

B. WITMER.  
 SELF ADJUSTING WRENCH.  
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1,001,793.

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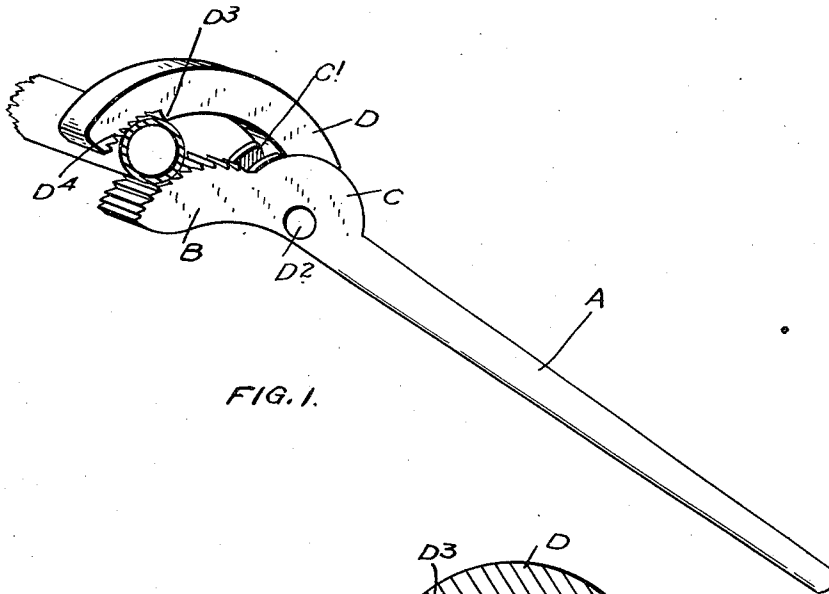


FIG. 1.

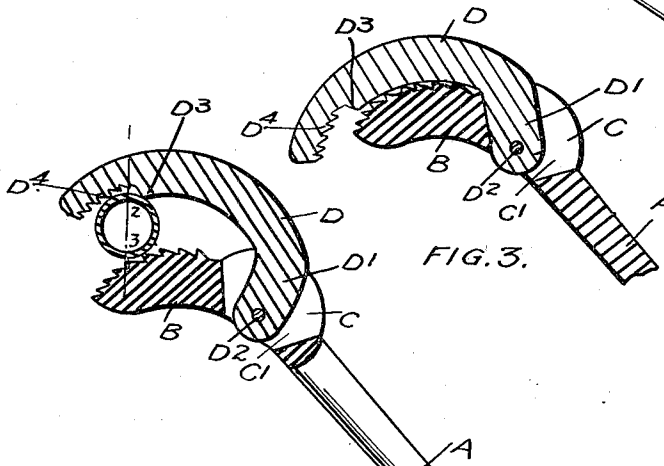


FIG. 2.

FIG. 3.

WITNESSES.  
*A. J. S. Young*  
*H. Preston*

INVENTOR  
 B. WITMER.  
 by *Frederick B. Hutchinson*  
 ATTORNEY

# UNITED STATES PATENT OFFICE.

BENJAMIN WITMER, OF PLATTSVILLE, ONTARIO, CANADA.

## SELF-ADJUSTING WRENCH.

1,001,793.

Specification of Letters Patent. Patented Aug. 29, 1911.

Application filed January 12, 1911. Serial No. 602,260.

*To all whom it may concern:*

Be it known that I, BENJAMIN WITMER, of the village of Plattsville, in the county of Oxford, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Self-Adjusting Wrenches, of which the following is the specification.

My invention relates to improvements in self adjusting wrenches adapted for pipes, nuts and the like, and the object of the invention is to devise a simple form of wrench, which when the jaws are engaged with the pipe they will always have an overhanging grip on the same, so as to insure of the movable jaw, when once set, from slipping its grip when the wrench is being manipulated to turn the pipe.

My invention consists of a stationary member provided with an arc-shaped serrated gripping end, and a movable member swung on the stationary member in a recess formed therein adjacent to the arc-shaped end, the movable member being arc shaped in form, so that when closed the inner contour lies concentric to and against the arc-shaped serrated end of the stationary member to a point near the outer end of the same where a shoulder is formed from which the inner contour extends in arc-shaped serrated form beyond the end of the arc-shaped serrated end of the stationary member, the parts being otherwise constructed and arranged as hereinafter more particularly explained.

Figure 1, is a perspective view showing my improved wrench. Fig. 2, is a side view showing the jaws proper in section. Fig. 3, is a similar view to Fig. 2 with the movable jaw closed.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is the handle of the stationary member and B the arc-shaped serrated end.

C are the arc-shaped wings forming portion of the stationary member as indicated and the sides of the recess C' formed in the stationary member.

D is the movable member, which as will be clearly seen on reference to Fig. 2, has an inwardly extending portion D', which is journaled on a pin D<sup>2</sup> within the recess C'. The movable member is arc-shaped in form and is provided with an arc-shaped inner contour, which when the wrench is closed

lies against the serrated arc-shaped contour of the stationary member and, therefore, is concentric with it. Near the end of the movable member a shoulder D<sup>3</sup> is formed and beyond the shoulder D<sup>3</sup> a serrated portion D<sup>4</sup> is provided which is concentric to the arc-shaped serrated edge of the stationary member and extends beyond the end of the same.

The shoulder D<sup>3</sup> is important and indeed the projection of the concentric serrated portion D<sup>4</sup> beyond the end of the stationary member as otherwise I would be unable to insure the movable member always remaining in the gripping position when set on the pipe or the like. In short it provides an overhanging grip as will be seen on reference to Fig. 2, where a pipe is shown in cross section. In this figure it will be noticed that the two overhanging points of the movable member are the shoulder D<sup>3</sup> and one of the teeth in the serrated concentric portion D<sup>4</sup>. The diameter 2—3 indicated in this figure bisects the arc of the pipe between these two points and the outer engaging teeth of the portion D<sup>4</sup> is beyond the one end of the diameter 2—3 and the engaging teeth of the arc-shaped stationary member within the diameter 2 3, that is to say the engaging teeth of the movable member overhang the engaging teeth of the stationary member and this is true no matter to what extent the movable jaw may be removed from the stationary jaw. The effect of such overhanging is to always insure the movable member when once placed in position to have an overhanging engaging grip in relation to the stationary member, which I find in practice is all important.

I am aware that many wrenches of like character have been devised before and after a great many experiments and failures I have found out the reason of the slipping of the movable member when the wrench is being utilized.

By my construction the wrench as soon as it is placed in position to engage the pipe with the pipe against the shoulder all liability of slip when operating the wrench is avoided.

What I claim as my invention is:

A wrench comprising a stationary member having an arc-shaped gripping end and a movable member swung on the stationary

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member and having an arc-shaped inner  
contour portion which lies when closed con-  
centric to and against the arc-shaped grip-  
ping portion of the stationary member and is  
5 formed with a shoulder positioned within  
the end of the movable member, and with  
a gripping portion extending beyond and  
concentric to the arc-shaped gripping end

of the stationary member when the movable  
member is closed, as and for the purpose 10  
specified.

BENJAMIN WITMER.

Witnesses:

B. BOYD,

H. PRESTON.

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

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