No. 712,574. Patented Nov. 4, 1902.

L. A. McLAURIN.

WRENCH.

(Application filed Sept. 2, 1902.)

(No Model.)

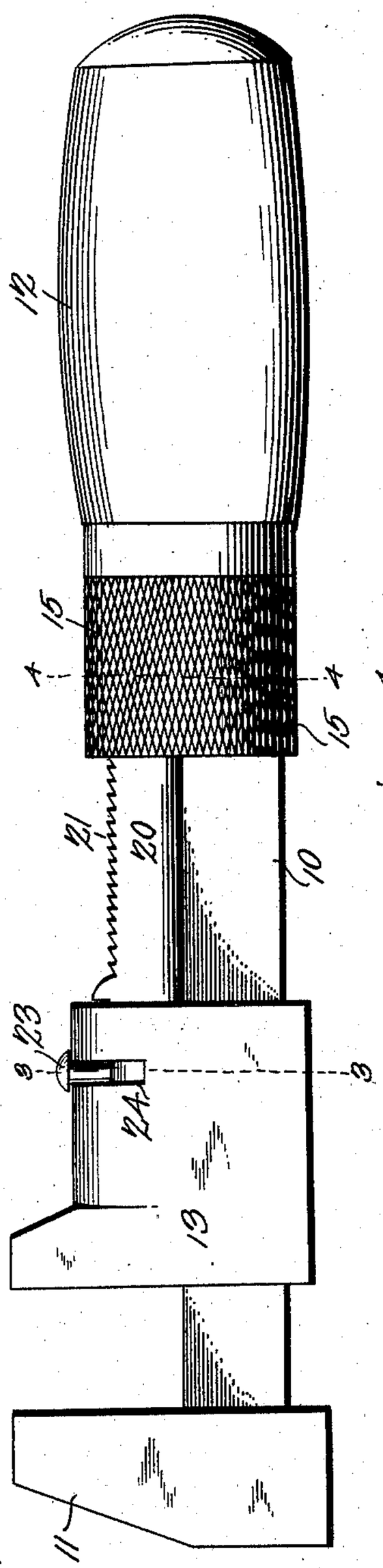

Fig. 1.

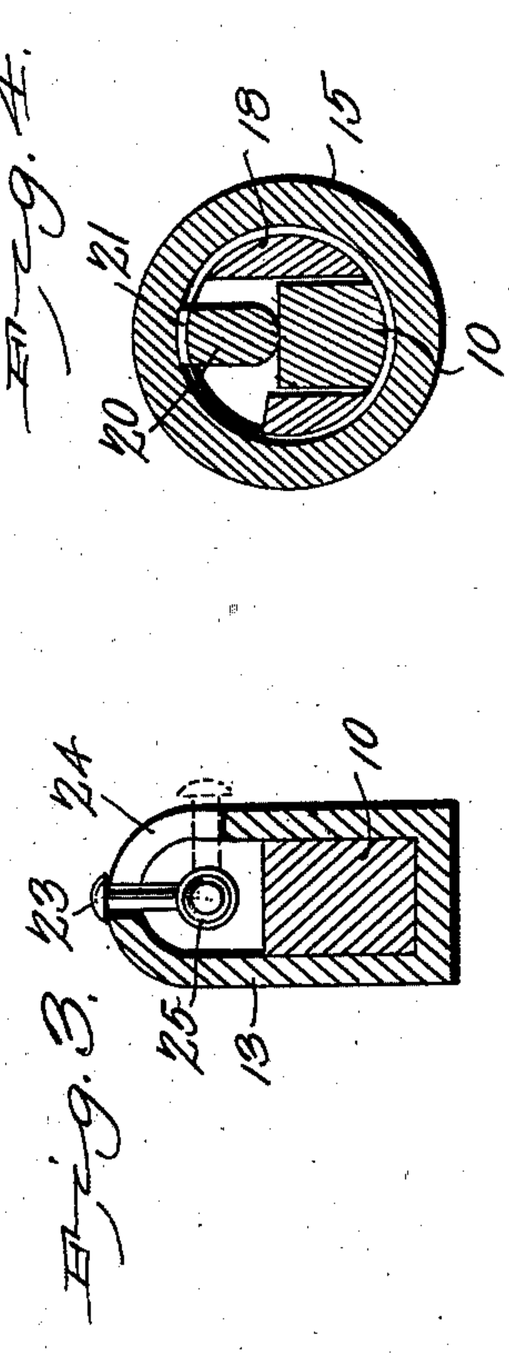

Fig. 3.

Fig. 4.

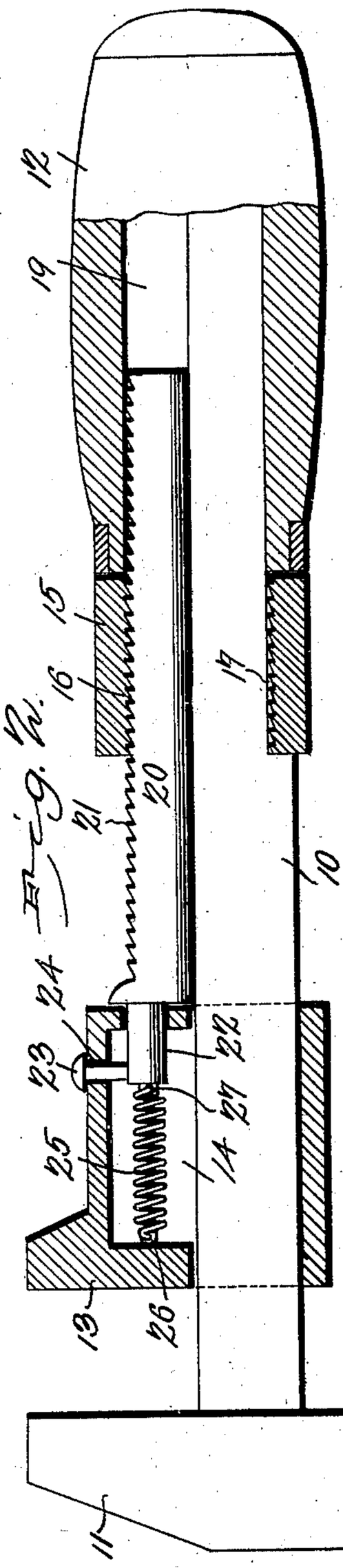

Fig. 2.

Witnesses,
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UNITED STATES PATENT OFFICE.

LAUGHLIN A. McLAURIN, OF RAEFORD, NORTH CAROLINA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 712,574, dated November 4, 1902.

Application filed September 2, 1902. Serial No. 121,898. (No model.)

To all whom it may concern:

Be it known that I, LAUGHLIN A. McLAURIN, a citizen of the United States, residing at Raeford, in the county of Cumberland and State of North Carolina, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to wrenches, more particularly to the class known as "quick-action" wrenches, and has for its object the production of a simply-constructed wrench capable of being operated both as a quick-action and as a screw wrench; and the invention consists in certain novel features of construction, as hereinafter shown and described, and specified in the claims.

In the drawings illustrative of the invention, Figure 1 is a side elevation of a wrench embodying the improvements. Fig. 2 is a longitudinal sectional elevation of the same. Fig. 3 is a transverse section on the line III III of Fig. 1. Figs. 4 and 5 are transverse sections on the line IV IV of Fig. 1, illustrating the two positions of the lock-bar.

The improved wrench consists in a shank or stock 10, having the fixed jaw 11 upon one end and the handle 12 upon the other end.

The movable jaw is represented at 13 slidably disposed upon the stock 10 and having an internal cavity 14, as shown in Fig. 2.

Rotatively engaging the stock 10, adjacent to the handle member 12, is a collar 15, having an internal screw-thread 16. The collar 15 is disposed rotatively upon the stock and prevented from longitudinal movement thereon, as by a recess 17 in the stock and by longitudinal projections 18 upon the handle member 12, the projections 18 extending forward of the handle member and alongside of the stock 10, as indicated in Figs. 4 and 5, but do not project over the upper surface of the stock.

Within the handle member above the stock 10 a longitudinal cavity 19 is formed, and longitudinally movable within this cavity is a bar 20, extended on one side and provided with a screw-thread 21 upon the extended side and adapted to engage the thread 16 within the collar 15 when the bar 20 is in its operative position, as shown in Figs. 1, 2, and 4, but will be disengaged from the collar when turned down or out of action, as shown in Fig. 5.

The threads 16 21 upon the two parts 15 20 are preferably formed inclined upon one side and straight upon the other side, as shown, to exert a strong resistance against longitudinal movement when connected, as indicated in Fig. 2.

While the form of thread shown is the preferable one, I do not wish to be limited thereto, as any other form of thread might be employed without departing from the principle of the invention.

The bar 20 is rotatively supported, as by a stud 22, in the movable jaw 13 and provided within the jaw with a stud 23, projecting outward through a transverse slot 24 in the upper part of the jaw 13, as shown in Figs. 1, 2, and 3. By this simple means it will be readily understood that the bar 20 may be actuated by simply moving the pin laterally in its aperture 24, as indicated by dotted lines in Fig. 3. It will thus be obvious by this construction that the bar 20 is in its operative position, as shown in Figs. 1, 2, 3, and 4, and the pin 23 likewise in its operative position. It will also be obvious that if the pin 23 be turned down, as in dotted lines in Fig. 3, the bar 20 will be likewise turned down, as shown in Fig. 5, and thus disconnect its threads 21 from the threads 16 in the collar, leaving the jaw member 13 free to be moved longitudinally of the stock 10 to any desired extent and without interference from the collar 15. When thus moved longitudinally, the bar 20 will slide within the aperture 19 in the handle 12. By this simple means the operator by simply pressing his thumb upon the pin 23 and turning it downward in the slot 24 can instantly disengage the bar 20 and adjust the movable jaw 13 quickly to any desired extent, and when thus adjusted the return of the pin to its former position will reëngage the jaw with the collar. When thus engaged with the collar, the rotation of the latter will move the bar 20 longitudinally of the stock and adjust the jaws 11 13 relatively in the same manner as an ordinary screw-wrench, so that in this implement is combined all the

advantages of the ordinary screw-wrench and of a quick-action wrench, as will be obvious.

Some means will be employed for the purpose of maintaining the lock-bar 20 normally in operative position, and such a means is shown in Fig. 2, consisting in a coiled spring 25, connected by one end at 26 to the jaw 13 and by the other end at 27 to the stud 22 of the lock-bar 20 and adapted to exert its force to yieldably maintain the lock-bar normally in operative position, as will be obvious. By this simple means when the operator releases the pin 23 the bar will at once be returned to its operative position and be thus maintained during the operation of the wrench and while being adjusted by the rotation of the collar 15, or, in other words, while the wrench is being employed as a screw-wrench.

The spring 25 will be formed of sufficient strength to resist any tendency of accidental displacement of the bar 20 while in use, but which will yield by pressure exerted upon the pin 23.

The pin 23, it will be noted, is shielded by the surrounding material of the jaw 13, and the aperture 24 and the pin 23 are located in a position where they will be least liable to be interfered with while the wrench is in use, so that the chances for accidental displacement of the bar 20 are very remote.

The parts may be constructed of any desired size and strength and of any desired relative proportions and of any desired material. The collar 15 will preferably be milled or otherwise roughened exteriorly to assist the grip of the operator when rotating it.

The handle member 12 may be of any required material, either wood or metal, or partially of each.

The parts may be modified and changed in minor particulars without departing from the principle of the invention or sacrificing any of its advantages.

Having thus described the invention, what is claimed is—

1. In a wrench, the combination of a stock having a fixed jaw, a movable jaw slidably disposed upon said stock, an internally-threaded collar rotatively engaging said stock, and a lock-bar threaded upon one side and engaging said collar and movably connected to said movable jaw, whereby when said lock-bar is in one position, said movable jaw will be operative by the rotation of said collar, and released when said lock-bar is actuated, substantially as described.

2. In a wrench, the combination of a stock having a fixed jaw on one end and a handle member upon the other end, a movable jaw slidably disposed upon said stock, an internally-threaded collar rotatively engaging said stock, a lock-bar threaded upon one side and engaging said collar and movably connected to said movable jaw, and means operative within said movable jaw for actuating said lock-bar, substantially as described.

3. In a wrench, the combination of a stock having a fixed jaw, a movable jaw slidably disposed upon said stock and having a transverse aperture, an internally-threaded collar rotatively engaging said stock, a lock-bar threaded upon one side and engaging said threaded collar and rotatively engaging said movable jaw, and a pin extending from said lock-bar through said aperture whereby said lock-bar is actuated, substantially as described.

4. In a wrench, a stock having a fixed jaw, a hollow movable jaw slidably disposed upon said stock and having a transverse aperture, an internally-threaded collar rotatively engaging said stock, a lock-bar threaded upon one side and engaging said threaded collar and projecting into said hollow movable jaw, a pin extending from said lock-bar within said movable jaw and projecting through said aperture, and a spring within said jaw and connecting said lock-bar therewith, and exerting its force to maintain said lock-bar normally in operative position, substantially as described.

5. In a wrench, the combination of a stock having a fixed jaw, a movable jaw slidably disposed upon said stock, an internally-threaded collar rotatively engaging said stock, a lock-bar threaded upon one side and engaging said collar and movably connected to said movable jaw, means for actuating said lock-bar, and a spring disposed to exert its force constantly upon said lock-bar and yieldably supporting it normally in operative position, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LAUGHLIN A. McLAURIN.

Witnesses:

R. D. DICKSON,

GEO. A. GRAHAM.