No. 640,610. Patented Jan. 2, 1900.

C. E. WILLIAMS.

WRENCH.

(Application filed Oct. 9, 1899.)

(No Model.)

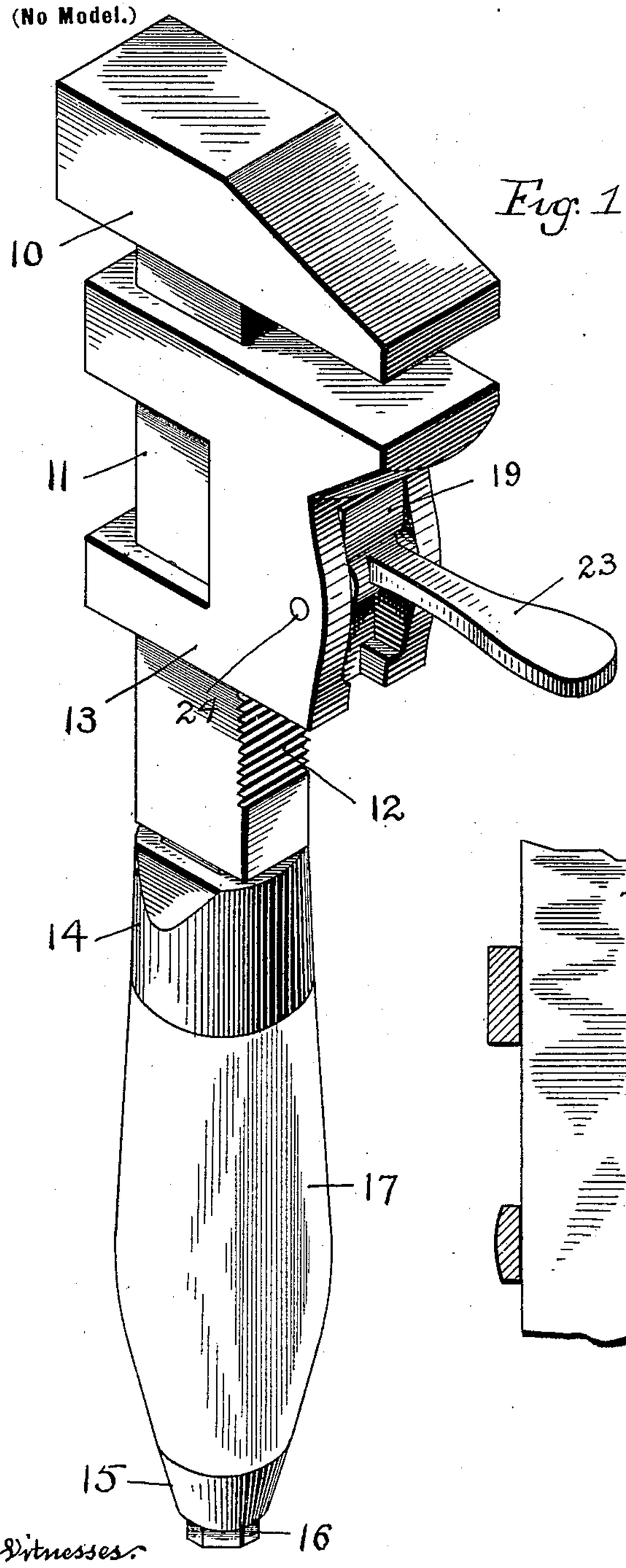

Fig. 1.

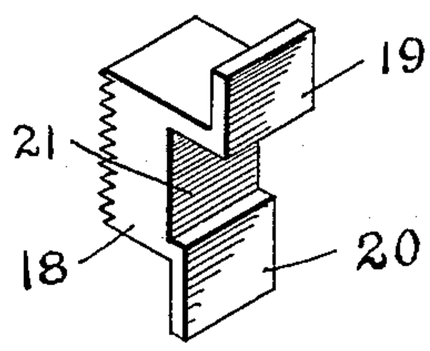

Fig. 2.

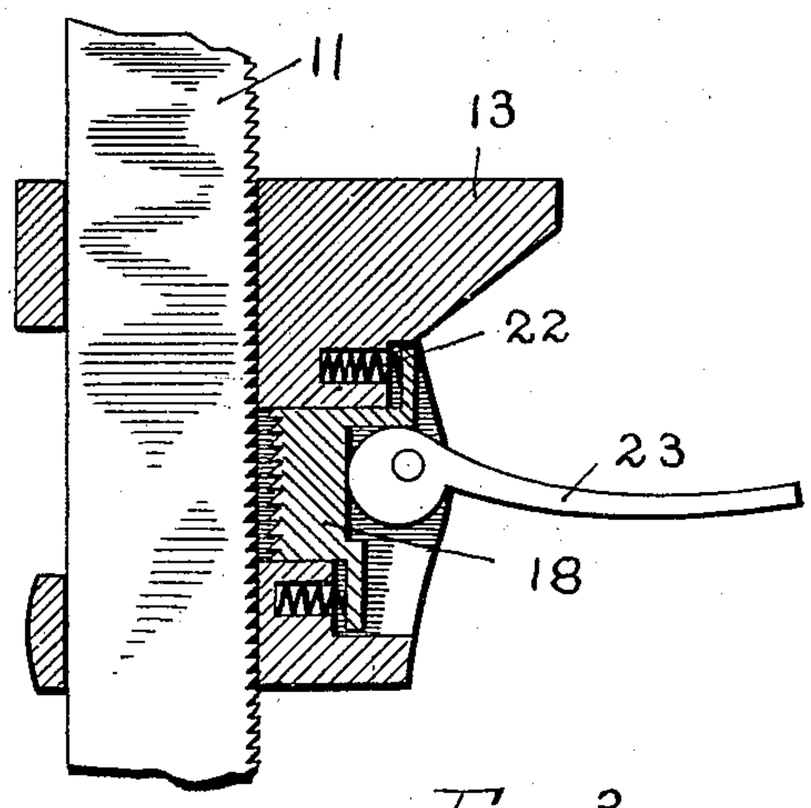

Fig. 3.

Witnesses:
Harry M. Rugg.
M. E. Regan.

Inventor.
C. E. Williams,
By Attorneys:
Southgate & Southgate

UNITED STATES PATENT OFFICE.

CLARENCE E. WILLIAMS, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO WALTER H. BRUCE, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 640,610, dated January 2, 1900.

Application filed October 9, 1899. Serial No. 733,009. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE E. WILLIAMS, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Wrench, of which the following is a specification.

The object of my present invention is to provide a strong, simple, and efficient form of wrench which can be more readily set and adjusted for use on different-sized nuts or bolts or other purposes than the forms of wrenches now ordinarily employed.

To these ends my invention consists of the wrench and the combinations of parts therein, as hereinafter described, and more particularly pointed out in the claims at the end of this specification.

In the accompanying drawings, Figure 1 is a perspective view of a wrench constructed according to my invention. Fig. 2 is a detached perspective view of the clamping-piece which is employed for securing the movable jaw of the wrench in its adjusted position, and Fig. 3 is a fragmentary sectional view illustrating the operative parts employed for clamping the movable jaw of a wrench constructed according to my invention in position.

In nearly all the machinists' wrenches which are in use to-day some form of screw adjustment is employed. To set or adjust a wrench to the desired position by means of a screw or nut necessarily requires quite a little time, and where the character of the work is such as to require frequent adjustment of a wrench it is exceedingly desirable to provide a construction which can be instantly set or adjusted to the desired position. The desirability of a quick adjustment for wrenches has been recognized for a long time, and although many different forms of quick-adjustment wrenches have been devised nearly all such wrenches have been found to be objectionable, either because they fail to have the necessary strength for practical usage, because too expensive in construction, or because the operative parts thereof have either been unreliable or have been arranged and proportioned so as to be in the way, preventing the application and ready use of the wrench.

The especial object of my present invention is therefore to provide a strong, efficient, and inexpensive quick-adjustment wrench, in which the operative parts are so arranged that they will fold back out of the way when the wrench is to be used.

A wrench constructed according to my invention and as herein illustrated preferably comprises a shank having a fixed jaw or head of ordinary construction. The front edge of the shank is notched or serrated, and the lower end of the wrench-shank may have a wooden handle mounted thereon in the ordinary manner. Movably mounted on the wrench-shank is the adjustable or sliding jaw which is recessed or cutaway in its front face. Fitting into this recess is a clamping-piece having teeth corresponding with the teeth in the wrench-shank. Springs normally hold the clamping-piece out of engagement with the wrench-shank, and pivoted in the movable jaw is a cam-handle arranged to force the clamping-piece back into engagement with the wrench-shank. The cam-handle when in its locked or clamped position swings down so that it may be turned back out of the way, and by mounting the operative parts of my quick-adjusting wrench in this manner I have provided a construction which is even more compact than the ordinary form of wrench and in which the operative parts may be readily set or adjusted as desired, and when clamped in position they will not interfere with the free use of the wrench in any desired location.

Referring to the drawings and in detail, a wrench constructed according to my invention as herein illustrated comprises a shank 11, having a fixed head or jaw 10 preferably formed integrally therewith. The front edge of the shank 11 is notched or serrated, as at 12.

Fitting onto the lower end of the wrench-shank 11 are ferrules 14 and 15, which support the ordinary wooden handle 17, these parts being secured in place by an end nut 16 in the ordinary manner.

The movable jaw 13 is mounted on the shank of the wrench, so that it is free to be

shifted or slid up and down thereon. The movable jaw 13 has its front face recessed, and fitting into the recess of the movable jaw is a clamping-piece 18. As shown most clearly in Fig. 2, the clamping-piece 18 is provided with teeth corresponding with the teeth on the wrench-shank. The clamping-piece 18 is provided with wings 19 and 20, which are separated by a recess 21, which receives the clamping-lever. The wings 19 and 20 are offset with respect to each other, the lower wing 20 being set farther back to allow room for the cam-handle to swing back out of the way when the parts are locked or fastened in position.

Fitting into sockets in the movable jaw 13 and normally holding the clamping-piece 18, as shown in Fig. 3, are small coiled springs 22.

A cam clamping-handle 23 is journaled on a pin 24 in front of the clamping-piece 18, as shown most clearly in Fig. 3, so that by shutting down the cam-handle 23 the movable jaw 13 will be locked or fixed in position, the locking-cam being proportioned so as to move slightly past the center of motion to secure a locking action, so that pressures on the locking-piece will not tend to move the locking-handle outwardly, but will tend to hold the same more tightly in its locked position.

I am aware that my wrench may be changed in the details of its construction by those who are skilled in the art, and that my construction for securing a quick adjustment may be applied for the operation of pipe-wrenches and similar devices without departing from the scope of my invention as expressed in the claims. I do not wish, therefore, to be limited to the construction I have herein shown and described; but

What I do claim, and desire to secure by Letters Patent of the United States, is—

1. In a wrench, the combination of the shank having the fixed jaw, a movable jaw having a front recess therein, a clamping-piece mounted in the recess, said clamping-piece having upper and lower wings which are engaged by springs for normally holding the clamping-piece back out of engagement with the wrench-shank, and a downwardly-clamping cam-handle, the lower wing of the clamping-piece being set back to permit the cam-handle to fold into the recess in the front of the movable jaw when the parts are clamped in fixed position, substantially as described.

2. In a wrench, the combination of a shank 11 having an integral fixed jaw 10 at its upper end, and a handle at its lower end, a movable jaw 13 having a recess in the front face thereof, a clamping-piece 18 fitting therein, wings 19 and 20 extending from the clamping-piece to engage springs 22, and a downwardly-clamping cam-handle 23 arranged to fold back into the recess of the movable jaw when the parts are secured in fixed position, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CLARENCE E. WILLIAMS.

Witnesses:

LOUIS W. SOUTHGATE,

PHILIP W. SOUTHGATE.