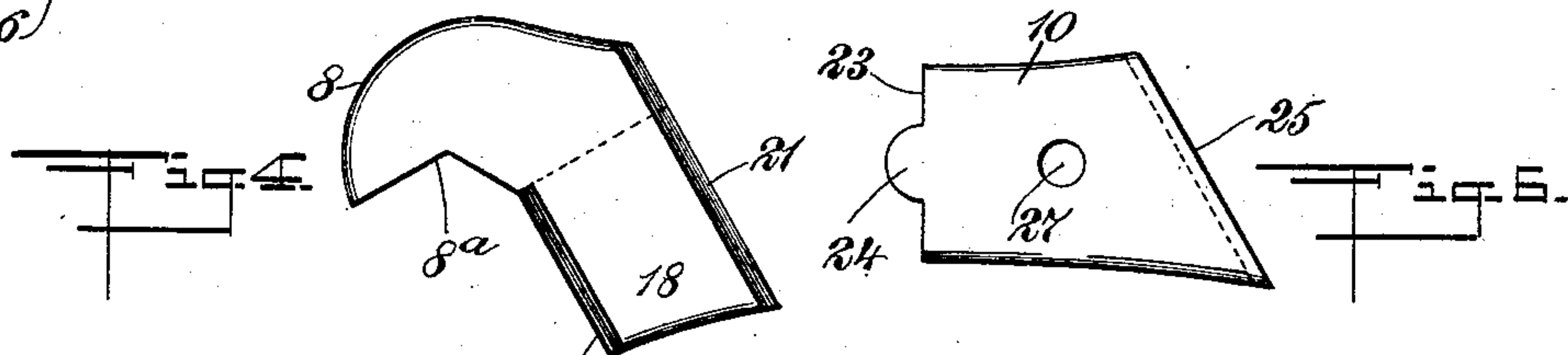
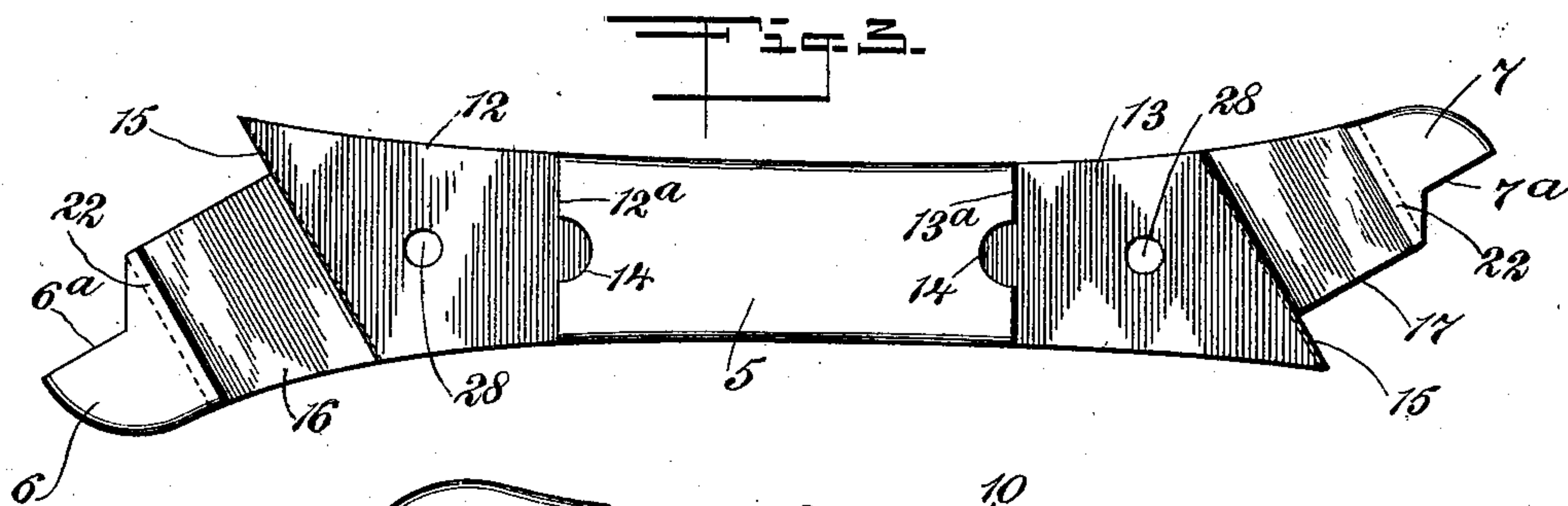
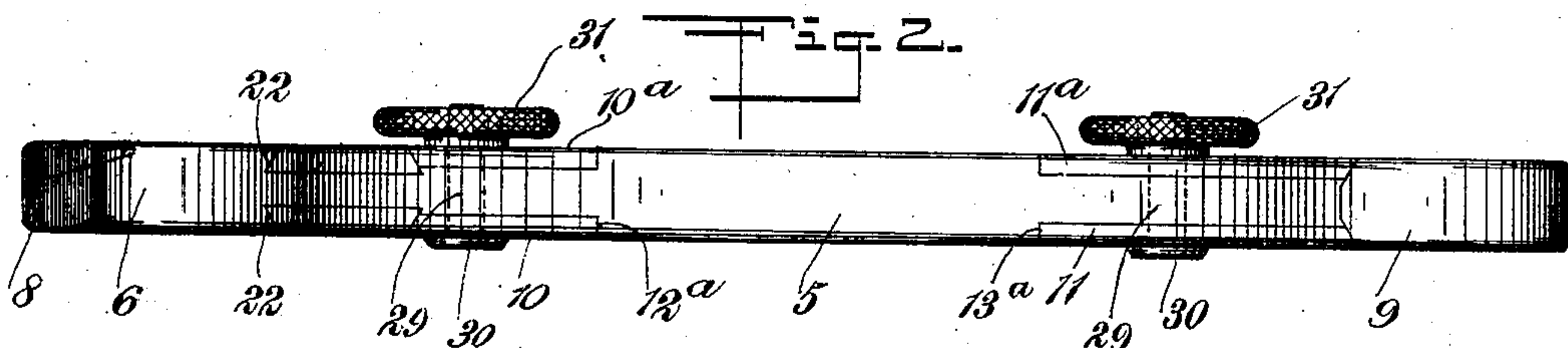
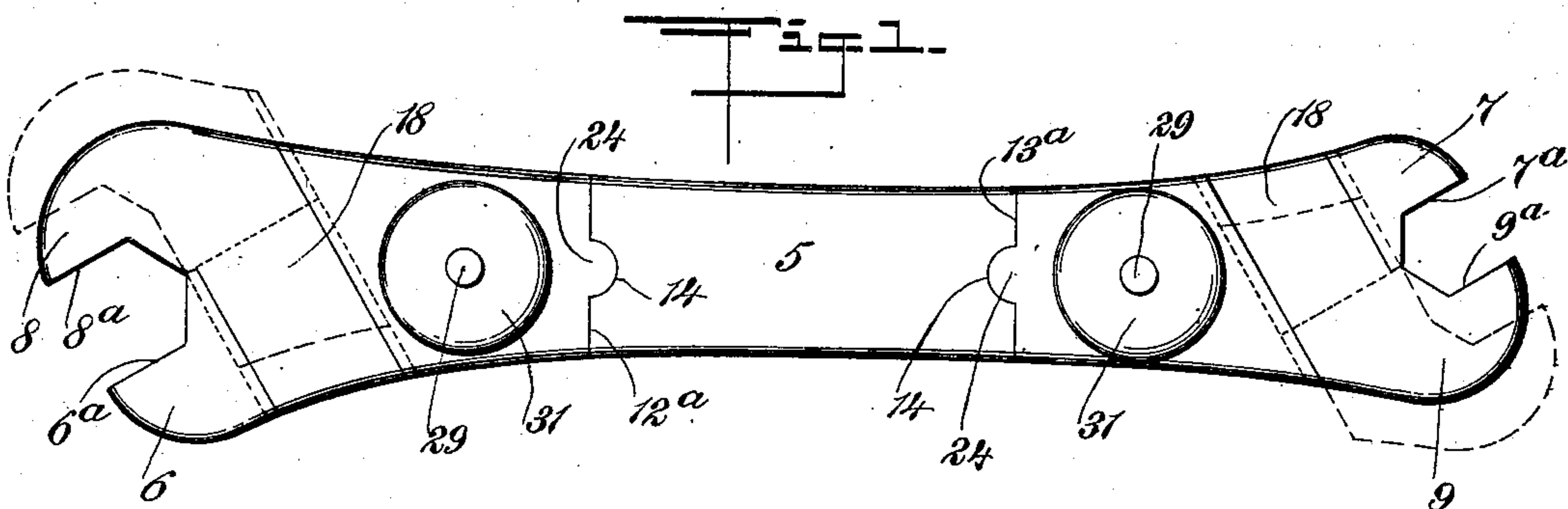
No. 699,072.

Patented Apr. 29, 1902.

F. W. BROWN.
ADJUSTABLE WRENCH.

(Application filed Dec. 2, 1901.)

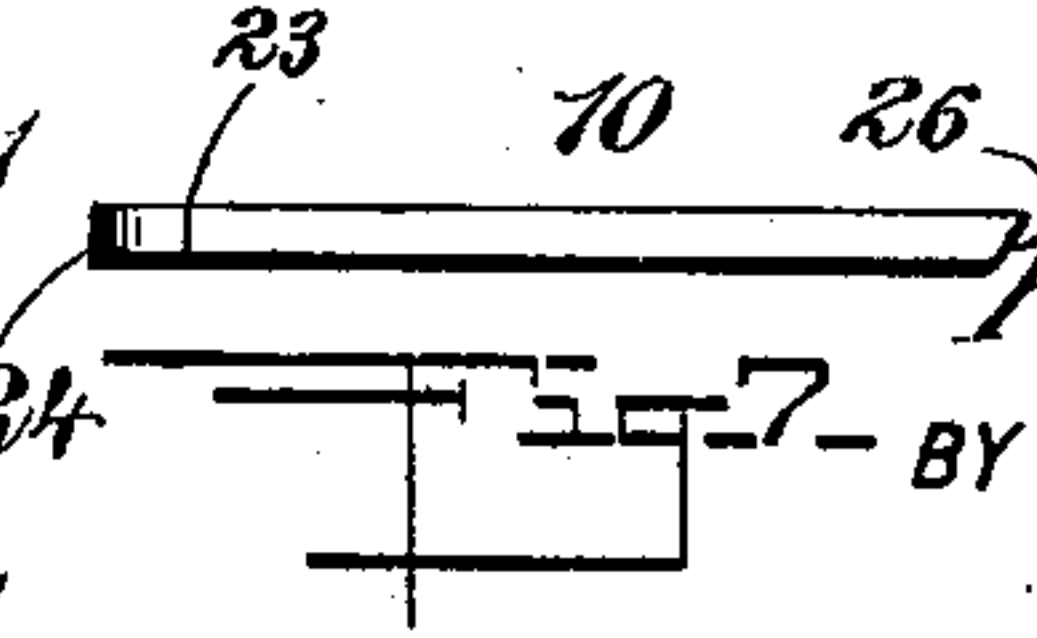
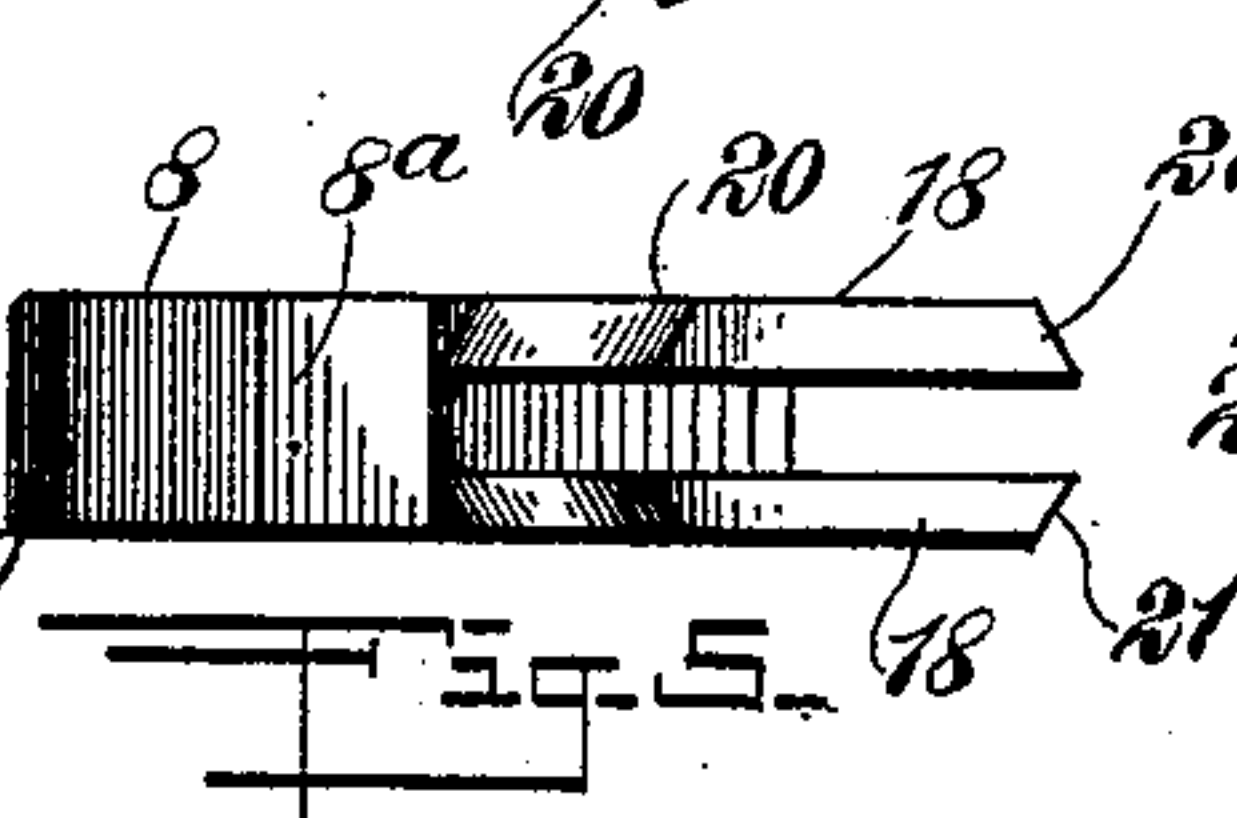
(No Model.)



WITNESSES:

Russell Borch.

H. J. Borch.



INVENTOR

Frederick W. Brown

BY

Munn
ATTORNEYS

UNITED STATES PATENT OFFICE.

FREDERICK W. BROWN, OF BERLIN, NEW HAMPSHIRE.

ADJUSTABLE WRENCH.

SPECIFICATION forming part of Letters Patent No. 699,072, dated April 29, 1902.

Application filed December 2, 1901. Serial No. 84,367. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK W. BROWN, a citizen of the United States, and a resident of Berlin, in the county of Coos and State of New Hampshire, have invented new and useful Improvements in Adjustable Wrenches, of which the following is a full, clear, and exact description.

My invention relates to improvements in adjustable wrenches adapted for turning nuts on bolts and for a variety of other purposes.

The object of the invention is the provision of a simple and compact implement which embodies one or more sets of jaws that may easily be spread for a proper distance in order to receive nuts of different sizes.

A further object is to provide means for securely clamping the movable jaw to its adjusted position, said clamping device being quickly tightened and easily released.

With these ends in view the invention consists in the combination of devices and in the construction and arrangement of parts, which will be hereinafter fully described and claimed.

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

Figure 1 is a side view of a nut-wrench having adjustable jaws constructed in accordance with my invention, the dotted lines showing the jaws moved to their spread positions. Fig. 2 is an edge view of the wrench. Fig. 3 is a side view of the bar or body of the wrench. Fig. 4 is a side view of one of the adjustable jaws. Fig. 5 is an under or bottom plan view of said adjustable jaw shown by Fig. 4. Fig. 6 is a side view of one of the clamping-plates, and Fig. 7 is an edge view thereof.

The bar or body 5 of the improved wrench is provided at its end portions with the rigid jaws 6 7. Opposed to the rigid jaws are the adjustable jaws 8 9, and with said adjustable jaws engage the pairs of clamping-plates 10 10^a and 11 11^a, all as will hereinafter more fully appear.

The bar or body 5 is recessed at opposite ends of its central portion in order to produce the reduced portion 12 13, each reduced portion being in a single piece with the body and

formed by recessing the opposite faces of the body, said recesses forming the right-angular shoulders 12^a and 13^a, respectively. In the shouldered portions 12^a and 13^a of the body are formed the locking-recesses 14, said recesses being provided on each of the two side faces of the body and at opposite ends of the solid unbroken central portion thereof. Each reduced portion 12 or 13 of the body terminates in the shoulder 15, that is inclined to the longitudinal axis of the body, and between the reduced portions 12 13 and the contiguous rigid jaws 6 7 are the tangs 16 17, the latter being integral with the bar or body and disposed in the plane of the median line thereof. Each tang has a curved edge which merges into the boundary edge of the body on one side; but the opposite edge of this tang is inclined, as clearly shown by Fig. 3. The rigid jaw 6 at one end of the body lies on one side of the longitudinal axis of the implement, while the other jaw 7 at the opposite end of the body is on the opposite side of said axis, each rigid jaw having the inclined active faces 6^a or 7^a for the respective jaws 6 or 7.

Each adjustable jaw 8 or 9 is made solid and in one piece with a shank 18. As shown by Fig. 5, each adjustable jaw has its shank 18 slotted or bifurcated in order to produce the parallel members, that are adapted to fit on the outside sides of the tangs 16 or 17. Each adjustable jaw has an active face formed by the inclined edges 8^a or 9^a, and this active face of one adjustable jaw is in opposing relation to the corresponding rigid jaw. (See Fig. 1.) The members of the bifurcated shank which forms a part of each adjustable jaw have the edges thereof beveled or inclined transversely, as indicated at 20 21 in Figs. 4 and 5. Each rigid jaw 6 or 7 of the body has the edges which lie next to the tang undercut or beveled, as indicated at 22 in Figs. 2 and 3, whereby the beveled edge of the shank on the adjustable jaw may fit snugly in the undercut edge 22 of the rigid jaw.

Each pair of clamping-plates 10 10^a or 11 11^a cooperate with the reduced portion of the body and the shank of one of the adjustable jaws. The plates forming the pair are fitted against opposite faces of the reduced portion, so as to lie on opposite sides of the body, as shown

by Fig. 2, and said plates are provided with the straight edges 23 and with the lugs 24, said rigid edges adapted to bear against the shoulders 12^a or 13^a and to have the lugs 24 enter the recesses 14 in the body. (See Fig. 1.) The other edges of the plates are inclined, as indicated at 25, and are beveled or undercut, as at 26, and these inclined or beveled edges of the plates lie adjacent to the inclined edges or shoulders 15 of the reduced portion 12 or 13, whereby said inclined and undercut edges of the pair of plates are brought into cooperative relation with the beveled edges 21 on the members forming the shank of the adjustable jaws. Each pair of plates have the holes 27, adapted to register with holes 28 in the reduced portion of the body, and through these coincident openings is adapted to pass one of the two fastening-bolts 29, the latter having a head 30 at one end and adapted to receive a thumb-nut 31 at its other end, whereby the bolt and the nut may be adjusted to clamp the pair of plates laterally upon the reduced portion of the body and upon the shank of the adjustable jaw.

It is evident that the thumb-nut 31 at either end of the implement may be released in order to relax the engagement of one pair of clamping-plates with the shank of one adjustable jaw, and this jaw may now be moved in an inclined direction to the axis of the implement for the purpose of spreading the pair of companion jaws or of bringing said pair of jaws closer together, after which the thumb-nut should again be tightened. The slidable engagement of the undercut edges of the shank on the adjustable jaws with the beveled edges 22 of the rigid jaws and with the beveled edges 26 of the pair of companion plates limits and directs the movable jaw and maintains the latter in proper relation at all times to the active face of the rigid jaw. The pair of clamping-plates have interlocking engagement with the body, and they are adapted to be drawn by the nut and bolt into close frictional engagement with the shank of the adjustable jaw, thus serving as an efficient means for firmly holding the jaw in its adjusted position relative to the rigid jaw.

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

1. An adjustable wrench, comprising a body having a rigid jaw, an adjustable jaw slidably fitted to the body, clamping-plates engaging

with said body and with the adjustable jaw, and means for firmly clamping said plates upon the adjustable jaw.

2. An adjustable wrench, comprising a body having a tang and a rigid jaw, an adjustable jaw having a bifurcated shank which is slidably fitted to the tang, and clamping-plates engaging with said shank of the adjustable jaw and held on the body.

3. An adjustable wrench, comprising a body having a reduced portion and a rigid jaw, an adjustable jaw having a shank which is slidably fitted to the body, and clamping-plates fitted to the reduced portions of the body and engaging with the shank of said adjustable jaw.

4. An adjustable wrench, comprising a body having a reduced portion and a rigid jaw, an adjustable jaw, and clamping-plates fitted to the reduced portion and having interlocking connection with the body, and also engaging with the adjustable jaw.

5. An adjustable wrench, comprising a body having a rigid jaw, an adjustable jaw provided with a shank which has beveled edges, clamping-plates fitted to the body and engaging the beveled edges of said shank, and means for laterally clamping said plates to the body.

6. An adjustable wrench, comprising a body having a rigid jaw and an undercut guiding edge, an adjustable jaw provided with a shank having beveled edges one of which engages with the guiding edge, clamping-plates fitted to the body and engaging with the other beveled edges of the adjustable jaw-shanks, and means for laterally clamping said plates upon said shank.

7. An adjustable wrench, comprising a body having a reduced portion, a tang, and a rigid jaw, an adjustable jaw provided with a shank which embraces the tang, clamping-plates fitted to the body and engaging with said shank of the adjustable jaw, and means for laterally clamping said plates upon the reduced portion of the body and the shank of said jaw.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK W. BROWN.

Witnesses:

AGNES M. WOODWARD,
GEO. F. RICH.