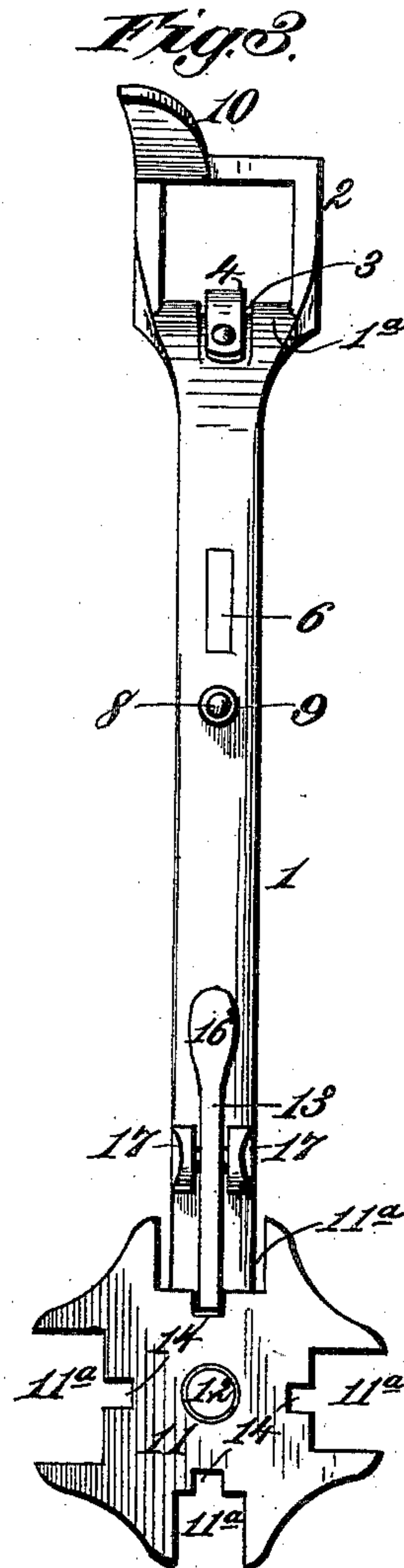
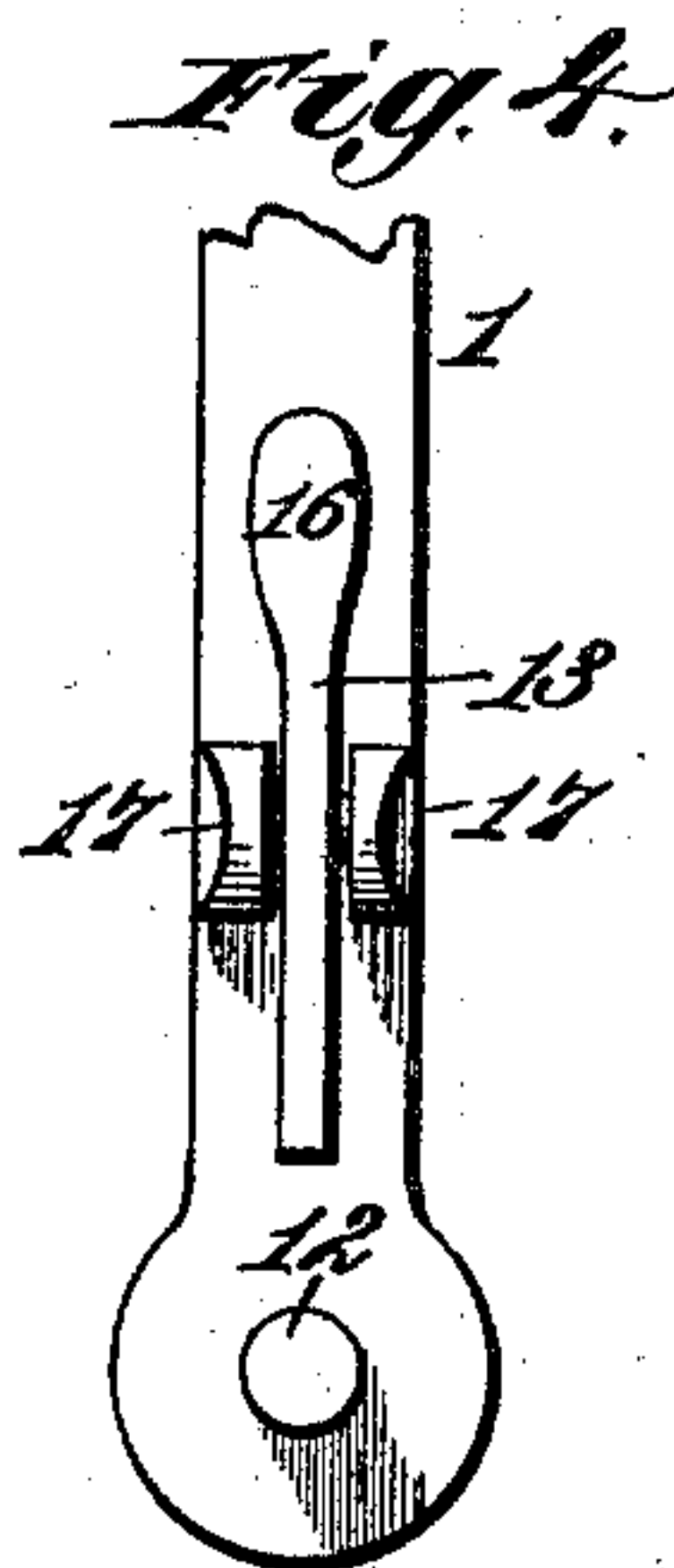
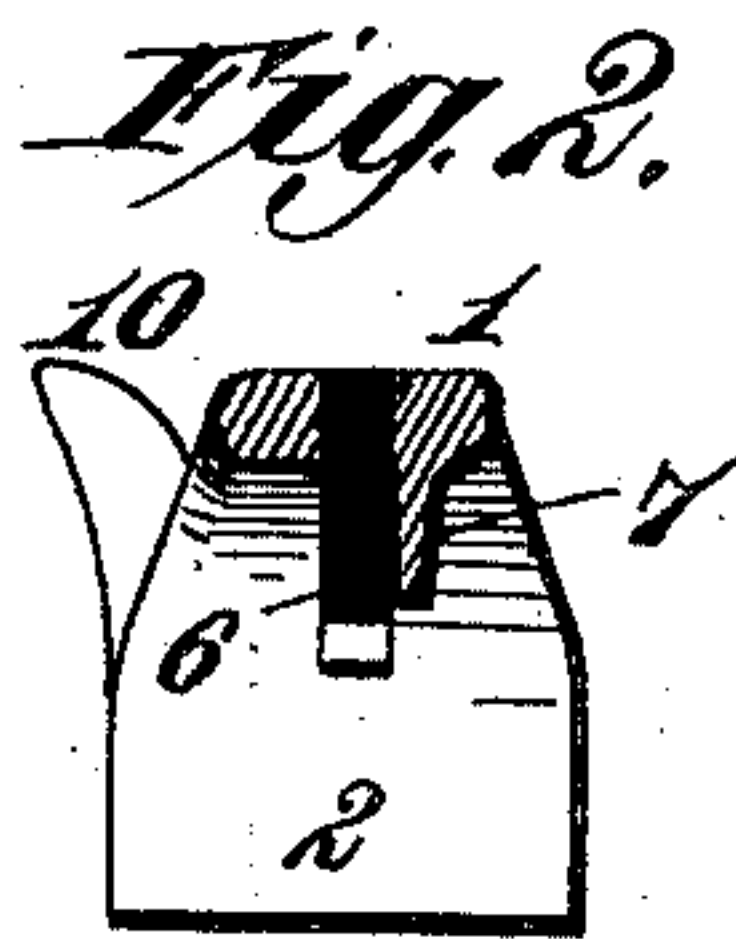
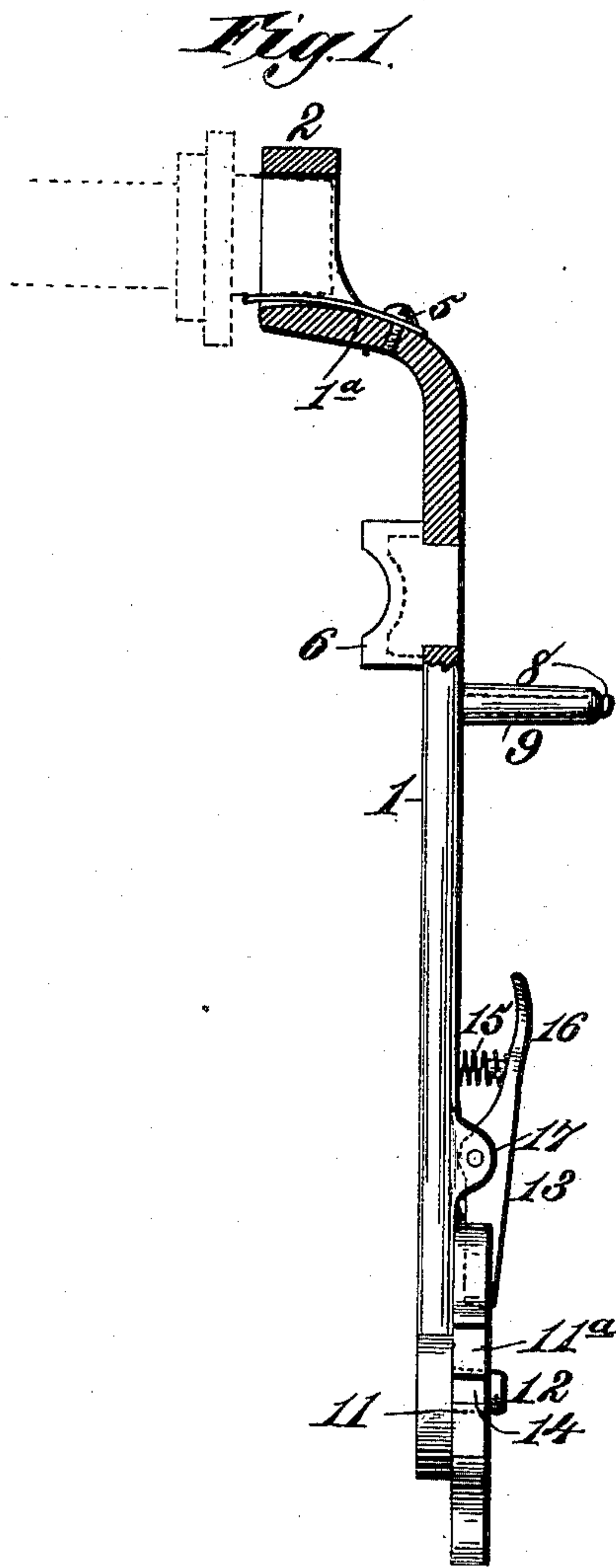


(No Model.)

A. WAGGONER.  
COMBINATION TOOL.

No. 395,598.

Patented Jan. 1, 1889.



Witnesses.  
*Robert Emmett,*  
*Leroy B. Hills.*

Inventor:  
*Albert Waggoner.*  
By *James L. Norris,*  
*Atty.*

# UNITED STATES PATENT OFFICE.

ALBERT WAGGONER, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-HALF TO  
WILLIAM R. DAWSON, OF SAME PLACE.

## COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 395,598, dated January 1, 1889.

Application filed April 28, 1887. Serial No. 236,480. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT WAGGONER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented new and useful Improvements in Combination-Tools, of which the following is a specification.

This invention has for its object to provide a novel wrench for turning the nuts and cleaning the axle-spindles of buggies and other vehicles; and to such end the invention consists, essentially, in a wrench having one or more nut-sockets and provided with a projecting wiper composed of a piece or plate of rubber or other flexible material set in or mounted on the stem or handle.

The invention also consists of other features, all of which are hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a view, partly in section and partly in elevation, of the entire wrench or composite tool. Fig. 2 is a transverse sectional view through the wiper. Fig. 3 is a plan view of the wrench. Fig. 4 is a detail of the end of the wrench to which the revolving head is applied.

In the said drawings, the reference-numeral 1 denotes the shank or handle of the wrench, which is formed of metal or other suitable material. Upon one end of this handle is an eye or head, 2, of rectangular form and adapted to receive the axle-nut of a carriage. The handle or shank 1 is curved forward at nearly a right angle with the main or body portion, and upon this curved part 1<sup>a</sup> the head 2 is mounted. Within the convex curved face of the part 1<sup>a</sup> is formed a slot or channel, 3, lying within and partly without the head or eye 2. Within this slot is placed a leaf-spring, 4, having attachment by means of a screw, 5, set at a point outside the wrench-head and in one end only of the spring. By locating this screw 5 outside the head and forming the slot 3 in the convex face of the curved part 1<sup>a</sup> the fulcrum of the spring is constantly shifted as the wrench is applied to nuts of closer fit, or is more closely applied to a nut. This not only gives a broad contact-surface for the spring, but avoids weakening the latter, and also adapts the wrench to use with nuts of vary-

ing size, the spring having a greater range of engagement, owing to the peculiar form and arrangement shown.

Upon the main part of the shank or handle 1 is mounted a wiper, 6, consisting, preferably, of a plate of suitably-vulcanized caoutchouc set in a slot cut longitudinally in the handle. A shield or support, 7, formed or mounted on the shank 1, gives support to one side of said wiper, the edge of which may conveniently be cut away to conform substantially to the shape of the axle. The wiper is used for cleansing the axle of oil that has become gummed or hardened and filled with sand, and it is used by placing it upon the axle in front of the collar and drawing it forward, thereby cleaning the axle without soiling the hands of the user. The wiper may be attached in any suitable manner and at any part of the wrench, its use being no way dependent upon its location, and it may be formed of any suitable material besides rubber.

Projecting from the back of the shank 1 is a pin, crank, or balance, 8, which may conveniently be used in turning the nut off or on the axle, and which may be made, if desired, with a loose sleeve or friction-collar, 9.

Upon the wrench-head or at another convenient part of the tool is mounted or formed a knife, pick, or scraper, 10, which is useful for a great variety of purposes, such as cleaning the oil-groove in the axle, for picking out the hoofs of the horse, or for starting hard gummed oil or other foreign matter accumulating on the axle. By using this knife 10 for first loosening up or detaching the hard gummed oil or other firmly-adhering matter on the axle-spindle the wiper can then be used to follow up the cleaning operation, so that the axle-spindle is perfectly cleansed and placed in good condition for fresh oil. If desirable, I can mount on the other end of the shank or handle a head, 11, having a gang of sockets, 11<sup>a</sup>, of graduated size. This head is attached by a pin or bolt, 12, passing through the head into the end of the wrench, whereby said head may be revolved. Upon the shank of the wrench is pivoted a spring-actuated dog, 13, the end of which engages with notches 14 in the wrench-head 11, whereby the latter



is held at any desired point. A spring, 15, preserves this engagement of the dog by pressure on the upwardly-curved end 16. The dog 13 is pivoted between ears 17, formed on the 5 end of the shank 1, as in Fig. 1. By this construction the head 11 may be turned to any angle to catch the nut, this adjustment being very convenient where two nuts are close together and not readily loosened by ordinary 10 wrenches, and in cases where the nut can only be loosened by having the socket at the end of the wrench.

The spring 4 may be of steel or other suitable material, and may be riveted or wedged 15 in place, or it may be soldered.

What I claim is—

1. A wrench having one or more sockets and provided with a wiper consisting of a plate of rubber set in or mounted on the shank or 20 handle, substantially as described.

2. A wrench having one or more sockets and provided with a wiper consisting of a plate of suitably-vulcanized rubber set in or mounted on the shank and having a rigid supporting-plate lying on one side thereof, substantially 25 as described.

3. A wrench having one or more sockets and provided with the knife 10, for detaching hardened oil from the axle-spindle, and the spindle-cleaning wiper 6, composed of a rubber 30 plate set in or mounted on the shank, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT WAGGONER.

Witnesses:

R. H. EVANS,  
E. E. CORWIN.