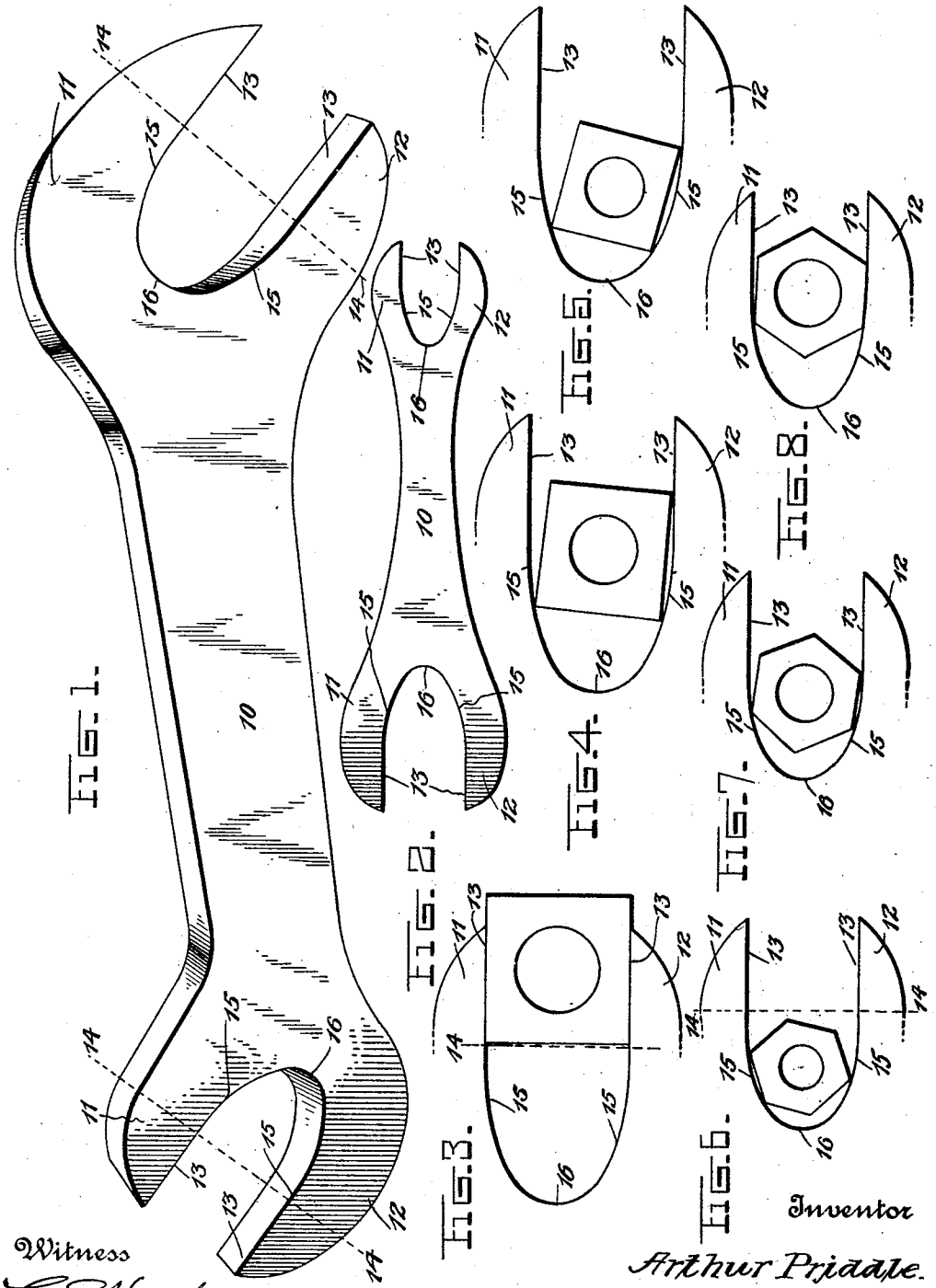
April 28, 1931. A. PRIDDLE 1,802,832

END WRENCH

Filed March 18, 1930



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UNITED STATES PATENT OFFICE

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END WRENCH

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The invention aims to provide an end wrench having an improved jaw construction providing a substantially parabolic notch between the opposed jaws and hence adapting the latter for gripping nuts of various sizes, whether square or hexagonal.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, description being supplemented by the accompanying drawing.

Fig. 1 is a perspective view of an end wrench constructed in accordance with my invention, having its jaws oblique to the wrench handle.

Fig. 2 is a side elevation of a wrench whose jaws extend longitudinally of the handle.

Figs. 3, 4, 5, 6, 7 and 8 are fragmentary side elevations showing the manner in which the jaws will grip nuts of various sizes, whether square or hexagonal.

The construction and relation of jaws is the same at either end of the wrench handle 10 in either Fig. 1 or Fig. 2, there being however a difference in size and spacing to allow the jaws at one end of the wrench to handle nuts of larger sizes than the jaws at the other end, and the only differences between the wrenches of Figs. 1 and 2, are matters of size and angular relation of the jaws with the handle 10. Hence, a description of one set of jaws and their relation to each other, with the reference characters applied to all of the jaws, will suffice. Moreover, it may be pointed out that while the invention is shown in connection with a wrench having jaws at both ends, it is equally well adaptable to one having jaws at only one end.

The two jaws are denoted at 11 and 12, the inner edges of said jaws being straight and parallel as at 13, from their front ends to the line 14. Behind this line, the jaw edges are longitudinally curved as at 15 and said edges converge rearwardly. This construction provides a substantially parabolic notch 16 which is adapted to receive nuts of a plurality of different sizes as will be clear from Figs. 3 to 8, whether said nuts be of square or hexagonal form, said notch 16 being of a length substantially twice the greatest width of said notch, although strictly speaking, the length of the notch 16 is only about one and three-quarters times the distance between the front ends of the jaws 11 and 12. The length of the straight faces 13 is preferably about three-quarters of the distance between said faces.

The construction shown and described will effectively handle nuts of various sizes and will tenaciously grip the nut regardless of its size or shape. It is hence possible to provide a set of wrenches consisting only of a relatively few of the latter, yet capable of handling an unusually large number of nut sizes.

The parabolic notch gives instant fitting of the wrench to the nut and upon turning of the wrench in either direction, the curved edges of the jaws will positively grip the nut at three points, providing a cam action in effecting the nut-holding operation. It is unnecessary to provide any nut-holding means other than the parabolic shape herein described, and even though the sides of the slot and the sides of the nut be highly polished, the nut will be tenaciously gripped without slippage. The improved wrench will handle nuts of all standard shapes, for instance, square, hexagonal, pentagonal, etc., and on one size nut, the parallel front ends of the jaws may be used in the conventional manner, contacting with opposed faces of the nut.

I claim:—

1. An end wrench having the inner edges of its jaws longitudinally curved and disposed in rearwardly converging relation, providing a substantially parabolic notch adapted to receive nuts of various sizes, the length of said notch being substantially twice its greatest width.

2. An end wrench having the inner edges of its jaws disposed in parallel relation at their front portions, said edges being longitudinally curved behind their parallel portions and converging rearwardly, providing a substantially parabolic notch adapted to receive nuts of various sizes, the length of said notch being substantially twice its greatest width.

In testimony whereof I have hereunto affixed my signature.

ARTHUR PRIDDLE.