

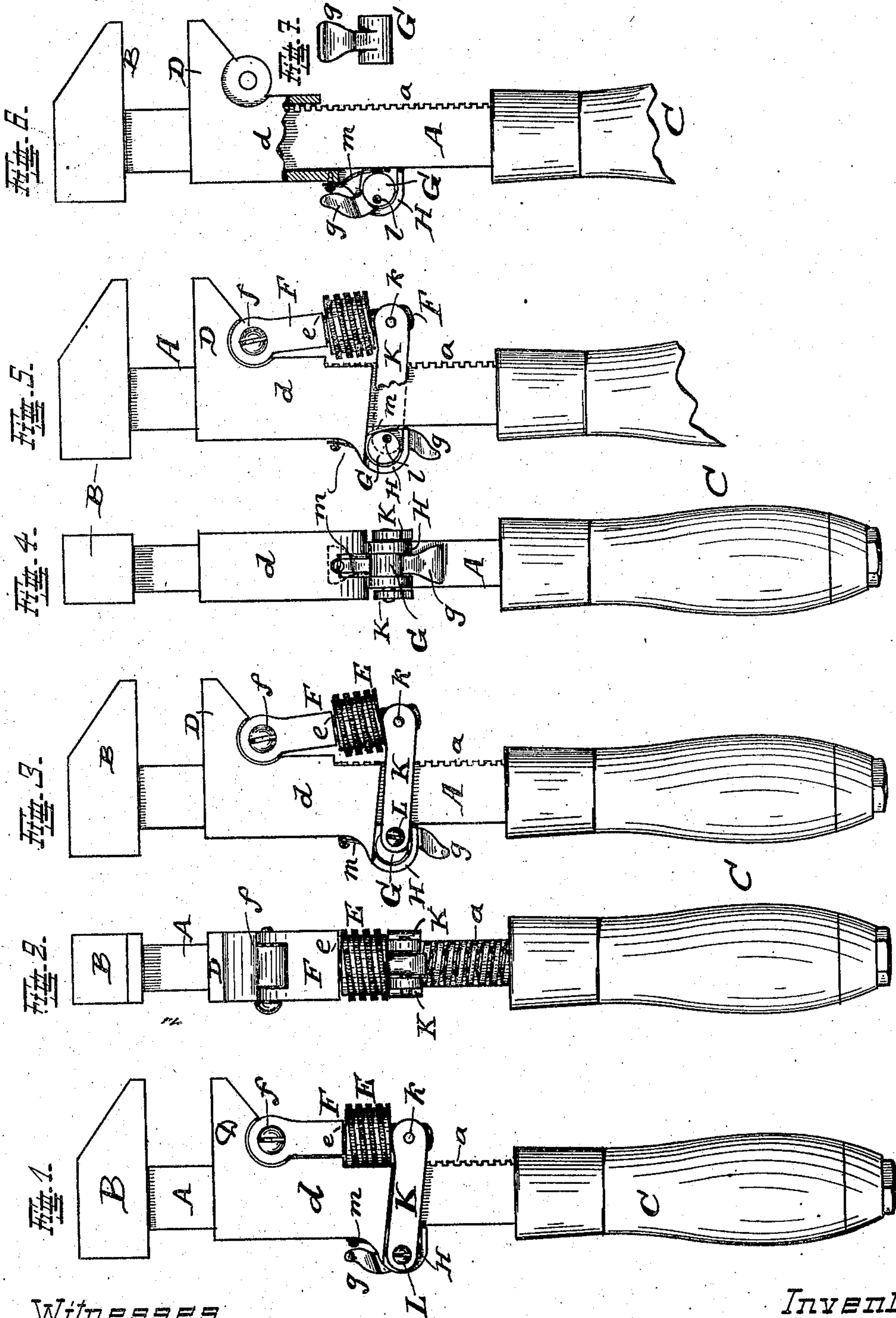
J. H. WOODARD.

WRENCH.

APPLICATION FILED JULY 18, 1908.

Patented Oct. 6, 1908.

900,460.



Witnesses.

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UNITED STATES PATENT OFFICE.

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WRENCH.

No. 900,460.

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To all whom it may concern:

Be it known that I, JAMES H. WOODARD, a citizen of the United States, and residing at Dayton, Campbell county, State of Kentucky, have invented certain new and useful Improvements in Wrenches; and I do declare the following to be a clear, full, and exact description of the invention, attention being called to the accompanying drawing, with the reference characters marked thereon, which forms also a part of this specification.

This invention relates to certain improvements in the construction of quick-acting wrenches of the kind whereby the adjustable jaw is first moved into position by a sliding movement, after which it is closely adjusted to the object to be gripped in the usual manner by a screw-movement.

The invention consists of the particular construction as hereinafter described and claimed and as illustrated in the accompanying drawing, in which:—

Figure 1, shows the wrench in side-view ready for use. Fig. 2, is a front-view of it, showing that side where the object to be gripped enters the space between the jaws. Fig. 3, in a view similar to Fig. 1, shows the tool in a condition in which the adjustable jaw may be set to position with a sliding movement. Fig. 4, is a rear view of the tool adjusted as it appears in Fig. 3. Fig. 5, in a view similar to Fig. 3, shows it with parts broken away. Fig. 6, shows the tool from the same side partly in section and with parts removed. Fig. 7, in a detail-view shows one of the manipulating parts.

In the drawing, A is the four-sided shank provided at one end with the stationary jaw B and inserted with its other end into a handle C. Part of one side of this shank, hereafter referred to as the front side, is provided with a rack *a* pitched to form part of a screw thread.

D is the adjustable jaw slidably mounted upon shank A by means of a sleeve *d*, which forms an extended part of said jaw and is fitted to the shank and around the four sides of the same. An externally threaded nut E is provided on this jaw in a manner to permit its rotation, and fitted to rack *a* on the shank so that when rotated, jaw D may be adjusted to or from jaw B, and with reference to an object between them.

To permit jaw D to be moved through

the range of its possible adjustment quicker than can be done with the screw-movement, I provide also a sliding movement for it, independent of the screw-movement. At that time nut E, is disengaged from rack *a*, as shown in Figs. 3 and 5, so that jaw D may be quickly moved on shank A and set against the object to be gripped. Thereafter nut E, having been brought again into reengagement with the rack, is used to complete the adjustment to grip the object. To permit this adjustment of nut E with reference to rack *a*, the former is mounted upon a pin F, which at *f*, is hingedly connected to the underside of movable jaw D, and in a manner to permit it to swing towards or from the front side of shank A, and with nut E thereon into or out of engagement with rack *a*. For the purpose of adjusting nut E in this manner, I provide a cylindrical member G, which has a function akin to that of a rock-shaft and is called hereafter a rocker. This member is mounted so as to move with sleeve *d*, it being for such purpose confined between a semi-circular extension H, on the lower end of sleeve *d* and the rear side of shank A, said extension forming a bearing in which this rocker may be oscillated and which bearing is closed by the rear side of the shank.

Extension H, is slotted as best shown in Figs. 4 and 6, to clear a thumbpiece *g*, which projects laterally from the rocker and rearwardly from the tool and serves for manipulation of the rocker. Links K are provided to connect the lower free end of pin F with this rocker, there being a link connected to each end of this latter, one on each side of pin F and with shank A between them. The connection in each case and at each end of the links is a jointed one, a pin *k* being used to connect one end of both pins to the end of pin F. Pins or screws L are used, one on each of the other ends of these links, to connect them to rocker G. Holes *l* are provided to receive these screws L, one in each end of rocker G, where they are eccentrically located with reference to the axis about which rocker G is oscillated, as best shown in Figs. 5 and 6.

Since nut E occupies two extreme positions with reference to rack *a*, that is, it is either in or out of engagement with it, rocker G and its handle, thumbpiece *g*, occupy likewise two extreme positions. When handle *g*, is turned down on the back of the

shank, as shown in Figs. 3, 4 and 5, rocker G is turned so in its bearing H that holes *l* in its ends are closest to the shank which causes links K to push pin F away from the shank and nut E out of engagement with rack *a*. The adjustable jaw may now be freely and quickly moved on the shank to suit the size of the object to be gripped. When handle *g* is turned up on shank A, as shown in Figs. 1 and 6, the turning of rocker G causes holes *l* to move away from shank A, as shown in these figures, whereafter links K draw nut E into reengagement with rack *a*. Jaw D is now held to the shank by the screw-connection and subject to adjustment by it. To hold rocker G in either of its two positions, a friction spring *m* is provided, adapted to act upon said rocker and arranged to move with sleeve *d*.

Nut E is longitudinally confined on pin F at its lower end by the ends of links K below it and at its upper end by a shoulder *e* due to the enlargement of the upper portion of said pin. The peripheral edges of this nut are serrated, grooved or knurled to facilitate its manipulation.

Having described my invention, I claim as new.

1. In a quick-acting wrench, the combination of a shank provided with a rack on its front-side and with a stationary jaw at one of its ends, a movable jaw provided with a sleeve fitted to the shank, a pin jointed at one of its ends to the underside of this jaw, a nut mounted thereon so as to be opposite the rack on the front side of the shank, a cylindrical rocker, a bearing in which it is oscillatably supported and whereby it is carried so as to move with the adjustable jaw,

and links jointed at one of their ends to the free end of the pin mentioned and at their other ends to each end of the rocker, the connection to this latter being eccentrically with reference to the axis of its oscillation and whereby such actuation causes the nut to either engage or to leave the rack mentioned.

2. In a quick-acting wrench, the combination of a shank provided with a rack on its front side and with a stationary jaw at one of its ends, a movable jaw provided with a sleeve fitted to the shank and extended downwardly to form a semi-cylindrical bearing the open side of which is opposite the rack of the shank and closed thereby, said bearing being provided with an outwardly open slot, a cylindrical rocker fitted to this bearing and confined between it and the back of the shank, there being a laterally extended thumbpiece on the rocker which projects outwardly through the slot in the bearing and whereby the rocker may be oscillated, a pin jointed at one of its ends to the underside of the movable jaw, a nut rotatably mounted on it so as to be opposite the rack on the shank, and links jointed at one of their ends to the free end of this pin and at their other ends, one to each end of the rocker, the connection to this latter being eccentrically with reference to the axis of its oscillation.

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

JAMES H. WOODARD.

Witnesses:

C. SPENGEL,
T. LE BEAU.