

(No Model.)

R. STOCKER.
ADJUSTABLE SPANNER.

No. 588,365.

Patented Aug. 17, 1897.

Fig.1

Fig.2.

Fig.3.

Fig.5.

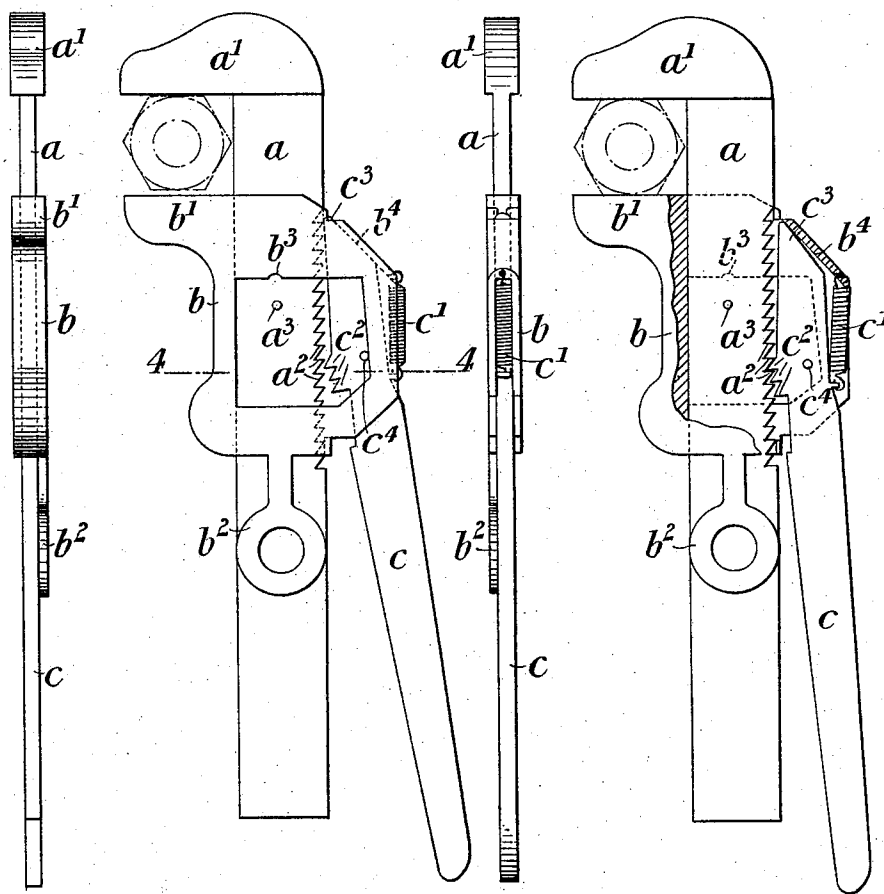
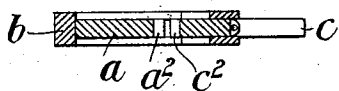


Fig.4.



Witnesses

John E. Dousfield

Inventor.

R. Stocker

UNITED STATES PATENT OFFICE.

RUDOLF STOCKER, OF LONDON, ENGLAND.

ADJUSTABLE SPANNER.

SPECIFICATION forming part of Letters Patent No. 588,365, dated August 17, 1897.

Application filed April 2, 1897. Serial No. 630,440. (No model.)

To all whom it may concern:

Be it known that I, RUDOLF STOCKER, a citizen of the United States, residing at London, England, have invented new and useful Improvements in Adjustable Spanners, of which the following is a specification.

This invention relates to improvements in adjustable spanners chiefly adapted for the use of cyclists, and has for its object to provide a convenient spanner wherein the jaws can be caused to grip the nut to be tightened or loosened with greater force than with such spanners as heretofore generally made.

According to my invention I form the spanner of two parts or halves, each of which is provided at one end with a jaw of ordinary shape and one of which slides upon the other. A lever is secured to the sliding part of the spanner by a spring connection or the like and is provided with one or more teeth adapted to enter teeth formed on the back of the fixed part of the spanner, so as to form a fulcrum on which it can turn. The shorter arm of the lever above the fulcrum is arranged so as to come into contact with an inclined surface on the sliding part of the spanner.

To enable my invention to be fully understood, I will describe the same by reference to the accompanying drawings, in which—

Figure 1 is a front elevation of an adjustable spanner made according to my invention. Fig. 2 is a side elevation, and Fig. 3 is a rear elevation, of the spanner. Fig. 4 is a section on the line 4 4 of Fig. 2, and Fig. 5 is a sectional side elevation showing the spanner tightened on a nut.

a is the fixed part or half of the spanner. *a'* is the jaw, formed on the end thereof, and *a²* are the teeth, formed on the back of the said fixed part *a*.

b is the movable or adjustable part or half of the spanner, having the jaw *b'* formed on its end.

b² is an extension of the movable part *b*, the said extension being provided for affording a grip for the thumb when adjusting the movable jaw in position on a nut. The upward movement of the jaw *b'* is limited by the jaw *a'*, and the downward movement of the same is limited by a pin *a³* on the part *a*, which comes in contact with a notch *b³* in the part *b*.

b⁴ is the inclined surface, formed on the sliding part *b* of the spanner.

c is the lever, connected to the sliding part *b* of the spanner by a spring *c'*, as clearly shown in the drawings, and *c²* are the teeth on the inner side of the same, which teeth are designed, as shown in Fig. 5, to engage with the teeth *a²* on the back of the part *a* of the spanner when the lower portion of the lever *c* is gripped and pressed toward the part *a* of the spanner. The upper end *c³* of the lever *c* is tapered, and the said lever is so arranged that this end *c³* is in contact with the inclined surface *b⁴* of the sliding part *b* of the spanner.

c⁴ is a pin on the lever *c* for limiting its outward movement.

To make use of the spanner for tightening or loosening a nut, it is placed in position over the nut, as shown in Fig. 2, and the lever *c* is then pressed toward the part *a* of the spanner, so that the uppermost tooth *c²* engages with one of the teeth *a²*, whereby the said tooth *c²* acts as a fulcrum for the lever *c*, so that the end *c³* of the said lever is forced outward and consequently causes the sliding part *b* of the spanner to move upward by reason of the inclined surface *b⁴*, with which it is in contact, the spring *c'* allowing the said sliding part *b* to move relatively with the lever *c*. By this means the jaws *a'* and *b'* can be caused to grip the nut with considerable pressure.

When the spanner is relieved from pressure, the spring *c'* returns the lever *c* to its normal position and the jaw *b'* from contact with the nut.

The reverse side of the part *a* to that shown in the drawings is preferably roughened in any suitable manner, so as to afford a grip for the fingers when adjusting the movable jaw *b'*.

In practice I find it advantageous to stamp or form the various parts of my spanner from sheet metal.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. The combination with the stationary part provided with a series of notches and a rigid jaw, of a movable part surrounding said sta-

tionary part, provided with a jaw, and having a recessed portion adjacent to said notches on the stationary part, and an inclined cam-surface, a lever loosely engaging the recess
5 in said movable part, having a projection adapted to engage the notched portion of the stationary part and having a part for engaging said inclined cam-surface, and a spring connecting said lever and said movable part,
10 substantially as described.

2. The combination with the stationary part provided with a series of notches and having a rigid jaw, of a movable part surrounding the stationary part, provided with a jaw, and

a thumb-piece lying adjacent to the stationary part for moving the movable part and having a recessed portion adjacent to said notches, and an inclined cam-surface, a lever loosely engaging said recess, provided with a projection for engaging the said notches and
20 a part for engaging said cam-surface, and a spring connecting said lever and said movable part, substantially as described.

RUDOLF STOCKER.

Witnesses:

G. F. REDFERN,
JOHN E. BOUSFIELD.