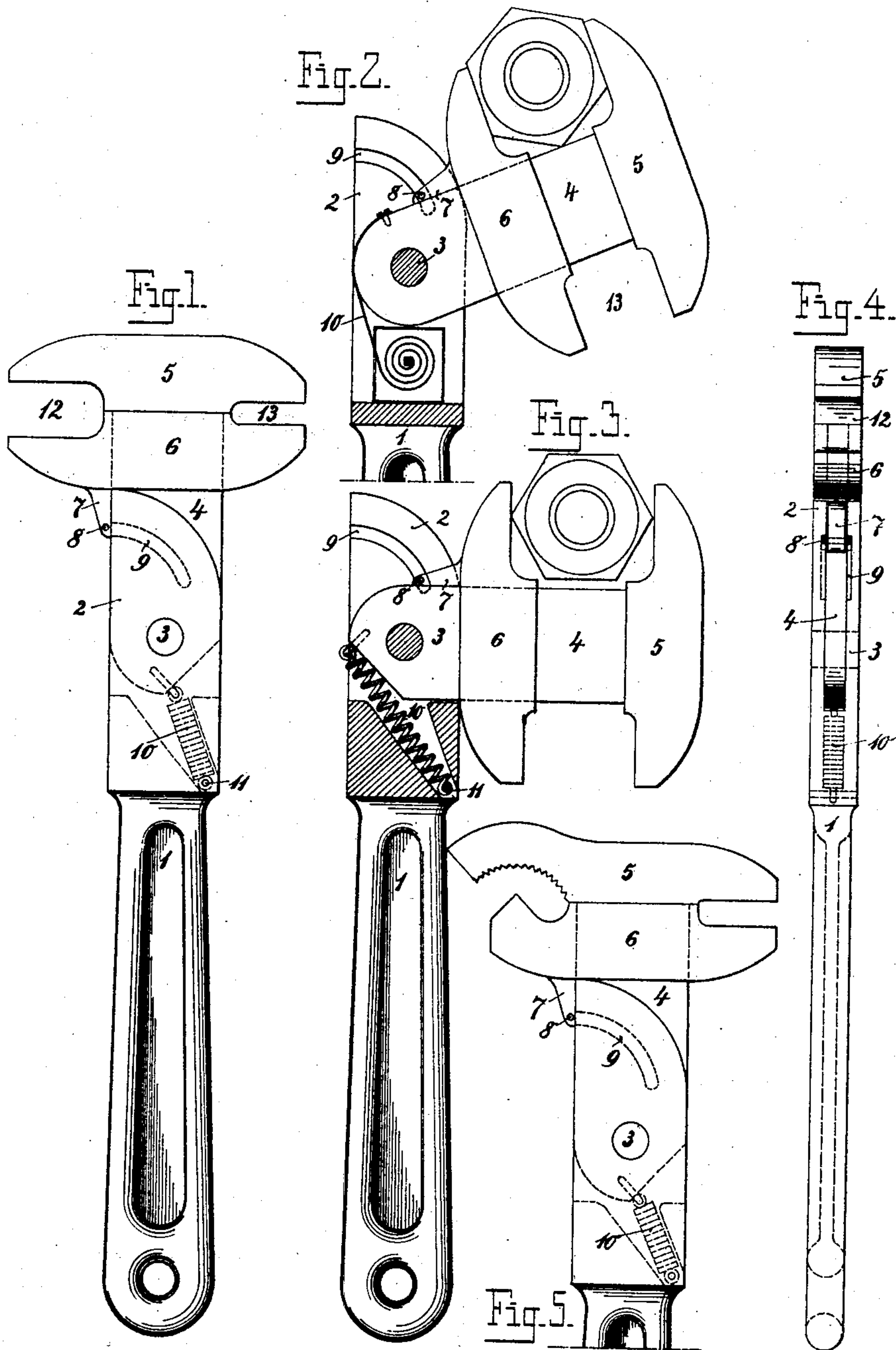


No. 777,910.

PATENTED DEC. 20, 1904.

J. MÖHLIG.
SPANNER OR WRENCH.
APPLICATION FILED MAR. 29, 1904.

NO MODEL.



Witnesses:

William J. Scheepers
Maria Möhlig

Inventor:

Joseph Möhlig

UNITED STATES PATENT OFFICE.

JOSEPH MÖHLIG, OF AIX-LA-CHAPELLE, GERMANY.

SPANNER OR WRENCH.

SPECIFICATION forming part of Letters Patent No. 777,910, dated December 20, 1904.

Application filed March 29, 1904. Serial No. 200,614.

To all whom it may concern:

Be it known that I, JOSEPH MÖHLIG, a citizen of the German Empire, residing at Aix-la-Chapelle, Rhenish Prussia, Germany, have
5 invented an Improved Spanner or Wrench, of which the following is a specification.

This invention relates to that general kind of sliding-jaw wrenches wherein the jaws are caused to open and close by a cam-like action
10 through the rotary movement of a handle pivoted to the shank of the jaws and provided with an eccentric head to operate the movable jaw.

The object of my invention is to provide a
15 wrench of this class whose jaws shall be readily and quickly adjustable to a nut or the like of any size within their scope, and which jaws can be automatically opened and closed to firmly grip the nut between the jaws and
20 whereby also the wrench is adapted to operate in a manner analogous to a ratchet-wrench.

The invention consists, further, in a certain construction and relative arrangement of the means or elements for automatically closing
25 and opening the jaws between the two branches of the bifurcated eccentric handle-head, so that the said means cannot be seen from the outside and are safe from being broken as well as from being impeditive to the operation of
30 the wrench.

The invention, which may be embodied in various specific forms, is represented in the annexed drawings, in which—

Figure 1 is the side view of the spanner in
35 its closed position. Fig. 2 is the same view of the upper part of the wrench, but which is partly opened and in which the spiral spring shown in Fig. 1 is replaced by a rolled-plate spring. Fig. 3 is the side view of the entirely-
40 opened wrench, Fig. 1. Fig. 4 is the front view of the closed wrench, and, finally, Fig. 5 is a view of the same wrench serving as a pipe-wrench simultaneously.

Similar numbers refer to similar parts
45 throughout the several views.

In the drawings, 1 denotes the handle provided with a bifurcated arc or cam shaped head 2 in the members of which is eccentrically secured the pivot 3. On the said pivot 3 there
50 is mounted so as to move on it the shank 4,

to which is secured the stationary jaw 5 and on which slides the movable jaw 6. To the lower side of the sliding jaw 6 there is integrally secured a downwardly-projecting nose 7, having a sidewardly-projecting pin 8. One
55 member of the above said arc-shaped head 2 is provided with an internal groove 9, into which the said pin is upwardly projecting. To the under end of the shank 4 there is fastened one
60 end of a spiral spring, Figs. 1, 3, and 4, or of a rolled-plate spring, Fig. 2, 10, the other end of which spring being secured on a pin 11, arranged between and secured in the members of the bifurcated handle-head.

When the wrench is opened, there exist
65 mouths 12 and 13 on each side of the shank 4.

In operating the device it will be seen that in order to grip a nut or the like the shank 4, together with the stationary jaw 5, as well as with the sliding jaw 6, is moved on the pivot
70 3 from the position shown in Fig. 1 into that shown in Figs. 3 or 4. While thus moving the sliding jaw 6 is retained and separated from the stationary jaw 5 by means of the pin 8, engaging the groove 9 of the head 2, in con-
75 sequence whereof both mouths 12 and 13 on each side of the shank 4 will be opened. Now after having put the stationary jaw 5 to a nut or the like and giving way a little to the shank 4 the latter, being spring-acted, will instantly
80 return into its original position, and in consequence whereof the movable jaw will be caused by the eccentric-shaped bifurcated head to really automatically advance toward the
85 outer jaw and to firmly grip opposite faces of the nut between the jaws. The automatic gripping of the nut by the jaws therefore is entirely due to the spring 10 and to the eccentric edges of the bifurcated head 2 simultaneously. When the jaws thus are applied
90 to the opposite faces of a nut, Fig. 2, the handle will be rotated and the nut turned and that the more, the greater is the pressure executed on the handle 1. Having made one
95 stroke of the wrench, I make in order to grip the following opposite faces of the nut a reverse rotation of the handle on its pivot. The stationary jaw 5 being held to the nut, the tension of the spring 10 will be overcome and in
100 the same time the movable jaw 6 moved back

from the stationary jaw 5, since the pin 8 engages the groove 9 on the inner side of the bifurcated head 2. Now when the jaws are sufficiently opened to pass over the corners of the nut, Fig. 3, I turn the whole wrench around the nut till the stationary jaw has attained the following face of the nut. Hereafter I give way again a little to the shank 4, which will be guided back again by the spring 10, and the jaws will be caused to automatically grip the following opposite faces of the nut, which now can be turned in a second stroke, so the wrench is adapted to operate in a manner really analogous to a ratchet-wrench.

I am well aware that prior to my invention spanners have been constructed and are well known in which a shank to which is secured the stationary jaw and on which slides the movable jaw is eccentrically pivoted to an arc-shaped head. There are described wrenches, too, in which the sliding jaw is provided with a lug sliding on the outside of a circular bifurcated head, the outside of one member of the said head being provided with a circular groove into which a pin secured to the said lug is projecting. Finally, there have been constructed wrenches in which the sliding jaw is connected to the stationary jaw by means of a spring in order to contract the jaws one toward the other. Therefore I do not claim such wrenches broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, in a

wrench, the combination with the handle 1 having a quadrangular arc or cam shaped bifurcated head 2, a shank 4 eccentrically pivoted to the members of the said head, a stationary jaw 5 secured to the said shank 4 and a movable jaw 6 mounted to slide on said shank 4 and provided with a lug 7 having an outwardly-projecting pin 8, one member of the said bifurcated head 2 being provided with an internal groove 9 to be engaged by the said pin 8, a spiral spring 10 arranged between the members of the said head 2 and connecting the lower end of the said shank 4 to the lower end of the said head, all essentially as described and for the purpose specified.

2. As a new article of manufacture, in a wrench, the combination with the handle 1 having an arc or cam shaped bifurcated head 2, a shank 4 eccentrically pivoted to the members of the said head, a stationary jaw 5 secured to the said shank 4 and a movable jaw 6 mounted to slide on the said shank 4, a spiral spring 10 arranged between the members of the said head and connecting the lower end of the said shank to the lower end of the said head, essentially as set forth and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH MÖHLIG.

Witnesses:

WILLIAM J. SCHEEPERS,
MARIA MÖHLIG.