C. M. LARSON.

WRENCH.

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903,205.

Patented Nov. 10, 1908.

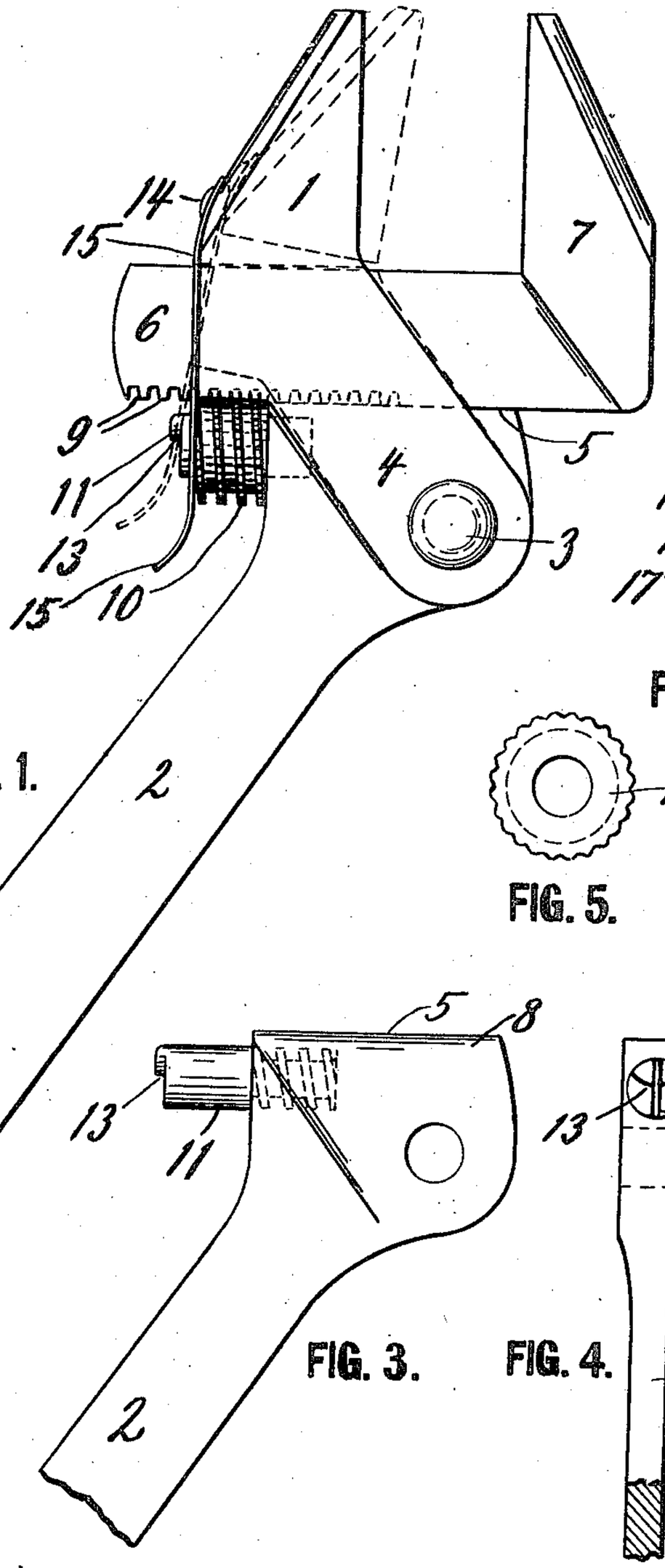

FIG. 1.

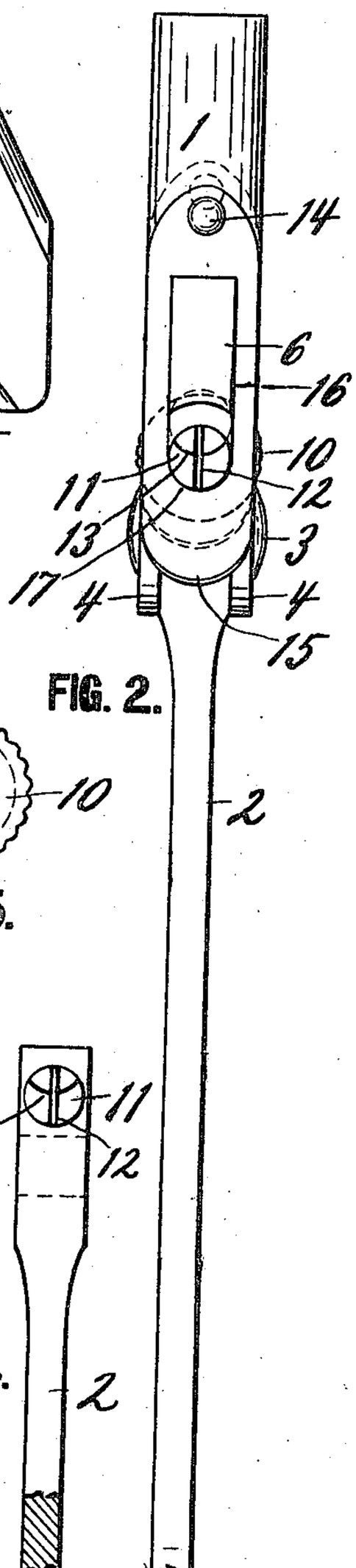

FIG. 2.

FIG. 5.

FIG. 3.

FIG. 4.

WITNESSES:

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WRENCH.

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To all whom it may concern:

Be it known that I, CARL M. LARSON, a subject of the King of Denmark, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented a new and useful Wrench, of which the following is a specification.

My invention relates to wrenches for turning nuts and bolts; and the object is to provide an efficient, durable and inexpensive, quickly adjustable wrench.

In the accompanying drawings Figure 1 is a side view of my improved wrench. Fig. 2 is a left hand edge view of Fig. 1. Fig. 3 is a side view of the front portion of the handle. Fig. 4 is a left hand edge view of Fig. 3. Fig. 5 is an end view of the hollow worm screw by which the movable jaw is adjusted.

Referring to the drawing by reference numerals, 1 designates what may be termed the fixed jaw, although it is only secured to the handle 2 by a pivot 3. Between the flat arms 4 of the jaw 1, and adjacent to the abutting face 5 of the handle slides the shank 6 of a movable jaw 7. The rear edge of the shank 6 is grooved to guide on the diagonal and rounded edge 8 of the handle and is for some distance provided with threads 9 in which engages a hollow worm screw 10, revolving on a stud 11 which is secured in one edge of the handle and may have a slit 12 in its end for the application of a screw driver in securing the stud in the handle.

Near the outer end of the stud is formed a notch or cut-away 13; and to the jaw 1 is secured at 14 a flat spring arm 15 having a clearing slot 16 for the shank 6 to move through. The terminal 17 of said slot normally engages the stud 11 and thereby holds the worm screw in operative engagement with the rack 9. But when it is desired to move the jaw 7 quickly to or from the jaw 1, the operator presses the free end of the spring arm to the position shown in dotted line in Fig. 1 so that the terminal 17 of the slot will be in line with the reduction or notch 13 of the stud. This allows the handle and stud to swing at once on the pivot 3 and disengage the worm screw from the rack. After the rack is slid to the desired position, the handle and stud are simply swung toward the rack and the spring arm will of its own accord spring into normal position upon the stud and thus hold the screw and rack in meshing contact for finer adjustment of the jaws.

Having thus described my invention, what I claim is:—

1. In a wrench, the combination with a handle having a straight bearing edge near its front end, of a jaw having two flat arms pivoted one at each side of the front part of the handle, an adjustable jaw facing the first mentioned jaw and having a shank formed with rack teeth and slidingly inserted between the arms of the first jaw and guided also between the terminal of the gap between the arms and the bearing face near the end of the handle, a stud on the handle adjacent the rack, a hollow worm screw revolving on the stud and normally engaging the rack, said stud having near its end a reduced portion forming a clearing, a spring arm secured to the pivoted jaw and having a slot for the rack and the stud, the terminal of the slot near the free end of the arm serving to engage over the stud and hold the worm screw in engagement with the rack, and the clearing near the end of the stud serving to permit disengagement of the screw and the rack when the spring arm is brought into line with said clearing.

2. In a wrench, the combination with a handle having a straight bearing edge near its front end, of a jaw having two flat arms pivoted one at each side of the front part of the handle, an adjustable jaw facing the first mentioned jaw and having a shank formed with rack teeth and slidingly inserted between the arms of the first jaw and guided also between the terminal of the gap between the arms and the bearing face near the end of the handle, a stud on the handle adjacent the rack, a hollow worm screw revolving on the stud and normally engaging the rack, said stud having near its end a reduced portion forming a clearing, a spring arm secured to the pivoted jaw and having a slot for the rack and the stud, the terminal of the slot near the free end of the arm serving to engage over the stud and hold the worm screw in engagement with the rack, and the clearing near the

end of the stud serving to permit disengagement of the screw and the rack when the spring arm is brought into line with said clearing, said shank on the adjustable jaw being grooved all along the edge having the rack, and the adjacent face of the handle being made to fit in said groove.

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

CARL M. LARSON.

Witnesses:
N. A. WENDELBOE,
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