

No. 863,251.

PATENTED AUG. 13, 1907.

G. W. ANGELL.
WRENCH.

APPLICATION FILED APR. 10, 1907.

Fig. 1.

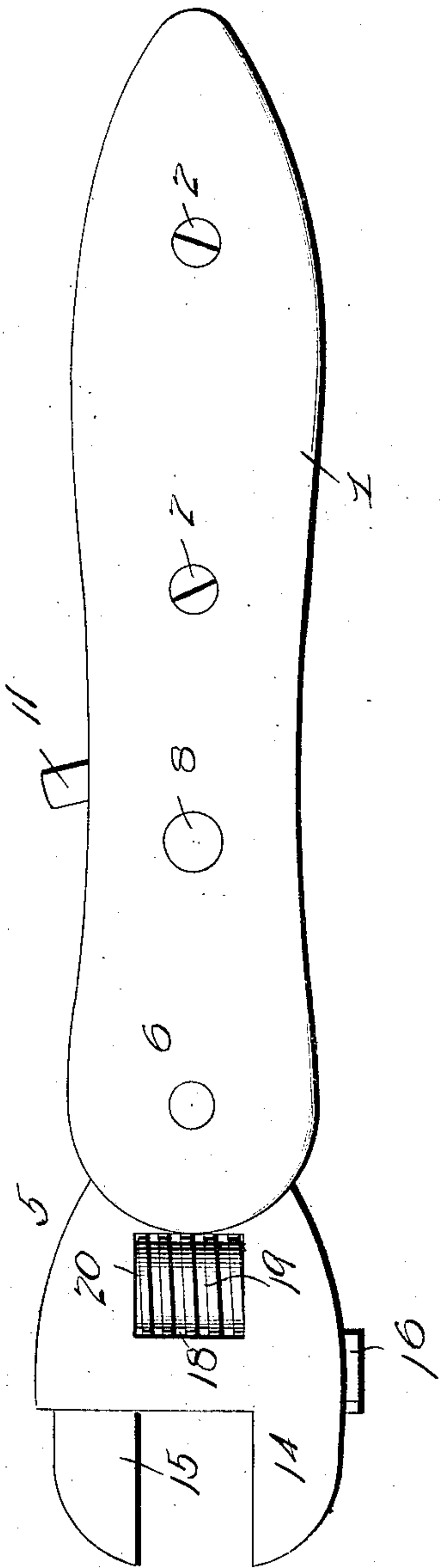
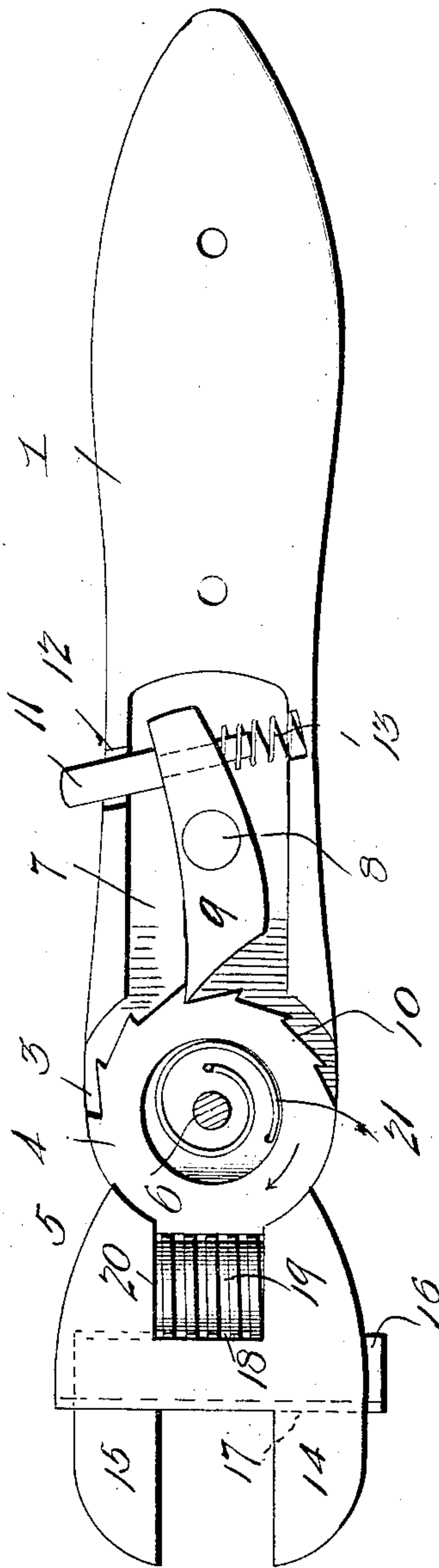


Fig. 2.



Inventor
George W. Angell

Witnesses
J. H. Koenig
Jessie M. Wiley

By

Geo. S. Vashon

Attorney

UNITED STATES PATENT OFFICE.

GEORGE W. ANGELL, OF BOONE MILL, VIRGINIA.

WRENCH.

No. 863,251.

Specification of Letters Patent.

Patented Aug. 13, 1907.

Application filed April 10, 1907. Serial No. 367,394.

To all whom it may concern:

Be it known that I, GEORGE W. ANGELL, a citizen of the United States, residing at Boone Mill, in the county of Franklin and State of Virginia, have invented new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to wrenches of the ratchet type and embodies a handle and a pivoted swinging head having teeth to be engaged by a movable pawl and carried by the handle for fixing the head against movement in one direction.

The invention has for its objects to provide a comparatively simple, inexpensive device of this character which may be conveniently operated in a confined space, one wherein the swinging head will during operation of the wrench be fed step by step to permit of the handle occupying practically a single position while manipulating the nut, and one wherein the head may, upon reaching the limit of its movement, be readily released and automatically returned to initial position.

With these and other objects in view, the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of a wrench embodying the invention. Fig. 2 is a similar view with one of the sections of the handle removed to expose the inner mechanism.

It will be seen that the wrench embodies a handle or shank 1 preferably comprising a pair of side plates or sections detachably united by means of transverse fastening members or screws 2 and having at its forward end a bearing space or recess 3 formed to receive the circular portion 4 of a swinging head 5 which is pivoted to the handle by means of a transverse pivoting member or bolt 6 extended through a central opening in the portion 4 of the head. Formed in the handle and opening at its forward end into the space 3 is a chamber 7 in which is pivoted by a transverse pintle 8 a pawl 9 formed for engagement at its forward end with ratchet teeth 10 provided on the periphery of the circular portion of the head, there being fixed to the dog in rear of the pivot 8 a transversely projecting finger piece 11 projected outward through an opening 12 and having its inner end extended beyond the adjacent face of the pawl to provide a stud on which is seated one end of an expanded spring 13 adapted to act upon the pawl for maintaining the same in ratchet engaging position.

The head 5 is provided with a fixed jaw 14 and a relatively movable jaw 15 carried by a right angularly dis-

posed rack bar 16 slidably disposed in a transverse guide opening 17 formed in the head and having teeth 18 in mesh with the threads of a feed screw 19 journaled for rotation in an opening 20 formed in the head, while formed in one face of the portion 4 of the head is a circular recess designed to receive a torsion spring 21 engaged at one end with the head and at its other end with the handle, said spring tending to throw the head from left to right as indicated by the arrow in Fig. 2.

In practice, as the wrench is operated to manipulate a nut the pivoted head will turn step by step from right to left, while the handle 1 will remain in practically the same position, thereby adapting the wrench for action within a confined space. After the head has reached the limit of its movement, or that is after the last tooth 10 has fed past the pawl the finger piece 11 is moved rearwardly thereby drawing the pawl out of engagement with the teeth, whereupon the spring 21 will throw the head automatically to its initial position for further operation as heretofore explained.

It will, of course, be understood that the movable jaw 15 may, by operating the feed screw 19 be moved toward and from the fixed jaw 14 to adjust the wrench for engagement with nuts of varying sizes.

What I claim is:

1. A wrench comprising a handle provided at its forward end with a recess having a compartment communicating therewith, a head having a portion pivoted in said recess for movement in the arc of a circle and provided with ratchet teeth, a pawl movably disposed in the compartment for engagement with said teeth to fix the head for movement with the handle, a finger piece projecting beyond the latter and connected for moving the pawl out of engagement with the teeth, and means for automatically moving the head in a reverse direction when so released.

2. A wrench comprising a handle provided with a recess and a compartment communicating with the recess, a nut engaging head pivoted to the handle and having a toothed portion disposed in the recess, a pawl arranged in the compartment for engagement with said toothed portion to fix the head for movement in one direction with the handle, a finger piece projecting beyond the latter and connected for moving the pawl out of engagement with the head to release the same, and a torsion spring terminally engaged respectively with the handle and head for automatically moving the latter in a reverse direction when released.

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

GEORGE W. ANGELL.

Witnesses:

J. H. WEBB,
T. C. BUSSEY.