July 28, 1925. 1,547,198

L. BRADEN

WRENCH

Filed May 14. 1924

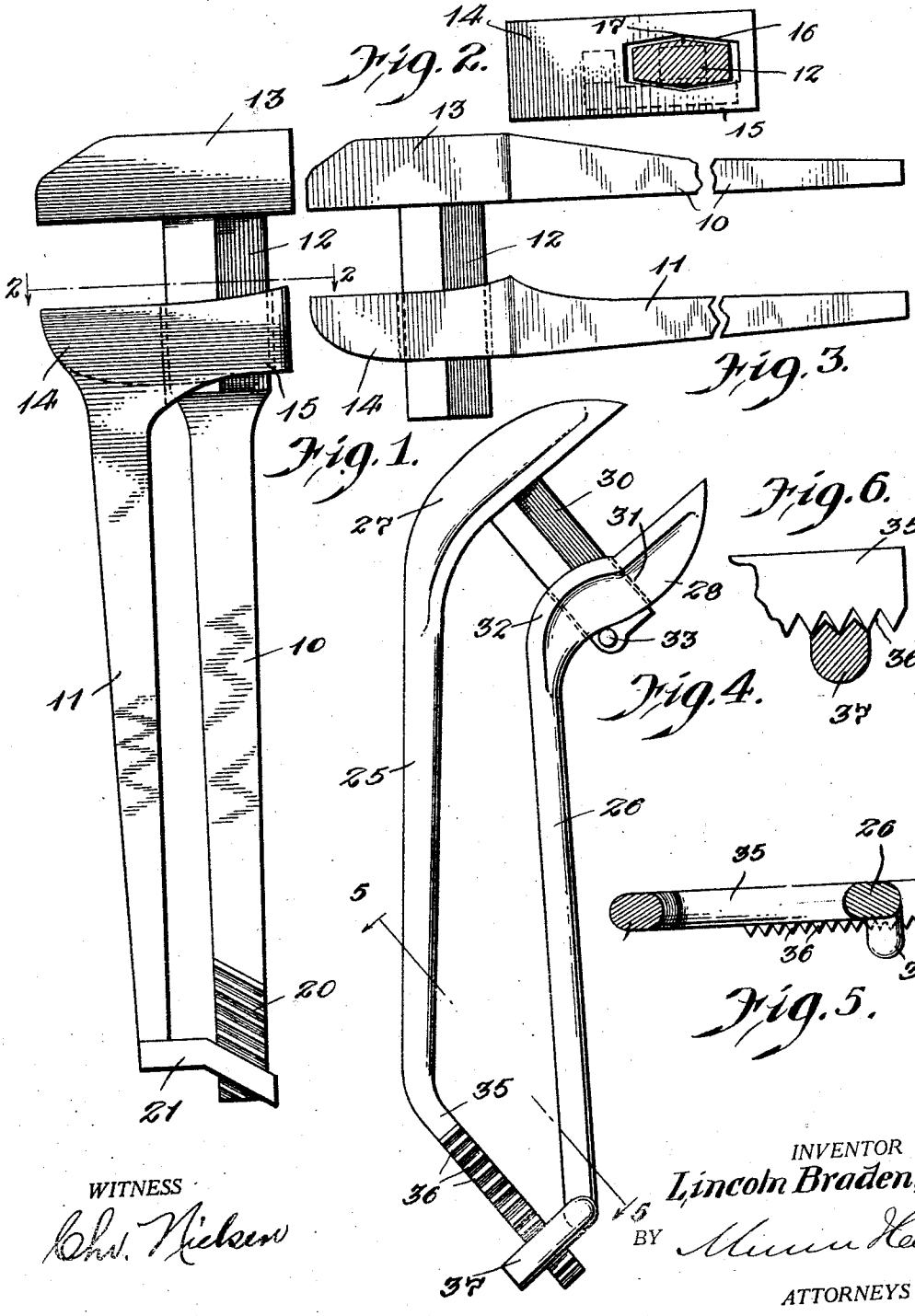


Fig. 2.

Fig. 3.

Fig. 1.

Fig. 6.

Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

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WRENCH.

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To all whom it may concern:

Be it known that I, LINCOLN BRADEN, a citizen of the United States, and a resident of Burney, in the county of Shasta and State of California, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

The object of the invention is to provide a wrench susceptible of embodiment in the various types and so constituted that its jaws may be readily adjusted to properly engage and grip work of various sizes, the jaws being firmly held in adjusted position and in engagement with the work in a novel and effective manner.

Other objects and advantages of the invention reside in certain novel features of the construction, combination and arrangement of parts which will be hereinafter more fully described and particularly pointed out in the appended claim, reference being had to the accompanying drawings forming a part of this specification, and in which:

Figure 1 is a view in side elevation, showing one embodiment of the invention;

Figure 2 is a view in horizontal section, on line 2—2 of Figure 1;

Figure 3 is a view in elevation, showing a slightly modified form of the embodiment illustrated in Figures 1 and 2;

Figure 4 is a view in elevation, showing another embodiment of the invention;

Figure 5 is a view in section, taken on line 5—5 of Figure 4; and

Figure 6 is a fragmentary view partly in section and partly in elevation, showing the releasable locking means employed for holding the handle members in adjusted position.

Referring to the drawings and more particularly to Figures 1 and 2, the numerals 10 and 11 designate a pair of handle members. At one end of the handle member 10 a combined bearing and locking bar 12 is integrally formed or suitably connected. An outer jaw 13 is fixed to the outer end of the bar 12. An inner jaw 14 is integrally formed with or suitably connected to the handle member 11, and on one side of the jaw 14 a lateral extension 15 is provided and is formed with a bearing or socket 16 in which the combined bearing and locking bar 12 is operatively fitted. It is to be noted that in this form of the invention the jaws extend substantially at right angles to the longitudinal axes of the handle member. As shown to advantage in Figure 2 the side faces of the bar 12 are formed with longitudinal central ridges 17 and taper or incline from the ridges 17 toward the end faces of the bar. The socket 16 is of corresponding formation though somewhat larger than the bar. With this arrangement when the bar is substantially centered in the socket it may be freely adjusted or moved longitudinally therethrough and this centering of the bar is brought about by arranging the handle members 10 and 11 in substantial parallelism. When the bar 12 is centered in the socket 16 the jaws 13 and 14 may be adjusted toward and away from each other until they come into engagement with the work. With the jaws engaged with the work the handle members 10 and 11 are gripped and are swung toward each other. This action moves the ridges 17 of the side faces of the bar 12 into engagement with the inclined walls of the socket 16 and binds or locks the jaws of the wrench against movement with respect to each other.

In order to hold the handle members in adjusted position, the handle member 10 is formed with a series of serrations or ratchet teeth 20 and the handle member 11 is provided with a resilient pawl 21 which is engageable with the ratchet teeth or serrations 20 in the various adjustments. Since the pawl 21 is resilient it may be readily released.

The form of the invention shown in Figure 3 is identical with that shown in Figure 1 except that the jaws 13 and 14 are arranged in axial alignment with the handle members 10 and 11 instead of being arranged at right angles thereto.

In the form of the invention shown in Figures 4, 5 and 6 a pair of handle members designated at 25 and 26 are provided, and have integrally formed therewith jaws 27 and 28, the jaws being angularly offset with respect to the handle member. A combined bearing and locking bar 30 similar to the locking bar 12 shown in Figures 1 and 2 is fixed to the jaw 27 and is operatively fitted in a socket 31 provided in an extension 32 of the jaw 28. The socket 31 is also similar to the socket 16 shown in Figure 2. A stop pin 33 is attached to the bar 30 to prevent the jaw 28 from falling off of the same. The lower end of the handle member 25 is provided with an offset extension 35 having a plurality of serrations or ratchet teeth 36. A spring finger or locking pawl

37 is integrally formed with the lower end of the handle member 26 and is engageable with the ratchet teeth or serrations 36. With this form of the invention the operation is similar to that of the form shown in Figures 1 and 2 and hereinabove described since the jaws 27 and 28 may be readily adjusted when the bar 30 is centered in the socket 31 whereas these jaws are bound or held in adjusted position when the handle members 25 and 26 are gripped. The spring finger or pawl 37 coacts with the serrations or ratchet teeth 36 to releasably hold the handle members 25 and 26 in any adjustment.

I claim:

An adjustable thin model two handled wrench, the opposing inner faces of each handle spaced apart and substantially parallel at all adjustments, the handle having their corresponding ends provided with integral and rigid jaw extensions, said extensions disposed angularly in the same direction with respect to the handles, whereby the jaw faces are correspondingly angularly disposed and their working faces substantially parallel, said jaw extensions simultaneously adjustable with the handles, one extension having an integral locking bar extending at a right angle from its inner face, said bar having its side faces oppositely tapered to define a sharp central ridge lengthwise thereof, the other extension having an alining and similarly shaped transverse bore therethrough adapted to loosely receive said locking bar, whereby the jaws may be securely locked on the work by a compressing grip on the inner spaced apart free ends of the handles by causing the central ridge of the locking bar to bite into the inner walls of the said transverse bore.

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