

No. 803,319.

PATENTED OCT. 31, 1905.

F. ZWICKER.
WRENCH.

APPLICATION FILED JUNE 10, 1904.

Fig. 1.

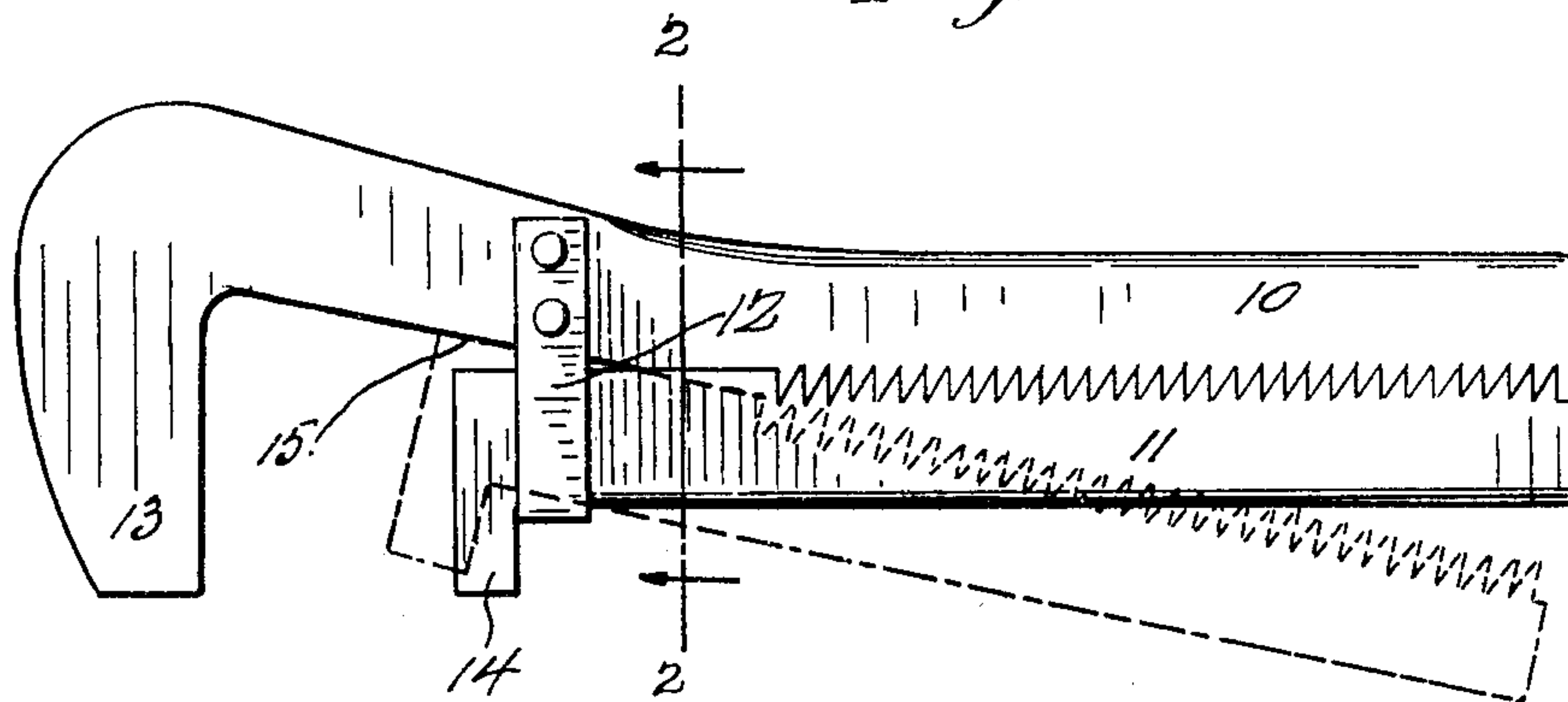


Fig. 2.

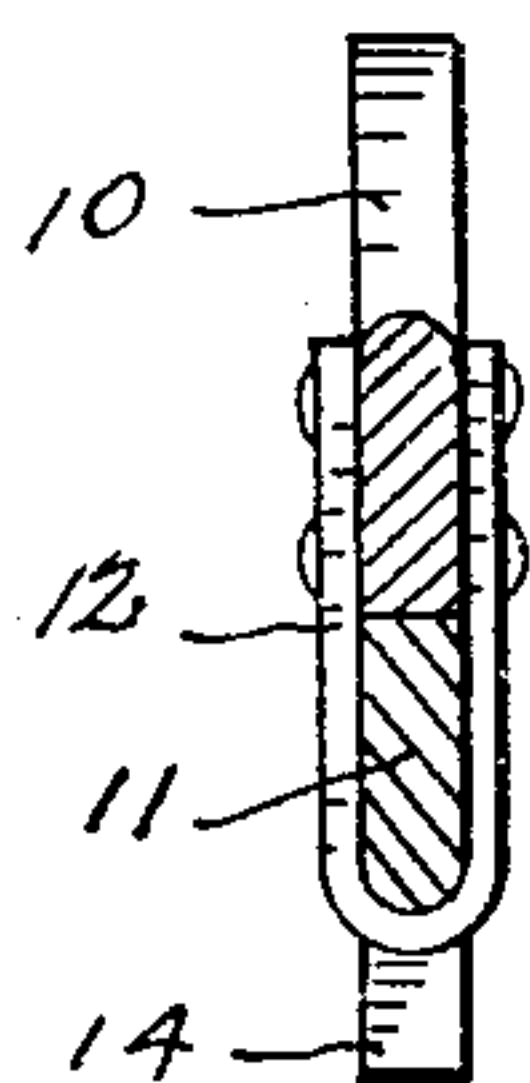


Fig. 4.

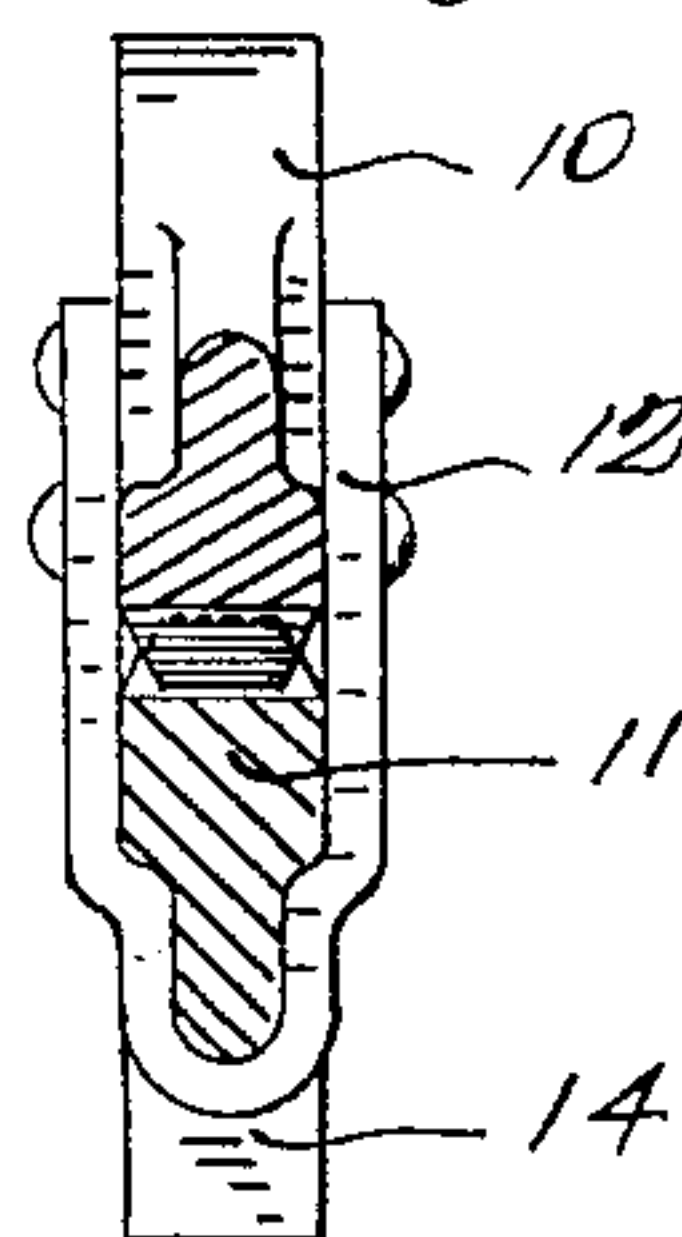
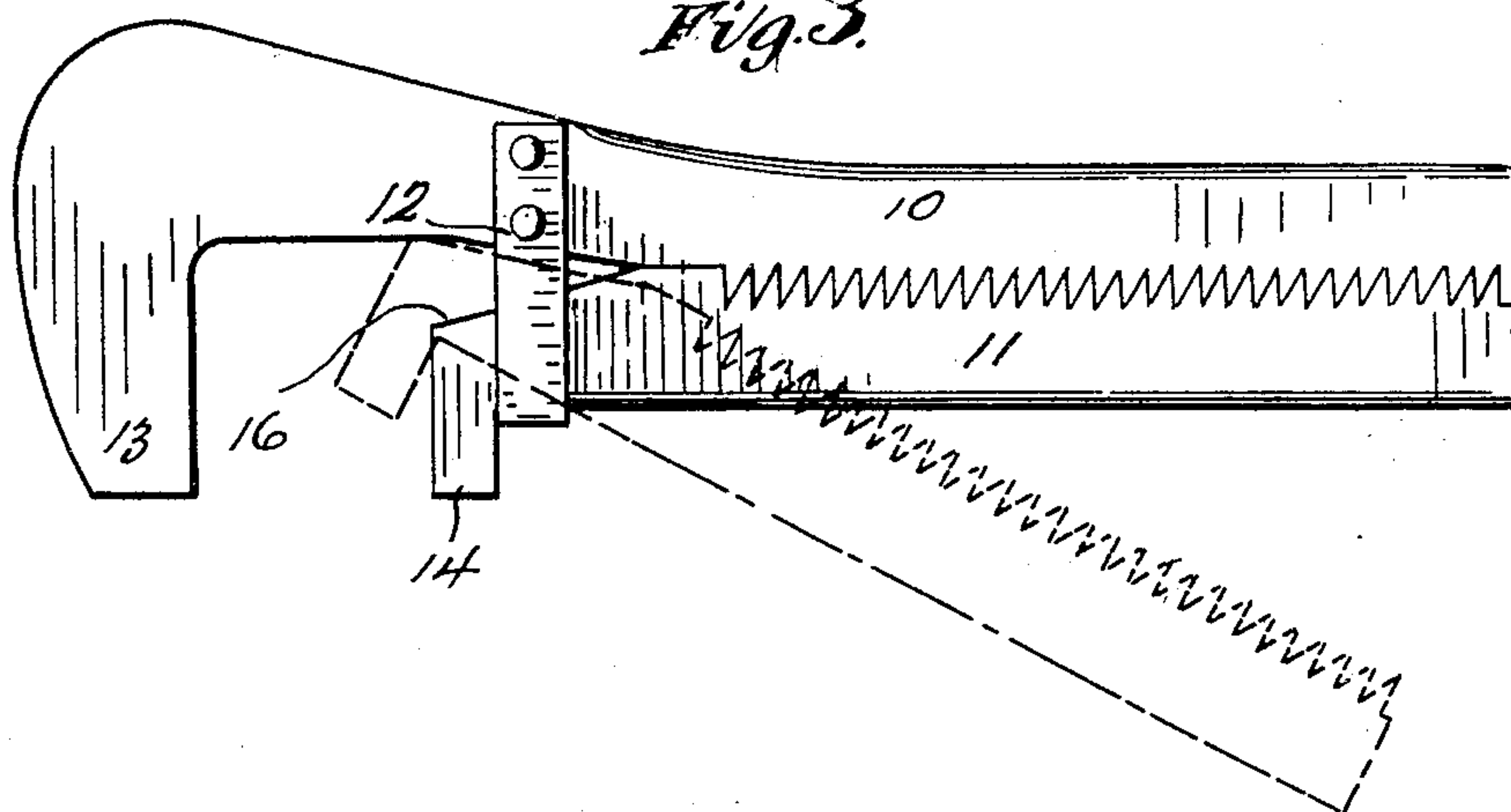


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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WRENCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK ZWICKER, of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Wrench; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

The object of this invention is to provide a simple sort of adjustable wrench like monkey-wrenches.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a side elevation of the wrench with the parts closed, the open position being shown in dotted lines. Fig. 2 is a transverse section on the line 2 2 of Fig. 1. Fig. 3 is a side elevation of a modified form. Fig. 4 is a cross-section of a modified form.

This wrench is formed in the beginning of three parts—a main bar 10, a movable bar 11, and a strap 12. The strap 12 is secured to the main bar 10 so as to surround the bar 11 loosely and permit said bar 11 to be movable relatively to the bar 10. The adjacent faces of the two bars are toothed so that the teeth will engage each other when the two bars are held together by hand. The main bar 10 has a jaw 13, and the auxiliary bar 11 has a jaw 14, that coöperates with the jaw 13 to embrace the nut to be held on by the wrench. The front faces of the teeth on the under side of the main bar 10 extend perpendicularly to said main bar 10, while the rear faces extend obliquely. The teeth on the upper side of the lower bar 11 are reversely arranged, the rear faces being perpendicular to said bar 11 and the front faces inclined. The result of this arrangement of teeth is that when said bars are held together by hand the teeth will resist any strain brought upon the jaws, as the tendency of the jaw 14 on the bar 11 when the wrench is under strain is to move rearward, while the tendency of the upper bar 10 is to move forward. The greater the strain, therefore, the greater will be the tendency of the teeth to hold the parts 10 and 11 together.

When the parts are relaxed or let go by the hand, the bar 11 drops down into the dotted-line position, so that the teeth can disengage each other, and then it can be moved relatively to the other part of the wrench, so as to adjust the wrench for nuts of various

sizes. In order to permit the bar 11 to drop down so that the teeth will disengage each other, and thereby enable the wrench to be adjusted, the under face of the main bar 10 is cut away or beveled at 15. While the wrench is being used on a nut, this cut-out portion performs no function, its sole use being to permit the longitudinal adjustment of the jaw 14 and bar 11. The strap 12 prevents the forward part of the bar 11, when under strain, from escaping from the remainder of the wrench. Since the strain comes at that end, there is no difficulty in the operator holding the rear ends of the bars 10 and 11 together during use.

The wrench shown in Fig. 3 works upon the same principle, although it is modified in form. Instead of the upper bar 10 being cut away at 15, the lower bar 11 is cut away at 16. This arrangement permits the part 11 to drop down so that the teeth will disengage each other for adjustment of the position of the jaw 14.

The advantages of this wrench lie in its simplicity, as well as ease of operation and adjustment. The bevels 15 and 16 are so slight as not to permit the part 11 of the wrench to escape from the strap 12 and main bar 10 of the wrench.

In the modified form shown in Fig. 4 the corners of the teeth are beveled instead of being rectangular, as shown in Fig. 2, so that there will be no sharp corners on the sides of the wrench to catch the flesh of the hand, and in rapid handling of the wrench the surface will have a smooth and comfortable feeling.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A wrench consisting of a main bar with an outer jaw thereon, a loop extending from the main bar at a right angle thereto, and another bar extending loosely through said loop so as to be adjustable with reference to the main bar and having an inner jaw opposing the jaw on the main bar, the adjacent surfaces of said bars being toothed to engage each other.

2. A wrench consisting of a main bar with an outer jaw thereon, a loop extending from the main bar at a right angle thereto, and another bar extending loosely through said loop so as to be adjustable with reference to the main bar and having an inner jaw opposing the jaw on the main bar, the adjacent surface of the main bar being cut away near the inner end of the other bar.

3. A wrench consisting of a main bar with
an outer jaw thereon, a loop extending from
the main bar at a right angle thereto, another
bar extending loosely through said loop so as
5 to be adjustable with reference to the main
bar and having an inner jaw opposing the jaw
on the main bar, and means on the adjustable
bar for preventing its escape from the loop.

In witness whereof I have hereunto affixed
my signature in the presence of the witnesses 10
herein named.

FREDERICK ZWICKER.

Witnesses:

V. H. LOCKWOOD,
N. ALLEMONG.