

H. H. EDSTROM.
TAP WRENCH.
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1,020,598.

Patented Mar. 19, 1912.

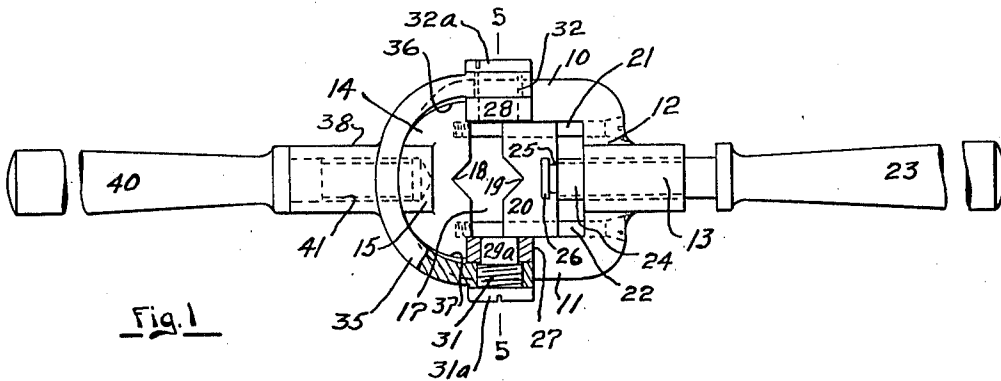


Fig. 1

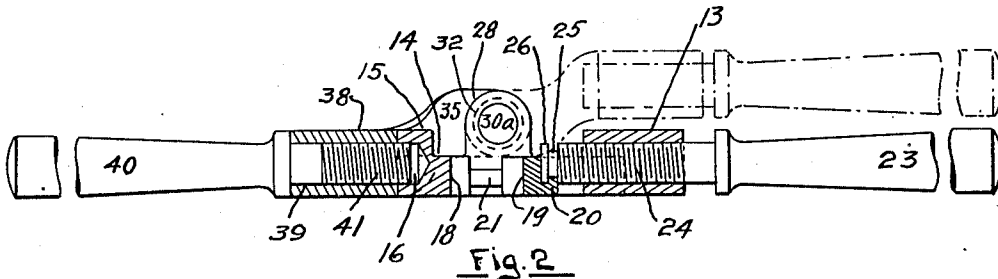


Fig. 2

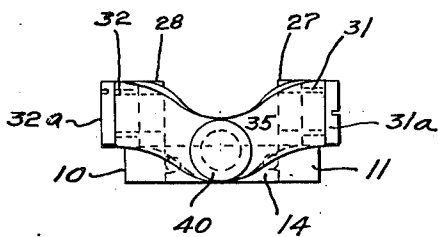


Fig. 3

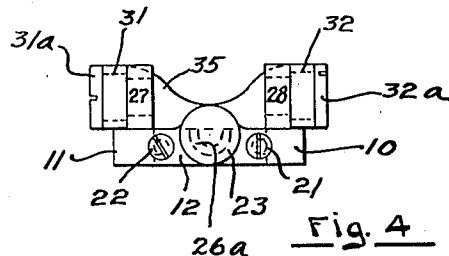


Fig. 4

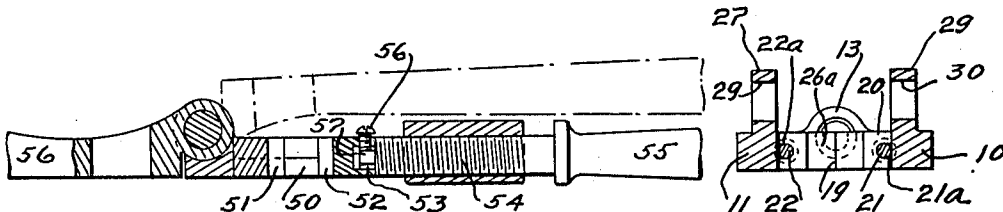


Fig. 5

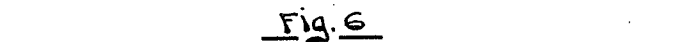


Fig. 6

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TAP-WRENCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRIK H. EDSTROM, a citizen of Sweden, and resident of Pearl River, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Tap-Wrenches, of which the following is a specification.

This invention relates to improvements in wrenches and particularly to that class of wrenches adapted to be used in connection with the squared shanks of hand operated tools such as taps, reamers and the like. Its objects are, to provide a wrench of this class that can be adjustably fitted to, or tightened upon, any object within the scope of its capacity and which can be operated conveniently with either one or both hands.

Another object is to provide a wrench so arranged that one of its principal component parts can be folded over on the other parts in order to permit of its application in corners or other locations where the conditions are such that an ordinary double end wrench cannot be used.

A further object is to provide a wrench so designed that the parts subject to wear may be readily renewed and the whole appliance be easily amenable to the ordinary processes of commercial manufacture.

These objects are attained by the invention hereinafter described and shown in the accompanying drawings, forming part of these specifications, and in which:

Figure 1, is a top plan view of the invention, portions thereof being shown in section. Fig. 2, is a front view of Fig. 1, parts thereof being shown in section and the folded position of the implement indicated by broken lines. Fig. 3, is a left hand side view of Fig. 2; Fig. 4 is a right hand side view of Fig. 2. Fig. 5, is a section on line 5—5 of Fig. 1, and Fig. 6, is a longitudinal section of a modified form of the invention.

Similar characters refer to similar parts throughout the several views.

The numerals 10 and 11 represent respectively the oppositely disposed side portions of the wrench frame body, which is connected at one end with a yoke 12, having a raised portion forming a sleeve 13, extending outwardly and provided interiorly with screw threads.

Oppositely to the yoke end and formed integrally with the sides 10 and 11, is a plate member 14, semi-circular on its outer edges and having a boss 15, raised thereon in aline-

ment with the threaded sleeve 13 and likewise provided with a screw threaded hole 16 extending part way through the said boss from the outside.

A rectangular opening 17 is formed centrally of the frame body and in alinement with the side members 10 and 11, between the yoke 12 and the plate member 14. Leading from the left hand of said opening 17 is an angular groove 18, extending into the plate 14; said plate 14 therefore constitutes the fixed jaw. Oppositely disposed to the angular groove 18 is a similar groove 19, formed in a movable plate 20, fitted to slide in the opening 17 and held operatively in position therein by means of screws 21 and 22, which pass through the yoke 12, closely adjacent to the inside edges of the side members 10 and 11, said screws 21 and 22 are threaded into the plate member 14; the sliding plate 20 constitutes the movable jaw and is provided with appropriately formed grooves 21^a and 22^a at the ends thereof adapted to be guided by the screws 21 and 22.

A handle 23 formed in any preferred shape compatible with its object on the outwardly extending portion, is provided with a screw threaded extension 24, which has a necked portion 25 and a bottom shaped point 26, adapted to coöperate with a suitably formed depression 26^a recessed in the sliding jaw 20, by means of which the said jaw may be moved longitudinally within the opening 17, thereby increasing or decreasing the distance between the angular grooves 18 and 19, to open or close the wrench.

Adjacent to the sides of the opening 17 and formed with the side members 10 and 11 are lugs 27 and 28, semi-circular in shape, raised above the level of the plate surface and provided with holes 29 and 30 for the reception of the points 29^a and 30^a of screws 31 and 32 respectively. Said screws 31 and 32 are formed with flanged shoulder heads 31^a and 32^a and are tightly screw threaded into ears 33 and 34 formed at the fulcrum end of a forked member 35 which closely embraces the outer edge of the plate member 14, when the fork is extended outwardly; for clearance between these parts the edges of the said plate 14 are slightly beveled, as indicated at 36 and 37.

A sleeve 38 formed with the forked member 35, extends outwardly therefrom and is offset relatively to the ears 33 and 35, as

well as in alinement with the sleeve 13. Said sleeve 38 is similarly provided with a screw threaded hole 39 adapted to receive a handle 40. The latter is shaped in conformity to the opposite handle 23, and has a screw threaded portion 41 which is of sufficient length to extend inwardly, beyond the inner edge of the forked member 35, to engage with the threaded hole 16 so that the forked member 35 can be securely clamped to the plate member 14, when desired, by manipulating the handle 40 thereby providing a rigid double end wrench with handles extending at equal distances from the jaw center. When however, it is desired to use the implement as a single end wrench the handle 40 is turned in a direction to loosen the screw sufficiently to disengage the point thereof from connection with the boss 15 on the plate 14, whereupon it is swung upward and over the pivots 31 and 32, thereby permitting the wrench to be used in close quarters; when so used, leaves the passage or space through and beyond the jaws unobstructed. It is also noticeable that, as the plane of the clamping or locking screw 41 is below the plane of the pivot screws 31 and 32, a very rigid effect is attained, due to this offset construction. When the implement is used extended, the space above the jaws is likewise clear and uninterrupted.

In the modification shown in Fig. 5, the body or frame portion 50 carries a detachable jaw 51 and a sliding jaw 52; the latter jaw is provided with an opening 53 for the reception of an actuating screw 54 formed with a handle 55. A locking screw 56 carried by the slidable jaw 52, engages an annular recess 57 formed with said screw 54 to operatively connect the said jaw 52 to the latter element. The opposite handle 56 is formed to lie close when turned over upon the actuating handle (as indicated by the broken lines) and the pivots 57 are here located beyond the center of the jaws longitudinally, as well as closer laterally.

Obviously the implement may be made in several styles and modifications without departing from the general principles.

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

1. A wrench of the class described comprising a frame body, a fixed jaw formed therewith, a movable jaw slidable within said frame body, a revoluble handle attached to said frame body, means combined therewith for actuating said movable jaw and a swinging handle oppositely disposed to said revoluble handle, having its pivotal point central of the frame body, and above the plane of said jaws.

2. A wrench of the class described comprising a frame body having a fixed jaw, a movable jaw slidably contained in said

frame body, means for actuating said movable jaw, a bifurcated member adapted to tightly embrace said frame body, means for clamping said bifurcated member to said frame body and oppositely disposed rotatable handles attached respectively to said frame body and to said bifurcated member.

3. A wrench of the class described, comprising a frame-body having a stationary jaw, a slidable jaw contained in said frame-body, a handle mounted rotatably in said frame-body adapted to actuate said slidable jaw, a pivoted bifurcated member tightly embracing said frame body, and a handle oppositely disposed to the first named handle, extending through said bifurcated member and connecting with said frame-body to clamp said bifurcated member thereto.

4. A wrench of the class described comprising a frame body, a jaw formed therewith, a slidable jaw therein, removable guides for said slidable jaw, oppositely disposed handles connected to said frame body, means combined with one of said handles adapted to actuate said movable jaw, means combined with the other handle whereby it may be partly withdrawn from said frame and other means combined therewith whereby the last named handle may be folded over upon the first named handle while still connected to the frame.

5. A wrench of the class described comprising a frame body, jaws operatively combined therewith, means for actuating one of said jaws, a handle fixed relatively to the plane of the frame at one end thereof and revoluble therein, a second revoluble handle oppositely disposed to, and in alinement with the first named handle when in an extended position, means for clamping the last named handle directly to the said frame body and means combined therewith whereby the last named handle may be folded over upon the first named handle parallel therewith.

6. A wrench of the class described comprising a frame body, a fixed jaw formed with the said frame body, a movable jaw slidable within said frame body, removable guides for said slidable jaw, a handle revolubly connected to said frame body and means combined therewith whereby said movable jaw may be actuated, a bifurcated member adapted, in one position, to embrace said frame body opposite to said revoluble handle and, in another position, to be disposed above it, pivot screws fixed in said bifurcated member and connecting with said frame body above the plane of said jaws and a handle attached to said bifurcated member.

7. A wrench of the class described comprising a frame body, a fixed jaw formed with the frame body, a movable jaw slid-

able within said frame body, removable guides for said slidable jaw, a handle revolvably connected to said frame body and means combined therewith whereby said movable jaw may be actuated, a bifurcated member adapted, in one position, to embrace said frame body opposite to said revoluble handle and in another position to be disposed above it, pivot screws fixed to said bifurcated member and connecting with said frame body above the plane of said jaws, a handle revolvably attached to said bifurcated member and means whereby said bifurcated member may be rigidly clamped to said frame body when in an extended position.

8. In a wrench of the class described, the combination with a frame body, a fixed jaw and a movable jaw, a handle revolvably connected to said frame body and means com-

bined therewith for actuating said movable jaw, of lugs extending from said frame body, transverse to the plane of said handle, a bifurcated member pivoted to said lugs and adapted to closely contact with the said frame body opposite to said movable jaw and a handle revolvably connected to said bifurcated member having means combined therewith whereby said bifurcated member may be securely clamped directly to said frame body when in one position and folded over it when in another position.

Signed at the borough of Manhattan in the county of New York and State of New York this 11th day of March A. D. 1911.

HENRIK H. EDSTROM.

Witnesses:

H. C. KARLSON,
WM. H. GEE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."