

No. 736,912.

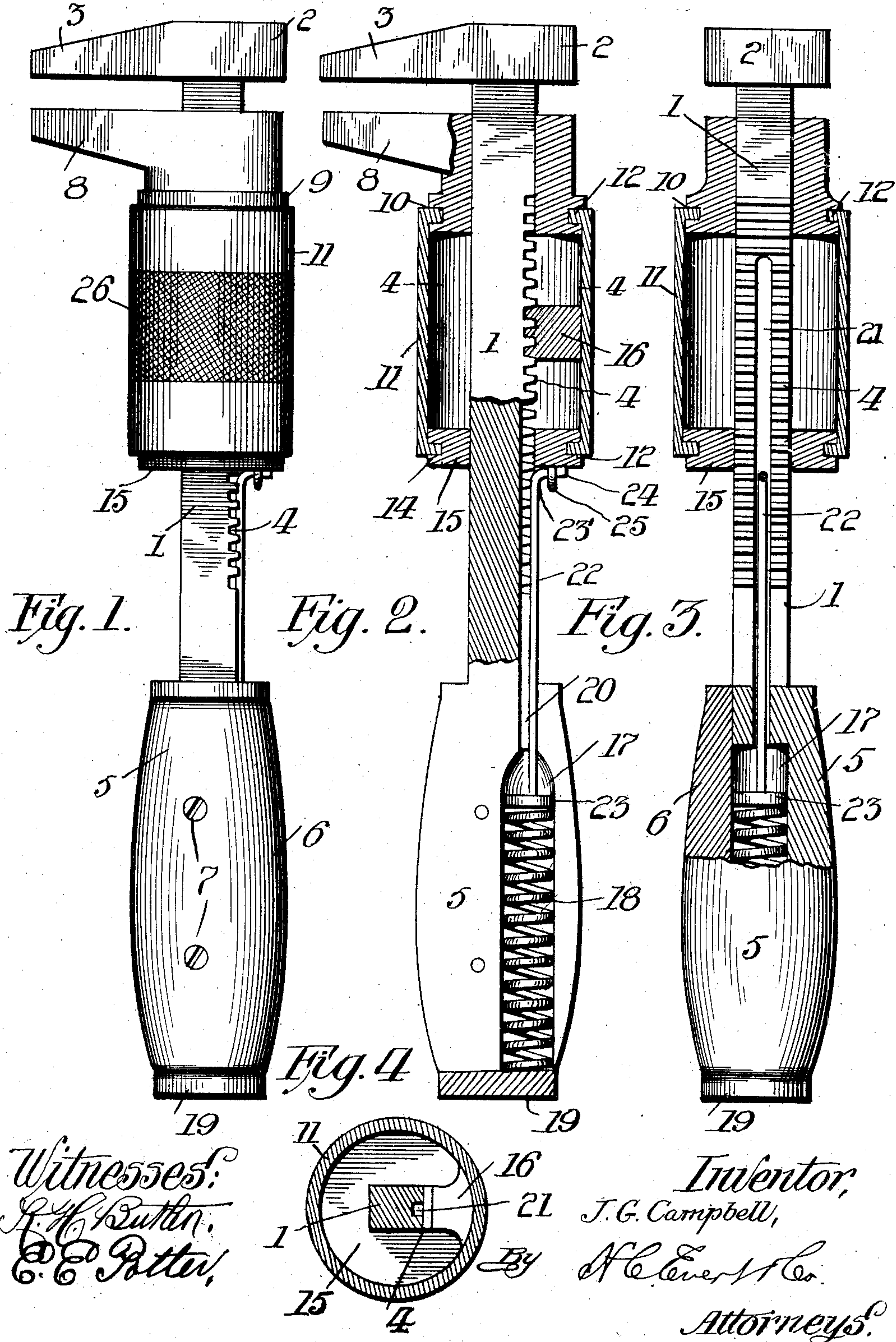
PATENTED AUG. 18, 1903.

J. G. CAMPBELL.

WRENCH.

APPLICATION FILED MAY 13, 1903.

NO MODEL.





## UNITED STATES PATENT OFFICE.

JOSEPH G. CAMPBELL, OF WILKINSBURG, PENNSYLVANIA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 736,912, dated August 18, 1903.

Application filed May 13, 1903. Serial No. 156,942. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH G. CAMPBELL, a citizen of the United States of America, residing at Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in wrenches, and more particularly to that class of wrenches which carry a sliding jaw upon the shank, said jaw being moved along the shank by means of a rack carried upon the shank.

The object of my improved wrench is to provide means whereby this sliding jaw may be readily manipulated to any desired position upon the shank in an easy and quick manner.

A further object of my invention is to provide a wrench which may be extremely simple in construction, strong and durable, and comparatively inexpensive to manufacture, and one wherein when the sliding jaw is not in engagement with the rack upon the shank of the wrench the same will be in the open position.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a side elevation of my improved wrench. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is a transverse section. Fig. 4 is a section taken on line 4 4 of Fig. 2.

To put my invention into practice, I provide a shank 1, having an integral head 2, said head carrying a gripping-jaw 3. This shank has formed on its rear face a rack 4, and upon the lower end of said shank is formed a handle 5, this handle being formed of two sections, the removable section being indicated by reference-numeral 6. This section of the handle I preferably secure to the other section by means of screws 7, although any suitable means may be employed to secure these sections of the handle together af-

ter the wrench has once been put together. The sliding jaw comprises a gripping-jaw 8. Upon the lower edge of this sliding jaw I provide an annular collar 9, which carries an annular recess 10, and in said annular recess I secure a sleeve 11. This sleeve is annular in form, and upon its upper and lower ends it carries an annular inwardly-extending flange 12, one of these flanges engaging in the recess 10, the lower of said flanges engaging in a similar recess 14, carried by the annular collar 15 upon the shank 1 of the wrench.

Upon the interior periphery of the annular sleeve 11 is preferably secured a portion of the rack, as indicated at 16, this rack portion carrying teeth similar in size and construction to the rack 4, carried by the shank 1 of the wrench.

In the section of the handle designated by the numeral 5 I provide a cylindrical groove 17, and in said groove rests a spring 18, the lower end of said spring abutting against the cap 19, secured to the lower end of the handle-sections when the same have been joined together. The groove 20 is formed longitudinally with the shank 1, and in the center of the rack, as indicated at 21, the said groove extends downwardly into the groove 17, and in said groove operates the rod 22, the lower end of said rod carrying thereon a cap or disk 23, this disk or cap resting upon the upper end of the spring 18, while the other end of the rod 22 is bent at right angles, as indicated at 23', and has its extending end 24 secured in the eye 25, this eye being secured by any suitable means to the annular collar 15, slidably mounted upon the shank.

The operation of my improved wrench is as follows: It being desired to move the sliding jaw to any position on the shank of the wrench, the sleeve or collar 11 is rotated by means of the knurled portion 26 until the rack portion 16 becomes disengaged from the rack 4, carried by the shank 1, when the sliding jaw will be forced upwardly by the expansion of the coil-spring 18, carried in the section 5 of the handle. The desired position being reached by the sliding or gripping jaw 8, the sleeve or collar 11 is rotated in the opposite direction until the rack portion 16



becomes engaged with the rack carried by the shank 1, when the sliding jaw will be held in the desired position.

While I have herein shown and described  
5 the rack carried by the shank upon one side of said shank, it is obvious that I may employ one rack upon the opposite face thereof, also another rack portion formed integral with the interior surface of the sleeve or collar 11,  
10 and thus have a double engagement for securing and holding the sliding jaw in the desired position.

It will be noted that various other slight changes may be made in the details of construction without departing from the general  
15 spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

20 1. A wrench comprising a shank having a rack formed integral therewith, a gripping-jaw formed on the upper end of said shank and a handle upon the lower end thereof, a sliding jaw mounted on said shank, said jaw  
25 carrying a rotatable collar or sleeve, a rack portion carried upon the interior of said collar or sleeve to engage the rack of the shank, a rod connected to the sliding jaw upon the lower end thereof, said rod extending down-  
30 wardly into the handle of the wrench, and

means carried within said handle for moving said rod in the downward direction, substantially as described.

2. A wrench comprising a shank having a rack formed integral therewith, a gripping- 35 jaw formed integral with said rack, a handle comprising two sections one of said sections being formed integral with the shank, a jaw slidably mounted upon said rack, a rotatable sleeve or collar carried by said jaw and adapted to rotate thereon, a rack portion carried 40 upon the interior of said collar or sleeve, said rack portion adapted to engage the rack of the shank when the same is in the desired position, a groove formed longitudinally of 45 said shank, a rod operating in said groove, one end of said rod adapted to be connected to the lower end of the sliding jaw and the other end of said rod adapted to be connected to the spiral spring carried in the groove 50 formed in the integral section of said handle, the other section of said handle adapted to be secured to the integral section by any desired means, substantially as described.

In testimony whereof I affix my signature 55 in the presence of two witnesses.

JOSEPH G. CAMPBELL.

Witnesses:

H. C. EVERT,

E. E. POTTER.