U. G. ARGETSINGER.

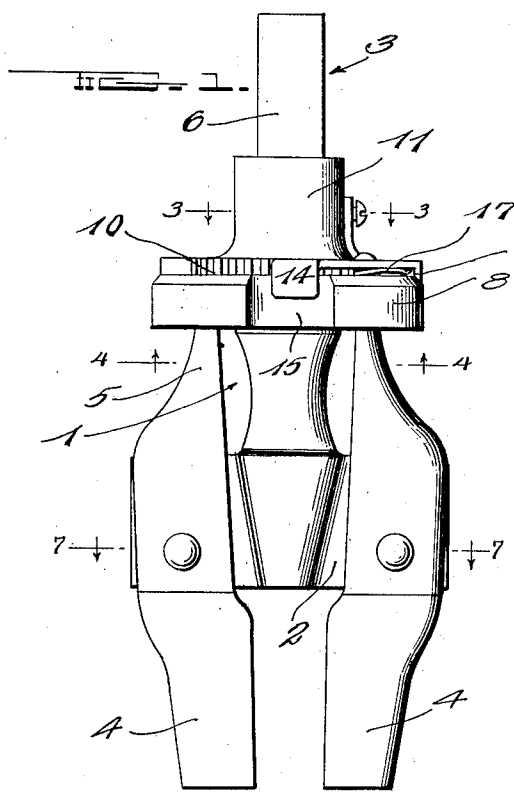
ADJUSTABLE SOCKET WRENCH.

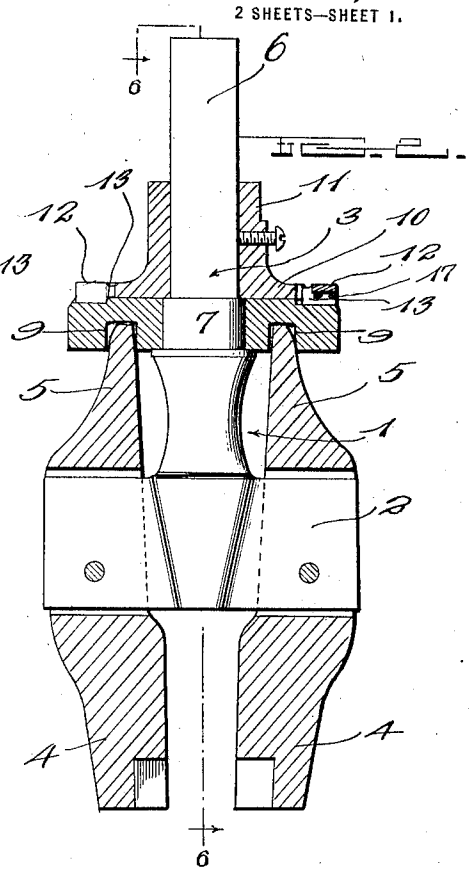
APPLICATION FILED MAR. 15, 1920.

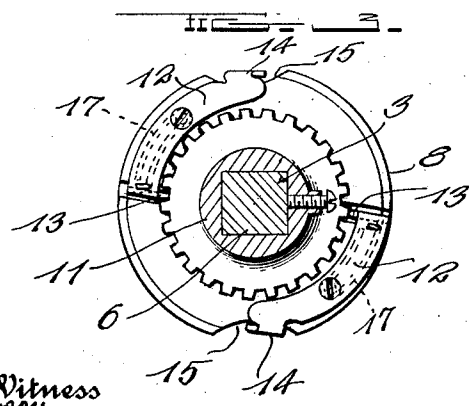
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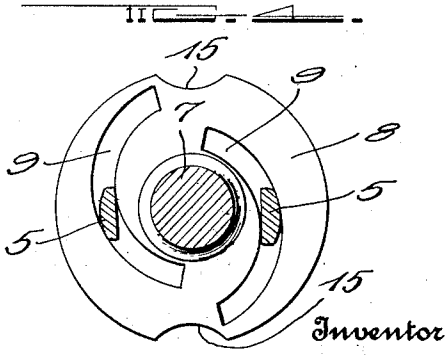
Patented Nov. 9, 1920.

2 SHEETS—SHEET 1.









Witness
R. M. Hoge

Inventor
U. G. Argetsinger

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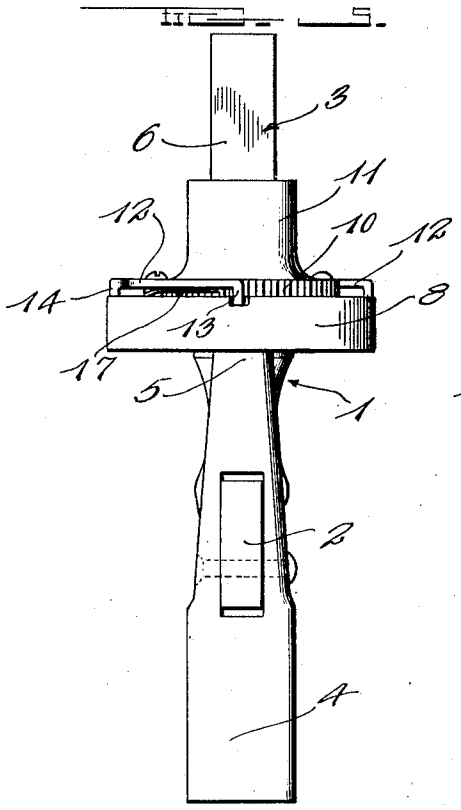
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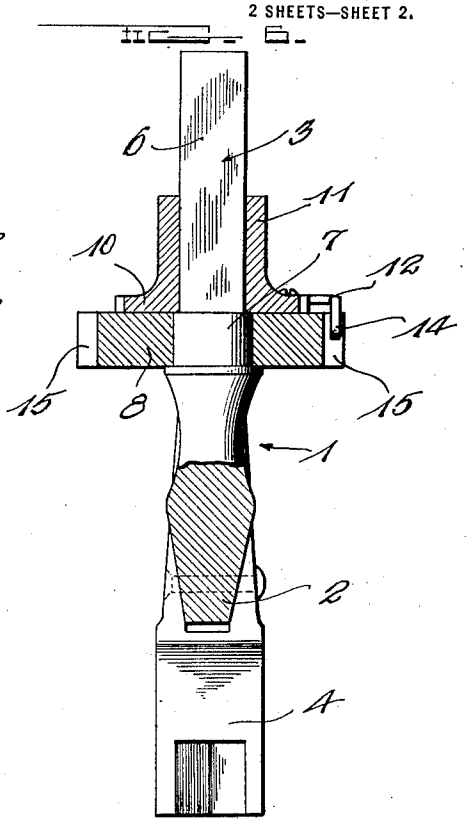
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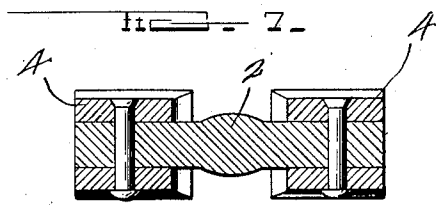
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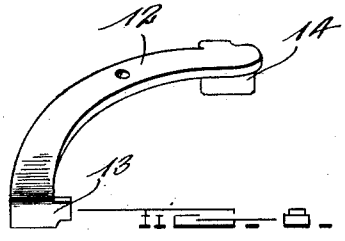
Patented Nov. 9, 1920.

2 SHEETS—SHEET 2.









Inventor

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Witnesses

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UNITED STATES PATENT OFFICE.

ULYSSES G. ARGETSINGER, OF MAPLETON, MINNESOTA.

ADJUSTABLE SOCKET-WRENCH.

1,357,935. Specification of Letters Patent. Patented Nov. 9, 1920.

Application filed March 15, 1920. Serial No. 365,889.

To all whom it may concern:

Be it known that I, ULYSSES G. ARGETSINGER, a citizen of the United States, residing at Mapleton, in the county of Blue Earth and State of Minnesota, have invented certain new and useful Improvements in Adjustable Socket-Wrenches; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved adjustable socket wrench, which is especially adapted for use by automobile repair men. It is necessary when tightening up the nuts which hold the parts of the machine together, for the mechanic or other person carrying out such work, to use a number of various sizes of socket wrenches for fitting the nuts and bolts which are of various sizes. These wrenches are oftentimes misplaced and lost, consequently, it is necessary to purchase new ones to replace them, which is of course an unnecessary expense. Then again, a great deal of time is lost in selecting the proper wrench to fit certain nuts or bolt-heads. As a whole, the above custom is exceedingly expensive and is inconvenient to the mechanic or other person doing such work.

It is therefore my intention and the object of this invention to overcome the above mentioned objectionable custom by providing an adjustable socket wrench which will take the place of the endless members of socket wrenches now in use. My wrench has a range of adjustment that will enable it to be fitted on nuts of many sizes, within a reasonable limit. In fact, the range of adjustment is such that it will fit practically all sizes of nuts employed on automobiles at the present time which vary slightly in size from each other. I am aware that adjustable socket wrenches are not broadly new, and I do not claim my device broadly, but as it is of new construction and has an exceedingly fine adjustment, I believe it is more advantageous and novel than many similar wrenches in use at the present time.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same:

Figure 1 is an elevation of a wrench constructed in accordance with my invention.

Fig. 2 is a sectional view partly in elevation.

Fig. 3 is a view taken on the line 3—3 of Fig. 1, looking in the direction of the arrows.

Fig. 4 is a section taken on the plane of the line 4—4 of Fig. 1.

Fig. 5 is a side elevation.

Fig. 6 is a vertical sectional view, partly in elevation, taken on the line 6—6 of Fig. 2.

Fig. 7 is a view taken on the line 7—7 of Fig. 1.

Fig. 8 is a detail perspective view of one of the pawls.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 1 designates, as a whole, a T-shaped body member, which includes a head 2 and a stem 3. A pair of jaws 4 are pivoted between their ends to the head 2, and the portions 5 thereof extend in a direction toward the stem 3. This stem 3 includes a flat-faced portion 6 and a cylindrical shouldered portion 7, on which a disk 8 is rotatably mounted. One of the faces of the disk 8 is provided with cam slots 9, into which the extremities of the portions 5 of the jaws are extended, and by means of which the opposite ends thereof are moved toward and from each other to fit nuts of various sizes. To prevent rotation of the disk 8 I employ ratchet mechanism which includes a disk 10, the periphery of which is provided with a plurality of teeth, the same bearing against the opposite face of the disk 8, and being retained in position by the hub 11. Inasmuch as the hub 11 and disk 10 are carried by the flat faced portion 6 of the stem 3, it will be seen that they will be caused to rotate when the stem is rotated. The ratchet mechanism further includes a pair of pawls 12 which are pivotally mounted upon the disk 8 at points opposite each other. Examination of these pawls, one of which is shown in Fig. 8, will disclose the fact that each of the pawls is provided with a portion 13 for engagement with the teeth of the disk 10, and is further provided with a lateral finger-piece

14 by means of which it is actuated. To permit the pawls to be operated freely by means of the finger-pieces 14, I provide the disk 8 with notches 15 in which the finger-pieces 14 are disposed. It is to be noted that the pawls 12 are so arranged that only one of them is operative at a time. In other words, when the part 13 of one of the pawls is between the teeth of the disk 10, the like part on the opposite pawl will be resting on one of the teeth and will be ineffective. This construction enables me to obtain a very fine adjustment and causes the pawls to be alternately active. In order to retain the pawls in engagement with the ratchet disk 10, I provide springs 17, the action of which is to force the effective end of the wall into engagement with the ratchet disk.

When it is desired to move the jaws 4 toward or from each other, this may be accomplished by rotation of the disk 8 which is normally locked, but which is permitted to rotate when the finger-pieces 14 are moved into the notches 15, which operation disengages the pawls from the ratchet disk. Such action of the jaws is caused by the cam grooves 9 which diverge spirally from the center of the disk 8 in one direction. It is obvious that rotation of the disk in one direction will move the jaws toward one another, while rotation in the opposite direction moves them away from each other. Only a slight rotation is necessary to obtain adjustment of the jaws, and no matter how slight the rotation is, either one or the other of the pawls 12 will move to position and lock the jaws against further movement. Particular emphasis is to be laid on the arrangement of these pawls, that is, the alternate engagement of the pawls with the ratchet disk, because this enables me to obtain a very fine adjustment of the jaws which is necessary in a great many instances.

A wrench constructed in accordance with my invention will be found extremely advantageous and useful, in that it will do away with the usual custom of employing a plurality of socket wrenches. No matter how slight the nuts vary in size, the jaws of my wrench may be adjusted to effectively engage them. The construction of the wrench is such that an ordinary brace may be used in connection with it to actuate the same.

While I have shown the nut engaging ends of the jaws of my wrench as being adapted for use with a hexagonal nut, I desire it to be understood that it may also be designed for use in connection with square nuts or nuts of any other design as may be necessary.

Careful consideration of the foregoing description taken in connection with the accompanying drawings will enable persons familiar with such devices to obtain a thorough understanding of the advantages and operation thereof. For this reason a more lengthy description is deemed unnecessary.

I claim:

1. An adjustable socket wrench comprising a T-shaped body member, a pair of jaws pivoted, one on each end of the head of the T, the jaws including portions which extend in the direction of the stem of the T, said stem including a flat faced portion and a cylindrical portion, the last named portion forming a journal, a disk rotatably mounted on the journal, the outer face of the disk being provided with cam slots with which the portions of the jaws adjacent the stem of the T coact, a ratchet disk carried by the stem and bearing on the inner face of the rotatable disk, and a pawl carried by the last named part, coöperating with the ratchet disk to prevent relative rotation of the first named disk and jaws.

2. An adjustable socket wrench comprising a body member including lateral arms, jaws pivoted on the arms, a rotary member on the body, coacting means between the rotary member and jaws for moving the latter toward and from each other, ratchet mechanism for preventing rotation of said rotary member, said mechanism including a disk having its periphery provided with teeth, and a pair of pawls mounted on said rotary member, being so arranged that they are alternately engageable with the disk to obtain an extremely fine adjustment of the jaw members.

3. An adjustable socket wrench comprising a T-shaped body member, a pair of jaws pivoted, one at each end of the head of the T, a part of each jaw extending beyond said head in the direction of the stem, said stem including a flat faced portion and a cylindrical shouldered portion, a disk rotatable on said cylindrical portion of the stem, being provided with notches at points opposite each other in its periphery, ratchet mechanism including a hub and a toothed disk fitted on the flat faced portion of said stem, the toothed disk bearing on the rotary disk, a pair of alternately active pawls on the last named disk, each having a lateral finger piece disposed in one of said notches, and a spring coacting with each pawl to move it to operative position.

In testimony whereof I have hereunto set my hand.

ULYSSES G. ARGETSINGER.