

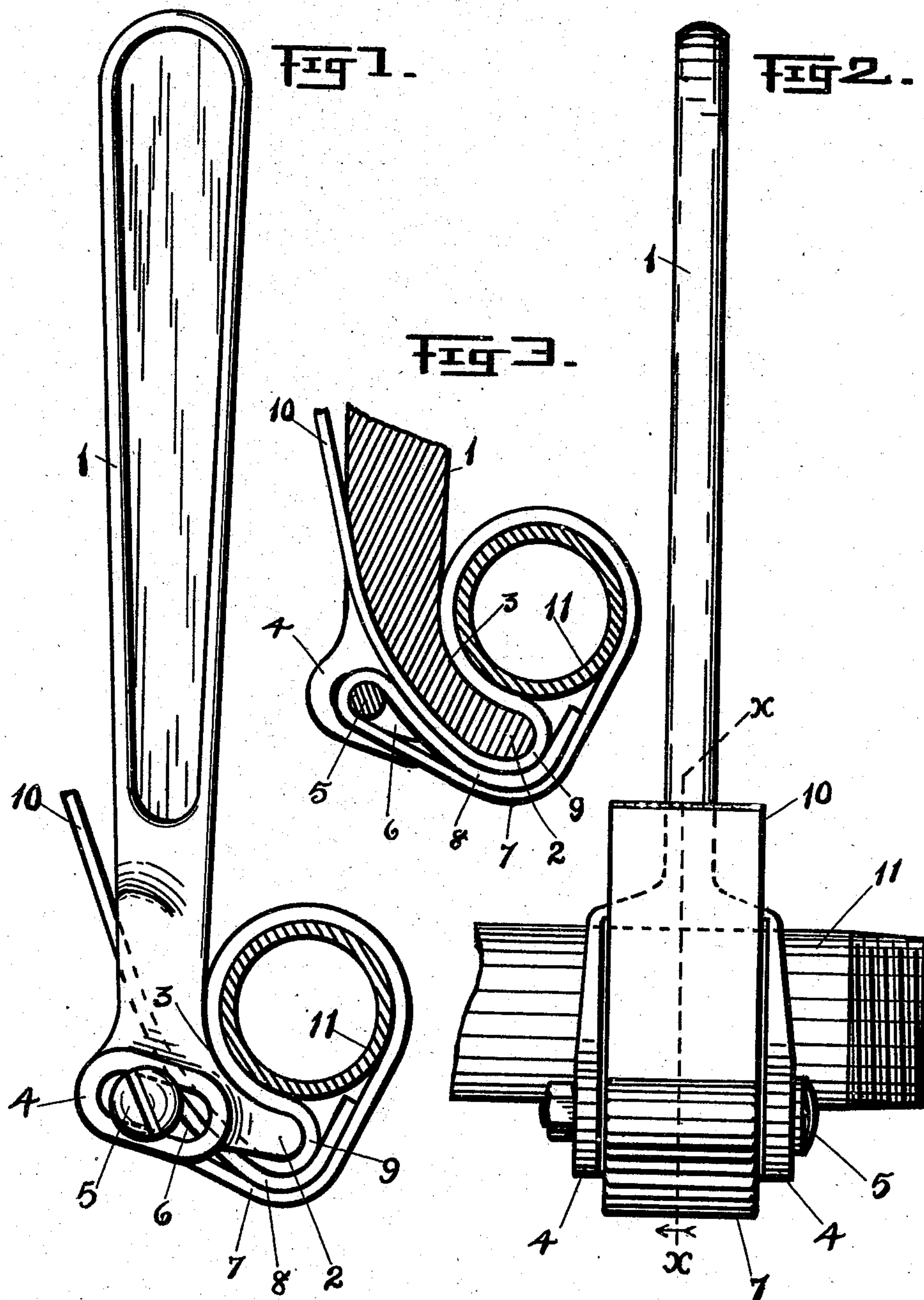
No. 894,627.

PATENTED JULY 28, 1908.

O. F. GLIDDEN.

PIPE WRENCH.

APPLICATION FILED FEB. 20, 1908.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

OSCAR F. GLIDDEN, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO WOLVERINE BRASS WORKS,  
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## PIPE-WRENCH.

No. 894,627.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed February 20, 1908. Serial No. 416,877.

*To all whom it may concern:*

Be it known that I, OSCAR F. GLIDDEN, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

This invention relates to a wrench intended particularly for handling plated, polished, or smooth pipes, and operating to turn the same through the interposition of a fabric or some similar substance that will not scratch or mar the pipe between the operating wrench and the pipe to be turned, and its object is to construct a wrench of this kind and for this purpose, and in the most simple and efficient manner. I accomplish this object by the construction shown in the accompanying drawings, in which—

Figure 1 is a side plan of the wrench complete when in operative position with reference to the pipe which is shown in cross-section. Fig. 2 is an edge view of the same parts, and Fig. 3 is a cross-section on the line  $x-x$  of Fig. 2.

In these drawings the numeral 1 represents the handle or lever bar of the wrench. It is of any convenient size or shape, and I prefer to cut away a portion of the metal as indicated in Fig. 1, in order to make the device lighter.

That end of the handle which in operation is the end adjacent to the pipe, is bent and extended in the form of a bent or curved toe, as indicated by the numeral 2, and I prefer to make the external surface at this point upon a smooth and regular curve adapted to bear against (save for the interposed fabric) the surface of the pipe to be operated upon. This curved bearing surface is indicated by the numeral 3.

The central part of the lower end or foot of the handle is cut away so that this central portion has a convex curved form approximately parallel to the curve 3, while the lower portions of the sides of the handle bar at the heel are expanded or extended into the wings 4 4. These wings have the slots 6 6 passing therethrough, and the bolt 5 passes through these slots and is adapted to slide therein and rest at any desired position in the slots.

10 is a strap of fabric, leather, or other suitable material. Its free end 8 is passed around the bolt 5 and bent back upon itself,

lying thereupon at the point 7 where it may be permanently fastened, if desired. The strap is then extended upwardly, forming a loop adapted to encircle the pipe 11, and then downwardly, passing around the toe 2 and between the same and the part 8, that portion of the strap which thus lies between the toe and the part 8 being indicated by the numeral 9. The strap is then extended upwardly, lying along the exterior convex curve of the lower part of the handle and terminating in the free end 10.

The adjustability of the bolt 5 in the slots 6 6, which adjustment is preferably at substantially a tangent to the periphery of the pipe or other object engaged by the wrench, not only provides for accommodating the different thicknesses of strap, as may be desired, but also permits compensation for the varying size of the pipe, so that the most effective amount of binding surface may always be provided as between parts 8 and 9 with reference to the action of the toe 2.

By this construction I have only two parts to my pipe wrench, itself, viz., the handle lever and the adjustable bolt. Also, by the construction and arrangement shown, the strap grips or binds upon the pipe for nearly its entire circumference, and the lever handle closely fitting as it does the pipe for a considerable distance along the curved part 3 when force is applied to the lever handle, almost the entire force tends to revolve the pipe upon its axis, and very little of such force tends to pull the pipe away from such axis. At the same time, the form of construction shown provides a very long gripping or binding surface between the convex curve of the foot and the adjacent parts 8 and 9 of the strap, thus especially insuring against the slipping of the strap upon itself, more likely to take place if the binding was at one spot only.

Having thus described my invention, what I claim to have invented and desire to secure by Letters Patent, is—

A wrench of the class described comprising a toe portion provided with a concaved surface adapted to conform approximately to the curvature of the object to be engaged by the wrench, wings arranged at opposite sides of the toe portion and projecting rearwardly therefrom, a bolt extending transversely between said wings and spaced away from the rear or convex side of the toe portion, and a flexible strap looped around said bolt and

adapted to surround a pipe or other object, a  
portion of the strap lying between the periph-  
ery of said object and the concave surface of  
the toe portion and another portion of the  
5 strap, as well as the loop thereof, lying be-  
tween said bolt and the convex side of the  
toe portion.

In testimony whereof I have hereunto set  
my hand in presence of two subscribing wit-  
nesses.

OSCAR F. GLIDDEN.

Witnesses:

MARY S. TOOKER,  
MARY SCHULTE.