

W. A. SEILS.
WRENCH.

APPLICATION FILED MAR. 10, 1910.

Patented May 23, 1911.

2 SHEETS-SHEET 1

992,913.

FIG. 1-

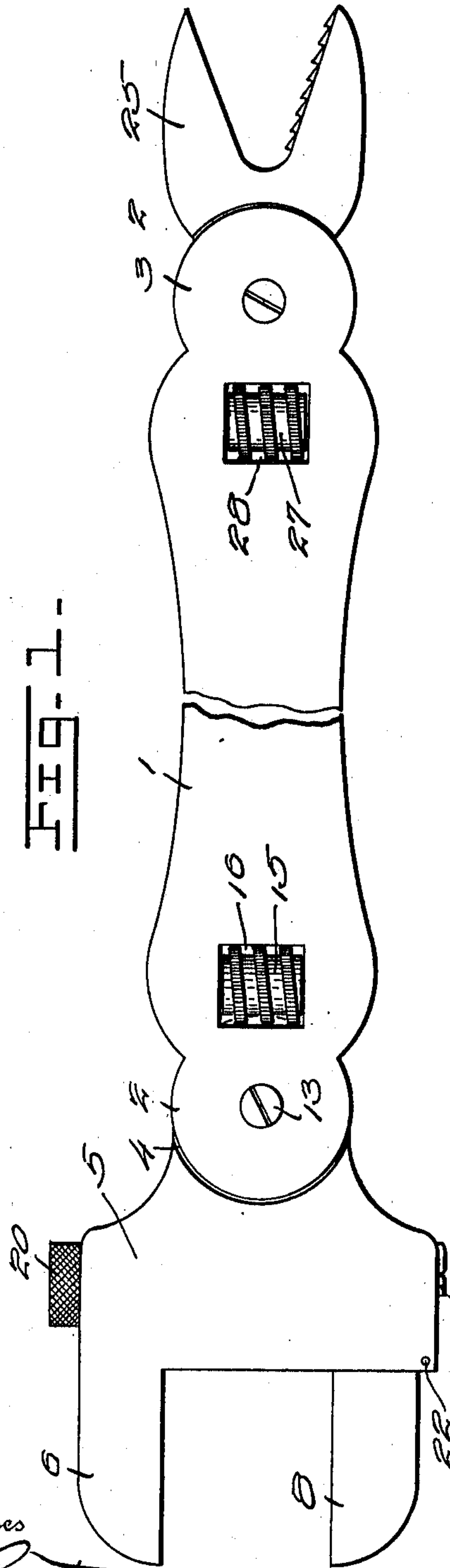
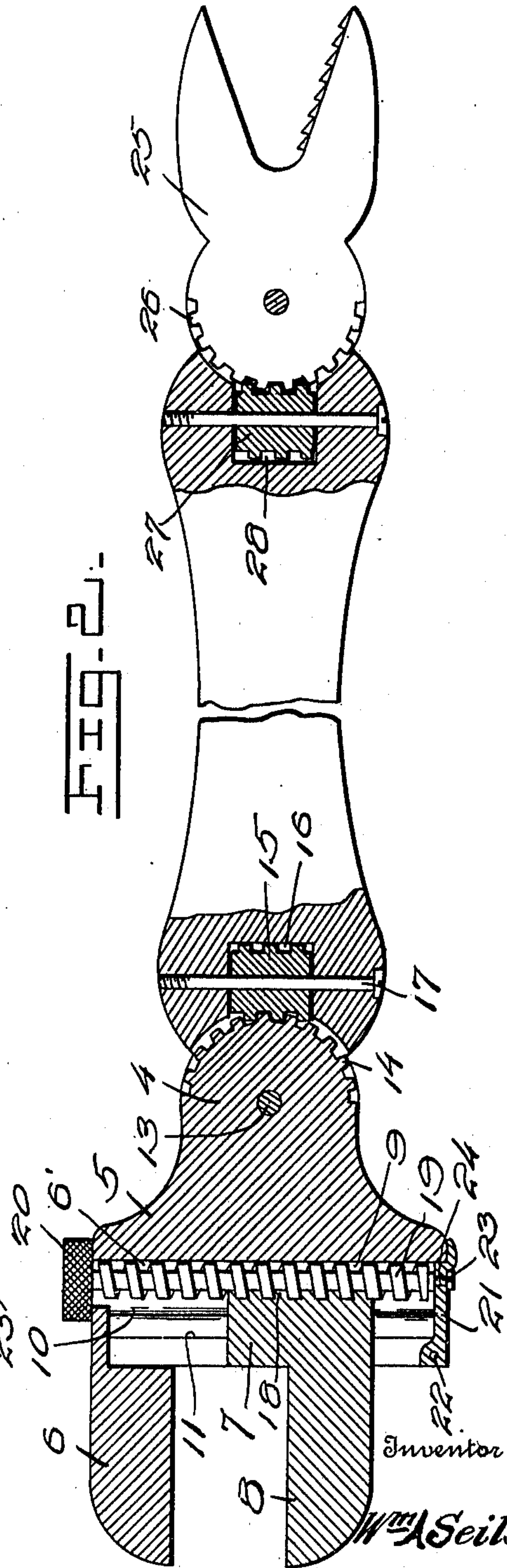


FIG. 2-



Witnesses

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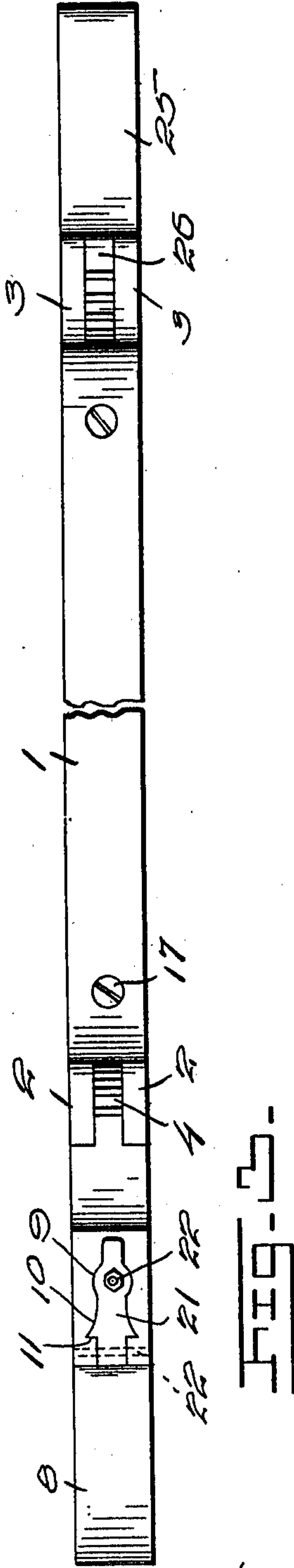
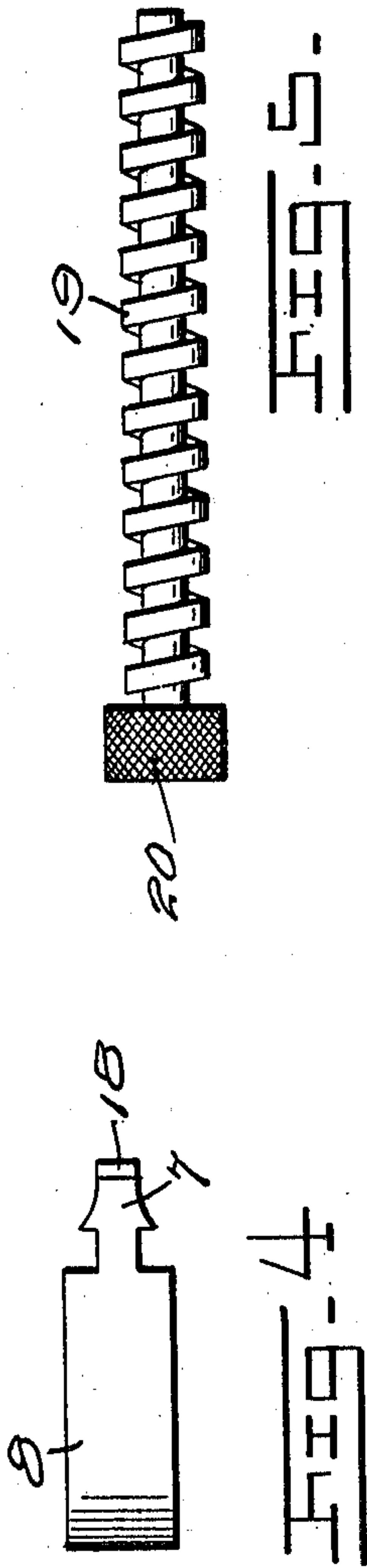
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UNITED STATES PATENT OFFICE.

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WRENCH.

992,913.

Specification of Letters Patent.

Patented May 23, 1911.

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To all whom it may concern:

Be it known that I, WILLIAM A. SEILS, a citizen of the United States, residing at Pound, in the county of Marinette and State of Wisconsin, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to wrenches, and more particularly to those wherein the jaws may be independently adjusted in respect to the handle portion thereof.

The object of the invention is to provide a very practical and efficient wrench especially adapted for turning nuts, or bolts in places offering but limited space for the movement of a tool of this character.

Another object is to produce a wrench whereby the jaws are accurately adjusted to nuts of various sizes and shapes.

A further object of the invention is to also provide a wrench of this character with an alligator or other gripping jaw for turning pipes, bolts and the like, which jaw is also adjustable independently of the handle, whereby the same is accurately adjusted independently of the handle portion of the wrench.

Briefly stated the invention consists of a handle to one end of which is hingedly mounted a jaw carrying gripping member for engagement with a nut, a screw for adjusting the movable jaw to and from the stationary jaw, whereby nuts of various sizes and dimensions and shapes may be gripped, means for adjusting said jaw carrying member and holding the same in its proper position in respect to the handle for convenient application to pipes or other objects of like character, said jaw-carrying member being provided with a guide slot within which the screw is located, and further for properly guiding the movable jaw, a plate for closing one end of the slot, and a screw passing through said plate, and into the end of the adjusting screw.

Other objects and advantages will be apparent from the following description and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings: Figure 1 is a side elevation of my complete invention, Fig. 2 is a vertical longitudinal section of the same, Fig. 3 is an edge view of the complete

wrench, Fig. 4 is an end view of the movable jaw detached from the wrench proper, Fig. 5 is a side elevation of the worm shaft for adjusting the movable jaw.

Referring to the drawings 1 represents a handle which may be of suitable length and design, the opposite ends of which are forked as shown at 2 and 3 to receive the oppositely located operative parts of the wrench.

To the forked end 2 of the handle 1 of the wrench is hingedly secured the reduced end or portion 4 of the jaw carrying member 5, the latter having a rigid jaw 6 forming a part of said member. The jaw carrying member 5 is provided with a longitudinal groove 6', which is uninterrupted throughout its entire length, the said groove being formed in the manner hereinafter to be described for receiving the correspondingly shaped shank or right angular extended portion 7 of the movable jaw 8.

The longitudinal groove 6' formed in the jaw carrying member 5 is composed of a rounded basal portion 9 with two oppositely located diverging side walls 10 leading therefrom forming two flat abutting shoulders 11, from which shoulders two parallel side walls 12 extend all of which walls and shoulders form the groove referred to, the latter being adapted to slidably receive the shank 7 of the movable jaw 8 with the latter extending beyond the jaw carrying member 5. By the construction of the groove 6' formed in the carrying member 5 of the wrench and the correspondingly shaped shank 7 forming a part of the movable jaw 8, the parts are not only slidably connected but a very rigid and durable construction is obtained and further reducing the friction of the parts to a minimum.

The inner reduced curved end of the jaw carrying member 5 is located within the forked end 2 of the handle and the parts hingedly united by a screw 13 passing through one side of the forked ends of the handle and loosely through said reduced end of the carrying member and screwed into the opposite side of the forked end of the handle. The inner curved edge of the reduced portion of the jaw carrying member 5 is provided with a worm gear 14, which meshes with a worm pinion 15 movably secured within the space 16 formed for its reception in the handle 1 below its pivotal

connection with the jaw carrying member, said pinion being movably secured to said handle within said space by a long screw 17 passing through said handle and loosely through the pinion, whereby when the pinion is turned the jaw carrying member may be adjusted in either direction independently of the handle 1 for adapting the jaws of said carrying member to a position best adapted for the work to be operated upon.

Formed along the entire length of the inner edge of the shank or extension 7 of the movable jaw 8, are worm threads 18, which mesh or engage with a worm shaft 19, which is freely received within the inner curved portion 9 of the groove 6', and forming one end of said shaft is an operating head 20, the gripping surface of which is milled whereby the same may be gripped by the hands of the operator for turning the said worm shaft for properly adjusting the movable jaw to and from the stationary jaw. The milled head 20 of the worm shaft 19 projects beyond one end of the jaw carrying member 5 and is in contact with the stationary jaw 6 of said member, the opposite open end of the longitudinal slot 6' being closed by a cover plate 21, the shape of which corresponds to said slot and is secured in position by pin 22 passing through that end of the jaw carrying member and through said plate. The worm shaft 19 is of sufficient length to extend from said cover plate to the outer edge of the jaw carrying member beyond the stationary jaw 6 and is secured within the longitudinal slot 6' by a screw 23, passing through an opening 24 in the cover plate and screwed into the end of the worm shaft 19 opposite the milled end 20 of the same. Hingedly located in the opposite forked end 3 of the handle 1 is an alligator jaw 25, the inner curved surface of the reduced portion of which is provided with worm teeth 26 which engage or mesh with a worm pinion

27 movably mounted within a space 28 formed in that end of the handle, whereby said alligator jaw is properly adjusted independently of the handle of the wrench for adapting it to work of the character to which such wrenches are applied.

From the foregoing description it will be seen that by adjusting the worm shaft 19 or turning the same in either direction, the movable jaw 8 may be moved to or from the stationary jaw 6 forming a part of the jaw carrying member 5, whereby the jaws may be accurately adjusted to fit nuts of various sizes and shapes, and further by turning the worm pinion 15 in either direction the jaw carrying member 5, together with the jaws forming a part thereof, may be adjusted in either direction at any angle in respect to the handle 1 of the wrench for the purposes previously described. It is also to be noted that the alligator jaw 25 which is located at the opposite end of the handle 1 may be accurately adjusted and held in a rigid position in respect to the handle, whereby said jaw may be applied to pipes, bolts or other similar objects.

What is claimed is:

In combination with a handle and jaw-carrying member adjustable independently thereof, said jaw-carrying member having a guide slot formed therein, a movable jaw slidably located within said slot, an adjusting screw also located within the slot, and cooperating with said movable jaw, a cover plate for closing one end of said slot, and a screw passing through said plate and into one end of the adjusting screw, as, and for the purpose described.

In testimony whereof I affix my signature, in presence of two witnesses.

WILLIAM A. SEILS.

Witnesses:

FRED SEILS,
HENRY WARNING.