

PATENT SPECIFICATION

606,388



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PROVISIONAL SPECIFICATION

Improvements in or relating to Adjustable Spanners

We, HENRY WILLIAM LITTLEALES, a British Subject, and WALTER LEVISON, a British Subject, trading as LITTLEALES AND LEVISON, of 7, Barrie House, Lancaster Gate, London, W.2, and DUDLEY GRIGGS, a British Subject, of The Spinney, Chislehurst, Kent, do hereby declare the nature of this invention to be as follows:—

10 This invention relates to adjustable spanners, wrenches and like gripping devices of the kind having a rack formed along one side of a shank carrying one of the gripping members, which rack comprises portions of screw-threads, and an externally threaded member so rotatably mounted on the other gripping member as to be movable against the action of a spring out of engagement with said rack.

15 With such an arrangement, by disengaging the threaded member from the rack, the two gripping members may be quickly moved towards or away from one another, while when the threaded member is engaged under the action of the spring with the rack, the gripping members may be brought into firm contact with the article to be operated upon.

20 According to this invention, an adjustable spanner of the kind referred to above is characterised in that the teeth of the rack and rotatable member are so shaped that there is little or no tendency for them to separate should they transmit forces due to the gripping faces being subjected to a load tending to force the gripping faces apart. For example, the teeth may be shaped so as to provide a ratchet reaction in which the teeth ride over one another when forces are applied to the gripping members to bring them together, whereas the teeth are locked in engagement should forces in the opposite direction be applied.

25 The aforesaid rotatable member may be rotatably mounted on a lever arm which is pivoted to one of the gripping members, and is provided with an operat-

ing trigger which may be engaged by the hand of the operator.

30 As is known, the last-mentioned gripping member may be provided with a throughway, through which extends the shank carrying the other gripping member, while the first said gripping member may be slotted to expose the rack on the aforesaid shank, and to provide an opening in which said rotatably mounted member is located, while a portion of the socket to one side of said opening is forked and receives a pivot-pin which extends through the lever arm on which the rotatable member is mounted.

35 As indicated earlier, the teeth may be so shaped as to provide a ratchet action when the gripping member on said socket portion is moved towards the other gripping member. For this purpose, the threads on the rotatable member may be buttress threads having substantially flat faces directed away from the face of the gripping member on said shank portion, whereas the teeth on the shank may each be provided on one side thereof with a flat face directed towards the face of said gripping member.

40 A small compression spring may be arranged between the lever arm on which the rotatable member is mounted, and the bottom of said fork portion of said socket, so that when the free end of the lever arm is moved towards said bottom wall it compresses a spring. The lever arm when so depressed moves the rotatable member out of engagement with the rack, and the socket carrying the gripping face may be moved in either direction. In order to assist the socket member being moved away from the other gripping face, the aforesaid lever arm may be curved outwardly to provide a trigger.

Dated this 14th day of January, 1946.

BOULT, WADE & TENNANT,

111 & 112, Hatton Garden.

London, E.C.1,

Chartered Patent Agents.

[Price 1/-]

PRICE 2/-

COMPLETE SPECIFICATION
Improvements in or relating to Adjustable Spanners

We, HENRY WILLIAM LITTLEALES, a British Subject, and WALTER LEVISON, a British Subject, trading as LITTLEALES AND LEVISON, of 7, Barrie House, Lancaster Gate, London, W.2, and DUDLEY GRIGGS, a British Subject, of The Spinney, Chislehurst, Kent, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to adjustable spanners, wrenches and like gripping devices of the known kind having a rack formed along one side of a shank carrying one of the gripping members, which rack comprises portions of screw-threads, and an externally-threaded member so rotatably mounted on a lever-arm pivoted to the other gripping member as to be movable against the action of a spring out of engagement with said rack. With such an arrangement, by disengaging the threaded member from the rack, the two gripping members may be quickly moved towards or away from one another, while when the threaded member is engaged under the action of the spring with the rack, the gripping members may be brought into firm contact with the article to be operated upon.

According to this invention, an adjustable spanner of the kind referred to above is characterised in that the externally-threaded member is rotatably mounted on one end of the lever-arm which is pivoted intermediate of its end on a socket on which one of said gripping members is formed and through which the shank and its track extend, the other end of which lever-arm remote from the socket is formed with a trigger portion, and spring means are provided for maintaining the teeth on the rotatable member in engagement with the teeth of the rack on the shank, which engaging teeth are buttress-shaped.

As is known, the last-mentioned gripping member may be provided with a throughway, through which extends the shank carrying the other gripping member, while the first said gripping member may be slotted to expose the rack on the aforesaid shank, and to provide an opening in which said rotatably mounted member is located, while a portion of the socket to one side of said opening is forked and receives a pivot-pin which extends through the lever-arm on which the rotatable member is mounted.

The following is a description of a spanner constructed in accordance with this invention, reference being made to

the accompanying drawings, in which:

Figure 1 is a side elevation of the spanner,

Figure 2 is a view looking from the top of Figure 1, and

Figure 3 is an end elevation looking from the right of Figure 1.

The spanner is conventional in that it is provided with a shank-portion 10 having a gripping member 11 formed at one end, which shank extends through a socket-part 12 formed with the other gripping member 13. As is also known, one edge of the shank is provided with a toothed rack 14 which is engaged by an externally threaded member 15 rotatably mounted on a spindle 16 forming a part of the pivoted trigger 17 which is pivotally mounted on a part of the socket 12. The teeth of the rack and the teeth of the member 15, as will be seen from Figure 1, are buttress-shaped so as to provide substantially radial portions 19 on the former which engage substantially flat portions 20 on the latter. The trigger 17 is spring-urged by a spring 21 so as normally to maintain the part 15 in engagement with the rack.

As will be seen from Figures 2 and 3, the trigger 17 is pivoted between two side walls 22 of the socket portion so as to rock about a pin 23. The end of the trigger is provided with an outwardly-directed portion 24 which may be readily engaged by the thumb or finger of the operator when it is desired to disengage the part 15 from the rack and move the socket portion along the shank. The underside of the extremity of the trigger is rounded at 25 so as to prevent it from coming into contact with the teeth of the rack when the part 15 is disengaged.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. An adjustable spanner of the kind referred to, wherein the externally threaded member is rotatably mounted on one end of the lever-arm which is pivoted intermediate of its end on a socket on which one of said gripping members is formed, and through which the shank and its rack extend, the other end of which lever-arm remote from the socket is formed with a trigger portion, and wherein spring means are provided for maintaining the teeth on the rotatable member in engagement with the teeth of the rack on the shank, which engaging teeth are buttress-shaped.

2. An adjustable spanner according to

- claim 1, wherein the socket on the first
said gripping member is slotted to expose
the rack on the aforesaid shank and to
provide an opening in which said rotat-
ably mounted member is located, and
5 wherein a portion of the socket to one
side of said opening is forked and receives
a pivot-pin which extends through the
lever-arm on which the rotatable member
10 is mounted.
3. An adjustable spanner according to
claim 2, wherein a compression spring is
arranged between the lever-arm on which
the rotatable member is mounted and the
bottom of said forked portion of said 15
socket.
4. An adjustable spanner according to
any of the preceding claims, wherein the
end of said lever-arm is curved outwardly
for the purpose described. 20
5. An adjustable spanner substan-
tially as described with reference to the
accompanying drawings.

Dated this 27th day of November, 1946.

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copies, price 1s. 0d. each (inland) 1s. 1d. (abroad) may be obtained.

[This Drawing is a reproduction of the Original on a reduced scale.]

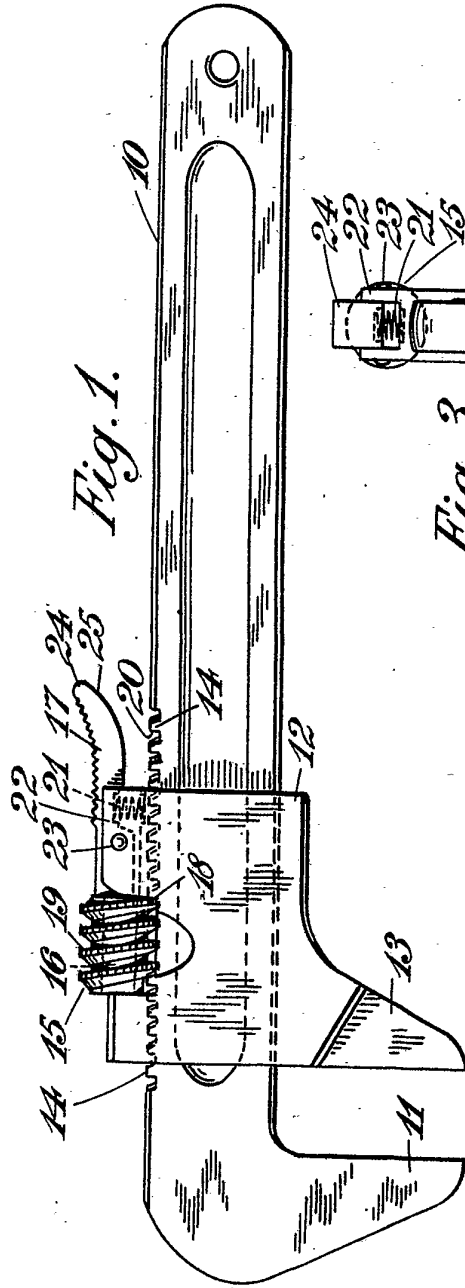


Fig. 1.

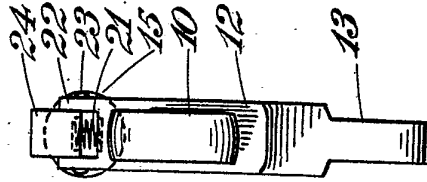


Fig. 3.

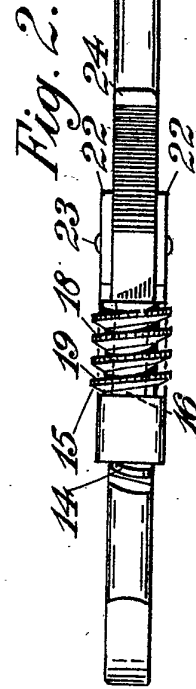


Fig. 2.