H. M. KOLB & R. F. SEDGLEY.

RATCHET WRENCH.

APPLICATION FILED APR. 24, 1914.

1,140,167. Patented May 18, 1915.

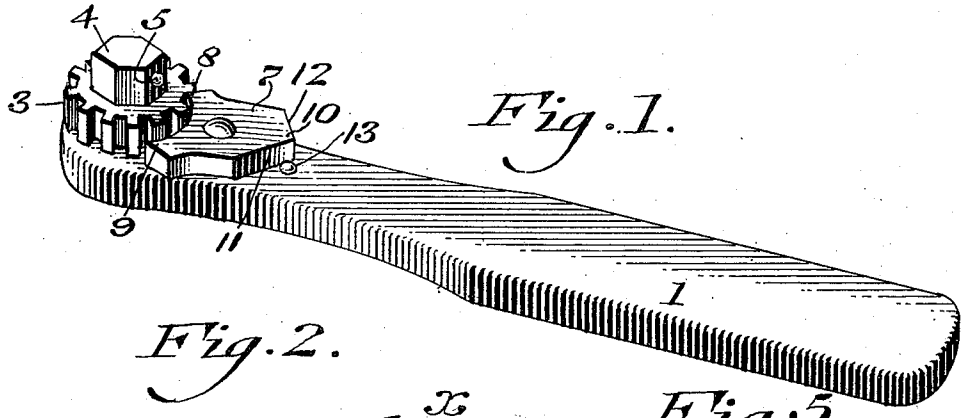


Fig. 1.

Fig. 2.

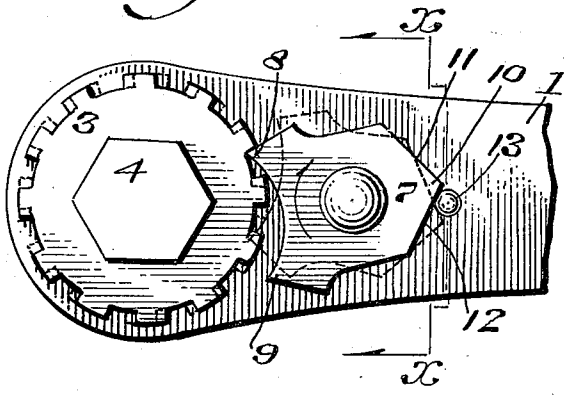


Fig. 5.

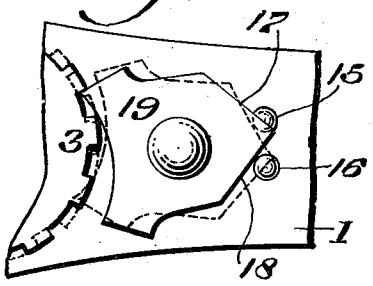


Fig. 3.

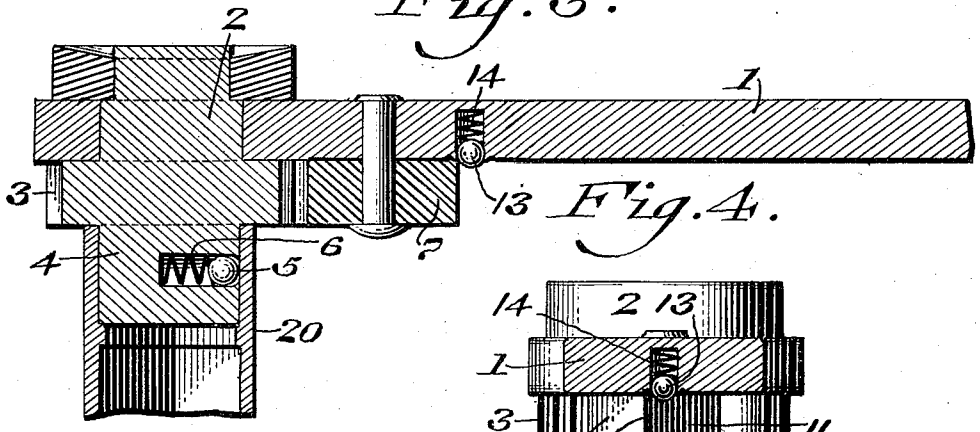


Fig. 4.

WITNESSES

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RATCHET-WRENCH.

1,140,167. Specification of Letters Patent. Patented May 18, 1915.

Application filed April 24, 1914. Serial No. 834,101.

To all whom it may concern:

Be it known that we, HENRY M. KOLB, a citizen of the United States, and REGINALD F. SEDGLEY, a subject of the King of Great Britain, both residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Ratchet-Wrench, of which the following is a specification.

Our invention relates to a new and useful combination socket and tool holder, having means for providing a reversible action, and novel means for holding the first mentioned part in its different positions to accomplish the desired results.

It further consists of a pawl and a yielding stop movable transversely of the plane of movement of the pawl for yieldingly holding said pawl in either of its operative positions.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

For the purpose of illustrating our invention, we have shown in the accompanying drawings, one form thereof which is at present preferred by us, since the same will give in practice, satisfactory and reliable results, although it is to be understood that the various instrumentalities of which our invention consists can be variously arranged and organized and that our invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a perspective view of a combination socket and tool holder embodying our invention. Fig. 2 represents a plan view of a portion thereof on an enlarged scale. Fig. 3 represents a vertical sectional view, showing a portion of a socket in position on the hub. Fig. 4 represents a sectional view on line x—x Fig. 2. Fig. 5 represents a plan view of a portion of the device, showing a slightly different form that may be employed.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings: 1 designates the handle, which may be of any suitable form, which is provided at one end with an opening, in which is rotatably seated, the holder or hub 2 for receiving the socket or tool, and which holder is held in suitable rotatable relation with respect to the handle, in any suitable or desired manner. The hub 2 is provided with a ratchet 3 and with an angled portion 4, for receiving the socket or tool. Suitably carried by said angled portion, is an engaging member 5, here shown as a ball having a spring 6 bearing thereagainst, said ball being suitably held against improper outward movement, as for example by upsetting the metal. As will be understood, the member 5 forms a frictional bearing against or in engagement with the tool or socket, when the latter is placed upon the holder, to prevent accidental displacement thereof, and by reason of the projection of the member 5, being curved, or having a crown, the socket or tool, when being placed upon the holder, automatically forces in the member 5 to permit the proper seating of the socket or tool on the angled portion 4, after which the ball bears against the inner wall and serves to hold the socket in position.

7 designates a pawl pivotally mounted on the handle, and provided with the two dogs 8 and 9, which are so positioned with respect to the ratchet that one or the other thereof may be moved to suitably engage with the teeth thereof. On the opposite side of the pivotal point of said pawl 7, from the dogs 8 and 9, is a tail 10, extending from each side of which are the oppositely oblique walls or abutments 11 and 12.

13 designates a stop carried by the handle and against which bears a spring 14, said stop being of the form of a ball or sphere a portion of which projects beyond the plane of the handle so as to be engaged by the inner face of said pawl, the metal of the handle being upset inwardly as shown most plainly in Figs. 3 and 4, so as to slightly overlap the surface of said stop at what may be termed the side of the projection portion thereof whereby said ball retains its position in the opening in the handle that it occupies and it is adapted to engage with one or the other of the said oblique walls or abutments 11 or 12, in order to hold the desired dog 8 or 9 in yielding engagement with the teeth of the ratchet 3. The stop is provided with a crown, which projects beyond the plane of the handle, and serves to hold the said pawl properly in position, but by reason of the crown, yields sufficiently when the pawl presses thereagainst, to permit play

enough to allow the dogs, then in operative position, to pass in and out of engagement with the teeth in the proper direction, and it will be further understood that by pressure of the operator on the pawl, the nose thereof is adapted to ride over the crown and depress the said stop to permit the movement of the pawl from one position to the other, and after the nose has passed the stop 13, the latter will automatically move to a position to engage and interlock with the proper oblique walls 11 and 12, depending upon the position of the pawl. From this it will be understood that we have provided a structure which is simple in operation, which is positive in its action, and which, by the simple movement of the pawl, accomplishes the desired results.

In Fig. 5, we have shown a structure similar to that already described, but we have shown the employment of two stops in place of the one stop 13, the operation being the same, however, as previously described, since one or the other of the stops 15 and 16 will be in engagement with one of the oblique walls 17 or 18, depending upon the position of the pawl 19, and the other stop, which is not in engagement or in operative position, will be held depressed by a portion of the pawl being seated over or above the same. In the drawings, we have shown the stop as formed of a ball, but any suitable means may be employed for accomplishing the desired result. In Fig. 3 we have shown a socket or tool holder 20 in position on the angled portion 4 of the hub 2, and with the ball 5 bearing against the inner wall.

It will now be apparent that we have devised a novel and useful socket and tool holder, which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while we have, in the present instance, shown and described a preferred embodiment thereof which will give in practice, satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars, without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. A device of the character stated, comprising a handle, a hub journaled in the end of said handle and having a ratchet-wheel upon it, a pawl pivoted upon said handle and having two dogs at one end adapted to alternately engage the ratchet and having oblique edges at the other end, and a stop yieldingly supported in the side of the handle and having its outer face rounded and projecting beyond the plane of said handle and being adapted to engage either of said edges and to be depressed to allow the pawl to pass over it in shifting such pawl, said stop movable transversely of said handle and laterally of said pawl and adapted to engage the inner face of the pawl, whereby, when said pawl is so positioned, the said stop will hold said pawl by its engagement with the inner face thereof, with both dogs in inoperative position.

2. A device of the character stated comprising a handle, a ratchet wheel thereon, a pawl pivoted upon said handle and having two dogs on the head thereof adapted alternately to engage the teeth of said ratchet, and a tail formed with oppositely oblique abutments, and a ball adapted to occupy an opening in said handle and having its outer face projecting partly beyond the plane of said handle, limited by an overlapping portion of the latter on the wall of said opening, and a resilient device in said opening on which said ball is yieldingly seated to force said ball outwardly against said overlapping portion to engage either of said abutments of the tail of the pawl to lock the same and to yield to allow said tail to pass over the same.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."