

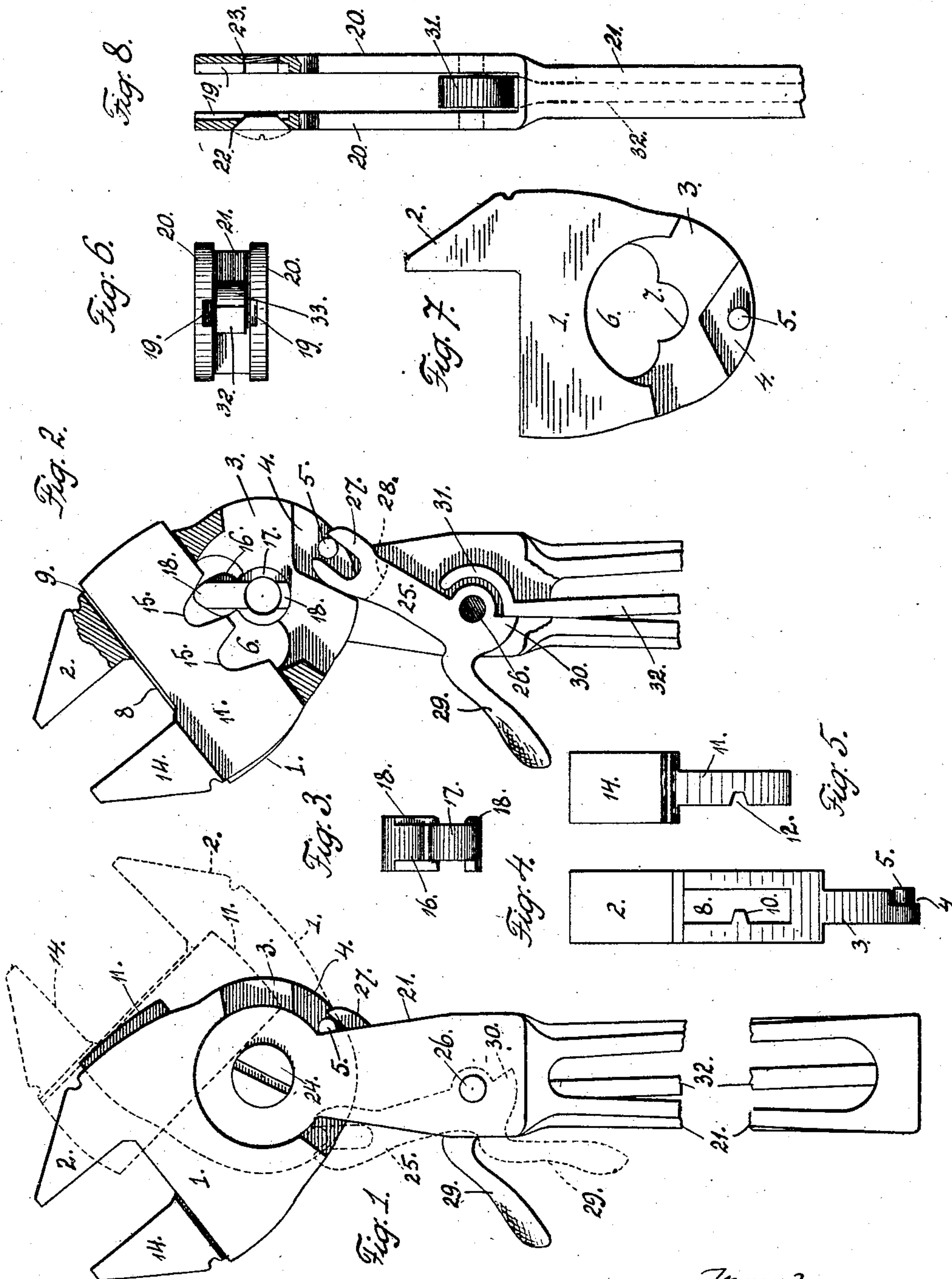
No. 880,330.

PATENTED FEB. 25, 1908.

H. SASKO.
WRENCH.

APPLICATION FILED JULY 5, 1907.

2 SHEETS—SHEET 1.



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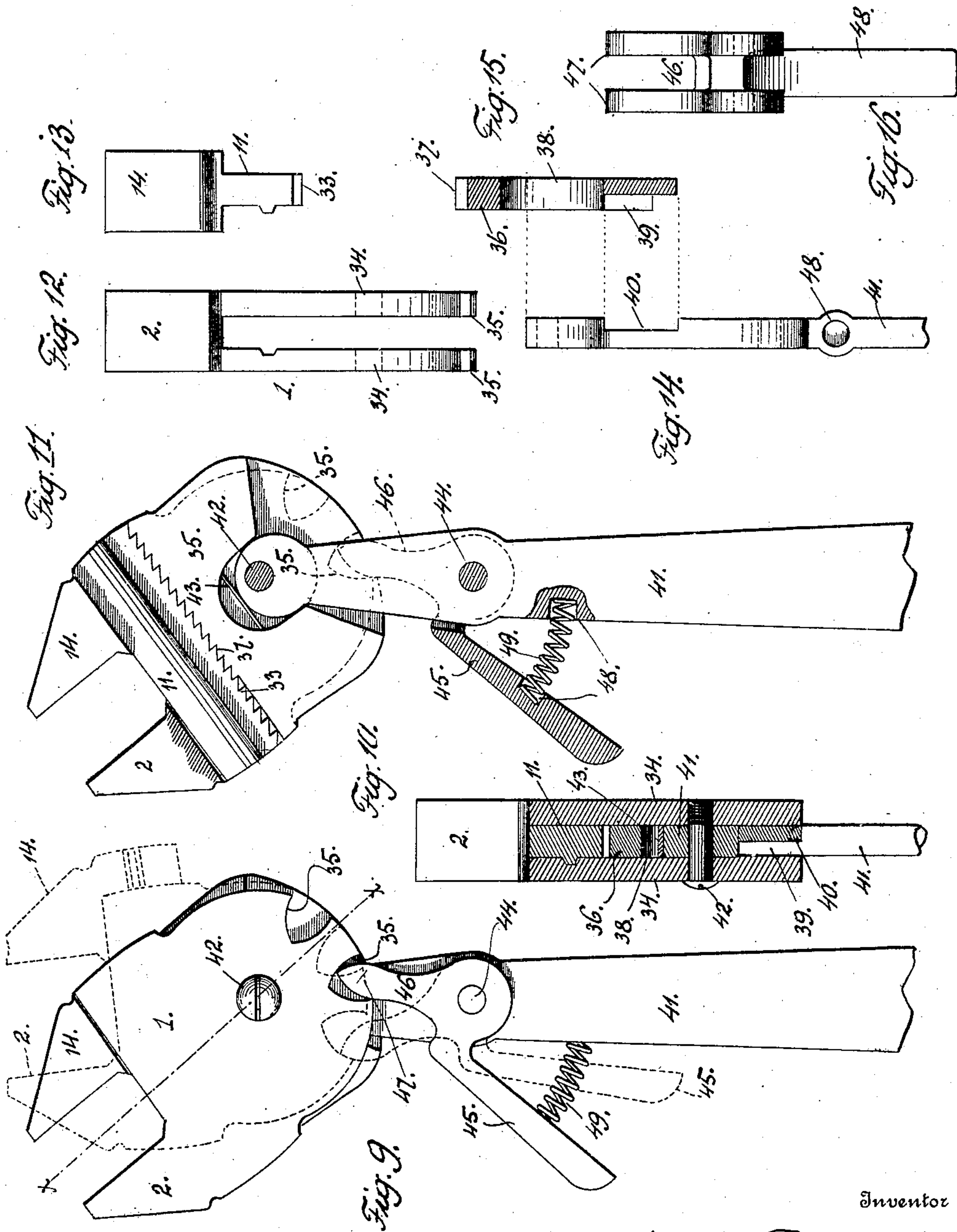
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

HENRY SASKO, OF NORTH BRADDOCK, PENNSYLVANIA.

WRENCH.

No. 880,330.

Specification of Letters Patent.

Patented Feb. 25, 1908.

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To all whom it may concern:

Be it known that I, HENRY SASKO, a subject of the Emperor of Austria-Hungary, residing at North Braddock, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to improvements in wrenches, of that type commonly styled quick acting wrenches.

The invention has for its object to provide a novel wrench for gripping flat surfaces, the wrench having two movable jaws adjusted by the manipulation of a spring pressed lever carried by the handle of the wrench.

Another object of this invention is a provision of novel means whereby the one jaw of the wrench can be adjusted with relation to the other jaw to permit of said jaws having a greater or less spreading movement as may be desired, such adjustment of the jaws simply facilitating the use of the wrench in connection with large or small nuts.

With the above and other objects in view, which will more readily appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts to be presently described, and then specifically pointed out in the appended claims.

In the drawings, Figure 1 is an elevation of a portion of the wrench, illustrating the jaws thereof in an adjusted or open position in dotted lines. Fig. 2 is a vertical transverse sectional view of the same. Fig. 3 is an edge view of a tooth constituting part of a wrench. Fig. 4 is an edge view of a movable jaw of a wrench. Fig. 5 is a similar view of the adjustable jaw thereof. Fig. 6 is a plan of the upper end of the wrench handle. Fig. 7 is an elevation of the movable jaw of a wrench. Fig. 8 is an edge view of the wrench handle, partly in section. Fig. 9 is an elevation of a wrench illustrating a modified form of construction. Fig. 10 is a vertical cross sectional view of the wrench taken on the line $x-x$ of Fig. 9. Fig. 11 is a vertical transverse sectional view of the wrench. Fig. 12 is an edge view of the movable jaw thereof. Fig. 13 is a similar view with the adjustable jaw of the modified form of wrench. Fig. 14 is an edge view of a portion of the wrench handle. Fig. 15 is a vertical cross sectional view of a toothed

plate, and Fig. 16 is an edge view of the operating lever of the wrench.

Reference will first be had to Figs. 1 to 8 inclusive, wherein I have illustrated the preferred embodiments of my invention.

The wrench consists of a movable jaw 1 having a gripping extension 2. The lower part of the jaw is semicircular in elevation and is formed by a web 3 having its lower edge upon one side cut away, as at 4, leaving a pin 5, the object of which will presently appear.

The jaw 1 is provided with an arch-shaped opening 6, part of said opening providing a toothed bearing 7. Intersecting the opening 6 of the jaw 1 is a transverse slot 8 terminating in an opening 9 upon the gripping extension edge of the jaw. One of the side walls of the jaw forming the slot 8 is provided with a transverse inwardly projecting rib 10 for preventing vertical displacement of an adjustable jaw 11 provided with a groove 12 to receive the rib 10, said jaw sliding in the slot 8 of the jaw 1 and having a gripping extension 14 overlying the upper edges of the jaw 1.

The lower edge of the adjustable jaw 11 is provided with two notches 15, either of which receives a tooth 16 having a cylindrical body 17 supported in the socket bearing 7 of the jaw 1. The tooth 16 has its sides provided with alining lugs 18 lying in a plane outside of the sides of the jaw 11 and the web 3 of the jaw 1. The lugs 18 engage in the confronting grooves 19 of the arms 20 of the wrench handle 21. The arms 20 are provided with alining openings 22 and 23, the former being beveled, while the latter is threaded, said openings intersecting the grooves 19 and receiving a screw 24, which passes through the cylindrical body 17 of the tooth 16. The screw 24 serves as if it were a king bolt for locking the various elements of my wrench together.

Between the arms 20 of the wrench handle is pivotally mounted a lever 25 by a pin 26, said lever having a bifurcated end 27 for embracing the pin 5, the bifurcated end 27 being cut away upon one side, as indicated by dotted line 28, for clearing the lower edge of the web 3 of the jaw 1, carrying the pin 5. The lever 25 is also provided with an extension 29 and with a shoulder 30, said shoulder engaging the upper curved end 31 of a resilient rod 32 secured in the skeleton wrench handle 21.

Before describing the operation or manner of manipulating a wrench, I desire to call attention to the arrangement of some of the elements thereof. When the tooth 16 is placed in the grooves 19 of the arms 20, it becomes a fixed element therein while the wrench is being manipulated. When the parts of the wrench are assembled, the tooth 16 engaging in one of the notches 15 of the adjustable jaw 11, remains in engagement therewith, but reciprocates the adjustable jaw 11 in the movable jaw 1. The operation of the wrench is as follows:

The resilient rod 32 normally holds the lever 25 and the jaws 1 and 11 in the position illustrated with relation to the skeleton handle 21 of the wrench. When the extension 21 of the lever 25 is pressed inwardly by the thumb of the hand manipulating a wrench, the bifurcated end 27 of the lever 25 engaging the pin 5 moves the jaw 1 to the right, and as the jaw 11 is housed within the jaw 1 and engages the stationary tooth 18, the jaw 11 will be moved outwardly, widening the space between the gripping extensions 2 and 14 of the jaws 1 and 11 respectively. Immediately upon the extension 29 being released, the resilient rod 32 bearing against the shoulder 30 of the lever 25, returns the jaws of the wrench to their normal position.

As the jaw 11 is illustrated with relation to the jaw 1, large nuts can be gripped by the extensions 2 and 14, but when the wrench is to be used for gripping small nuts, the jaw 11 can be adjusted to reduce the space between the gripping extensions. This is accomplished by placing the tooth 16 in the notch 15 nearest the extension 14 of the jaw 11. This can be done without taking the wrench apart. It is only necessary to press the jaws 1 and 11 as far to the left as possible, at a more acute angle to the handle 21 of the wrench than shown in Figs. 1 and 2. This movement of the jaws allows the tooth 16 to slip out of its notch, at which time the adjustable jaw 11 can be moved inwardly, and the jaws 1 and 11 swung to their normal position, allowing the tooth 16 to engage in the notch 15 nearest the extension 14 of the jaw 11. It will thus be observed that the gripping extensions 2 and 14 can be adjusted with relation to one another the distance between the notches 14. The novel construction of the wrench permits of the same being used upon the principle of a ratchet wrench, that is, it is not necessary to remove the jaws from engagement with a nut, when another grip or leverage is to be obtained. The resilient rod 32 permits of the jaws 11 and 1 receding sufficient to take a fresh grip upon a nut, when the handle is moved in one direction, but prevents said jaws from receding when the handle is moved in the opposite direction.

In Figs. 9 to 16 inclusive, I have illustrated

the modification of my invention, wherein a more minute adjustment of the gripping extensions is obtained with relation to one another. Instead of simply providing the jaw 11 with two notches, I provide the same with a plurality of teeth 33, the jaw in all other respects being identical to the jaw illustrated in Fig. 5 of the drawings, with the exception that the rib 10 and groove 12 are reversed, the rib being carried by the jaw 11, while the groove is formed in the jaw 1. The movable jaw 1 carries depending side plates 34 having their lower edges notched, as at 35. Mounted between the side plates 34 is a toothed plate 36 having teeth 37 adapted to mesh with the teeth 33. This plate 36 serves functionally the same purpose as the teeth 16. The toothed plate 36 is provided with a central opening 38 and has its one side cut away, as at 39, to fit in a recess 40 provided therefor in the handle 41 of the wrench. The upper end of the handle fits in the central opening 38 of the plate 36 and is retained therein between the plates 34 by a screw 42.

Fitting in the central opening 38 and bearing against the upper end of the handle 41 is a flat spring 43, which normally holds the toothed plate 36 in engagement with the teeth 33 of the jaw 11.

Pivotally connected to the handle 41 by a pin 44 is a lever 45 having a bifurcated end 46 providing teeth 47 for engaging in the notches 35 of the plates 34. The confronting faces of the lever 45 and the handle 41 are provided with sockets 48 for receiving the ends of a coiled spring 49 interposed between the lever 45 and the handle 41 of the wrench. This type of wrench is operated similar to the preferred form of wrench, by simply pressing upon the lever 45.

It is thought from the foregoing description that the construction and mode of operating the wrench will be clearly understood without further description, and I reserve the right to make such structural changes as are permissible by the appended claims.

Having fully described my invention, what I claim and desire to secure by Letters Patent is:

1. A wrench of the type described, embodying a movable jaw having a gripping extension, said jaw having a central opening providing a toothed socket, said jaw having its side cut away providing a pin, an adjustable jaw slidably mounted in said movable jaw and having a gripping extension confronting the first mentioned extension, a tooth movably mounted in the socket of said movable jaw and adapted to engage said adjustable jaw, a skeleton handle secured to said tooth, a lever pivotally connected to said handle and having a bifurcated end engaging the pin of said movable jaw, and a resilient rod carried by said handle and engaging said lever, substantially as described.

2. A wrench of the type described, embodying a movable jaw having a gripping extension, said jaw having a central opening formed therein providing a tooth socket, a
5 pin carried by said jaw, an adjustable jaw slidably mounted in said movable jaw and having a gripping extension, a tooth mounted in the socket of said movable jaw and loosely engaging said adjustable jaw, a
10 handle secured to said tooth, a lever pivotally connected to said handle and having a bifurcated end engaging the pin of said movable jaw, and a resilient rod carried by said handle and engaging said lever for normally
15 holding said jaws at an inclination to said handle.

3. A wrench of the type described, embodying a movable jaw having a gripping

extension, a pin carried by said jaw, an adjustable jaw slidably mounted in said movable jaw and having gripping extension, a
20 tooth detachably mounted in said movable jaw for moving said adjustable jaw, a handle connecting with said tooth, a bifurcated lever pivotally connected to said handle for
25 engaging the pin of said movable jaw, and a resilient rod carried by said handle for engaging said lever and normally holding said jaws at an inclination to said handle.

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

HENRY SASKO.

Witnesses:

MAX H. SROLOVITZ,
SAMUEL PAYNE.