April 21, 1931. H. B. STRICKLING 1,801,697

POWER TOOL

Filed Oct. 18, 1926

Fig. 1.

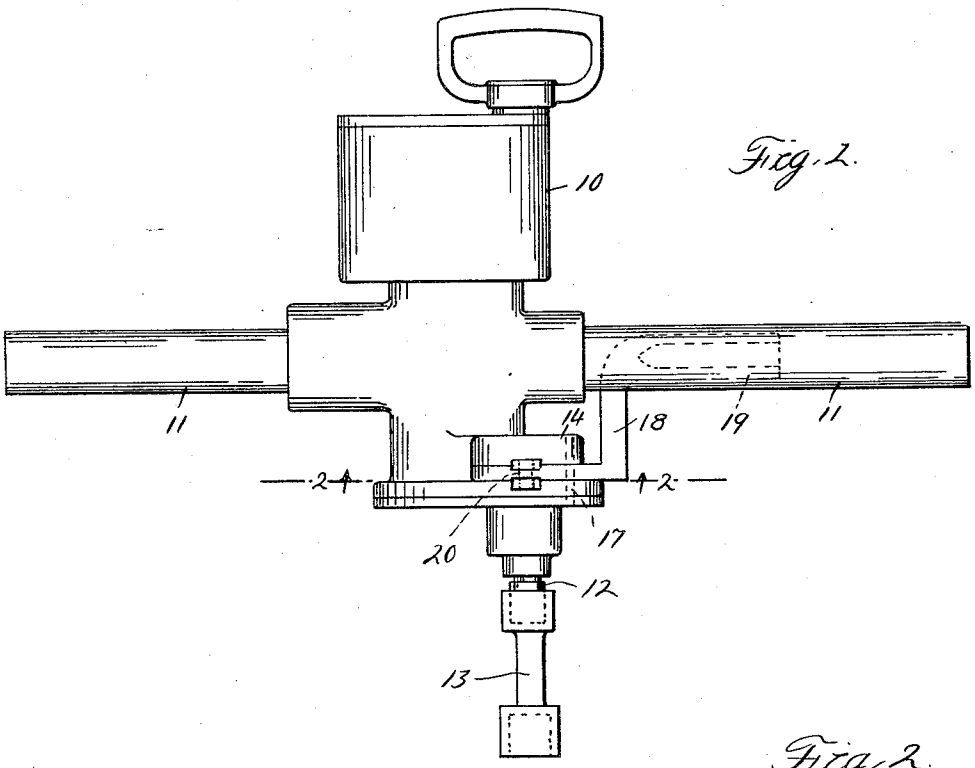
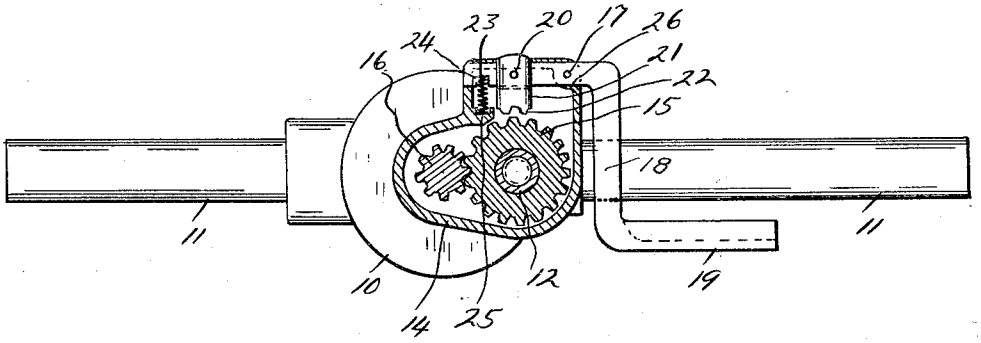


Fig. 2.



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UNITED STATES PATENT OFFICE

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POWER TOOL

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This invention relates to power tools and more particularly to power driven wrenches provided with means for locking the tool against rotation so as to facilitate the setting of the nut by hand.

It is now the practice, for instance in the assembling plants of automobile factories, to employ power wrenches for applying the nuts to the several bolts employed, and at present the power tool is removed after rotation of the nut has ceased because of lack of power and the final setting of the nut is accomplished by means of a hand wrench. This necessitates the removal of the relatively heavy power wrench and the application of a hand wrench, by which latter tool the nut is finally tightened or set. Thus two operations, or the use of two tools, is necessary in the application of each nut which has been found to be uneconomical from the standpoint of time and efficiency. It might be possible to impart the final setting to the nut by the employment of a power wrench of sufficient capacity, but such a practice is inefficient because of the difficulty experienced in handling such heavier power tools.

It is therefore the primary object of this invention to provide a power wrench with means for locking or arresting the rotation of the tool or wrench element so that the power wrench may then be employed as a solid wrench, whereby the final setting of the nut may be accomplished by hand without necessitating removal of the power wrench and the using of a separate hand wrench.

The above object and other advantages and novel details of construction of this invention will be made more apparent as this description proceeds, especially where considered in connection with the accompanying drawing, wherein

Figure 1 is an elevational view of a conventional form of power tool with my invention incorporated therein; and

Figure 2 is a sectional elevational view taken substantially on the plane indicated by line 2—2 of Fig. 1.

Referring now particularly to the drawings, wherein like reference characters indicate like parts, it will be noted that there is illustrated a power tool 10, which obviously may be driven by electricity, compressed air, or any other suitable source of power. It will furthermore be obvious that the structural characteristics of the tool may differ from those generally indicated in the drawing without in any way affecting or departing from the herein described invention. The power tool herein illustrated includes as parts thereof a pair of handle members 11 extending from opposite sides thereof and also a power driven shank 12 to which the tool or work performing element 13, here shown as a socket wrench, is adapted to be attached. The shank 12 extends up into the housing 14 and has fixed thereto a driven gear 15 provided with a driving gear 16 connected to the motor shaft of the tool.

Pivotally mounted as at 17 is a handle 18, which is provided with a grip portion 19 arranged in substantial parallel relation and adjacent to one of the handles 11. Pivotally connected as at 20 to the handle 18 is a dog or latch 21, this element being provided with teeth or projections 22 adapted for engagement with the teeth of gear 15. A spring 23 engages on the one hand in a pocket or recess 24 formed in the end of the handle member and with its other end in a recess or pocket 25 formed in a projection of the housing or casing 14. The tendency of the spring 23 is to rotate the handle in a direction to move the dog 21 from engagement with the gear 15, this movement of the handle being conveniently arrested, in the form of the invention herein illustrated, by engagement with a bearing surface formed by the edge 26 of the slot in the casing 14 through which the handle member 18 extends.

The operation of the device will, no doubt, be readily apparent. The wrench or work performing element 13 is engaged with the nut and the power wrench operated in the customary manner to screw the nut into place. As is now the practice, the power will be left on until rotation of the nut ceases, because of lack of power on the part of the motor. Thereafter the power is cut off and the operator moves his hand to grasp the grip portion 19 of handle member 18 to draw the same

toward the adjacent handle 11, to thus oscillate the handle member about its pivot 17. This causes the dog 21 to engage with the teeth of gear 15 to thus lock shank 12, and consequently the socket wrench 13, against rotation. Then by manually applying power to the handle members 11 of the wrench, the nut may be finally set manually without removing the power wrench from engagement with the nut. When the handle portion 19 is released, the spring 23 will return the parts to the normal position illustrated in the drawing, wherein dog 21 is out of engagement with gear 15 and the tool may be again employed as a power wrench.

In addition to the changes which obviously may be made, as pointed out hereinbefore, it will furthermore be apparent that the work performing element can be locked against independent rotation in any one of a number of ways other than by dogging the driven gear 15. As a consequence, it should be understood that these other modifications are contemplated in the present invention and reservation is made to make such changes in the essential and all of the non-essential details of the invention as may come within the purview of the accompanying claims.

What I claim as my invention is:

1. In combination, a power driven tool including a work performing tool member, gearing for rotating the said member, a manually controlled dog engageable with said gearing for preventing rotation of the tool, a lever for actuating said dog and a casing for said gearing limiting movement of said lever.

2. The combination with a power driven tool including a rotatable tool member, a driving gear therefor and a casing for said gear, of locking means for said tool comprising a pivotally mounted handle, a dog connected to said handle between the ends thereof and a spring engaging the free end of said handle and the said casing for urging said dog out of engagement with said gear, said handle being movable against the tension of said spring to cause said dog to engage said gear to lock said tool against rotation and a bearing surface on said casing engageable by said handle for limiting movement of said handle by said spring.

In testimony whereof I affix my signature.

HALBERT B. STRICKLING.