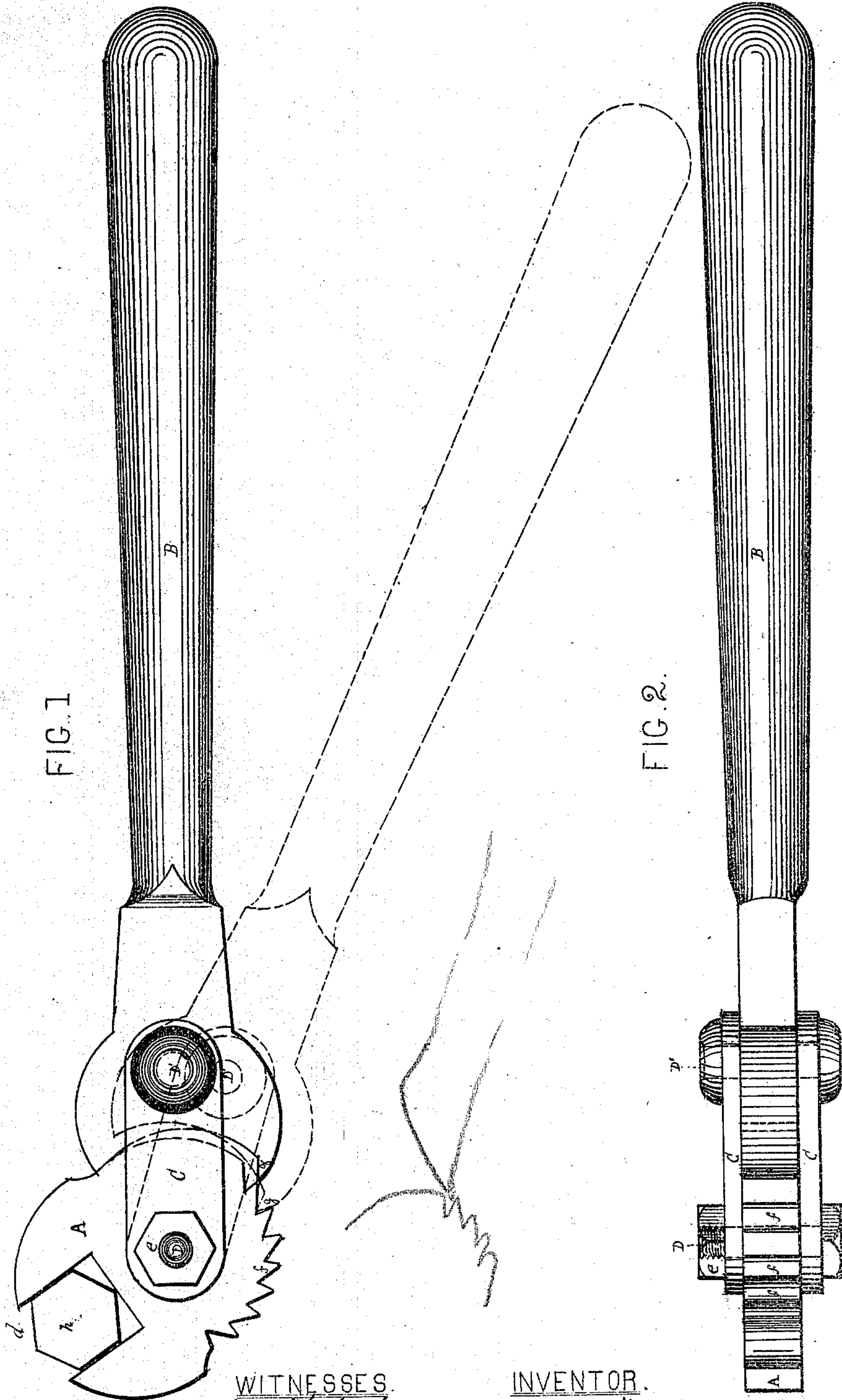


W. F. Wolfkiel,

Wrench.

No. 103,268

Patented May 17, 1870.



WITNESSES.  
Thomas J. Bewley.  
J. B. Evers

INVENTOR.  
Walter F. Wolfkiel  
By his attorney, Stephen Untch  
Given May 2 1870



# United States Patent Office.

WALTER F. WOLFKIEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR  
TO MORRIS, TASKER & CO., OF SAME PLACE.

*Letters Patent No. 103,268, dated May 17, 1870.*

## IMPROVEMENT IN WRENCHES.

The Schedule referred to in these Letters Patent and making part of the same.

I, WALTER F. WOLFKIEL, of the city of Philadelphia and State of Pennsylvania, have invented certain improvements in Wrenches, of which the following is a specification.

My invention relates to that class of wrenches which has an adjustable handle or lever susceptible of being placed at variable angles with the jaws, for the convenience of manipulation.

The nature of the invention consists of a jaw-head, provided with a circular rack, in combination with a lever having a fixed catch, which engages with the teeth of the rack, the said lever having a swivel movement, by means of a link connection with the jaw-head, as hereinafter described.

To enable others skilled in the art to which my improvement appertains to make and use my invention, I will now give a detailed description thereof.

In the accompanying drawing which makes a part of this specification—

Figure 1 is a side view of the improved wrench.

Figure 2 is an edge view of the same.

Like letters in both figures indicate the same parts.

A is the jaw-head, and

B, the lever or handle.

The said parts are connected together by means of the links C C and pins D D'.

In adaptation to various sizes of nuts, a number of heads, A, having different sizes of openings, *a*, accompanies the lever B.

To provide for the changing of the heads, the connecting-pin D has a nut, *e*, on one end, whereby it is expeditiously removed and reconnected.

The jaw-head A is provided with a circular rack, *f*,

in which the catch *g* on the lever B is engaged by the movement of the lever as it is brought from the position represented by full lines to the one represented by dotted lines in fig. 1.

It will be seen that changes in the position of the lever B, with the jaw-head A and nut *h*, to be turned for convenience of manipulation, are effected by changing the connection of the catch *g* with different teeth of the rack *f*.

I am aware that various modes have been adopted for varying the position of the lever of a wrench with its head by a swivel movement. They have been, however, of a complicated character, and have embraced a movable catch or pawl for holding the lever in position with the head. By getting rid of this feature, and making the catch *g* and lever B in a single piece, as represented, great firmness in the wrench is obtained, and liability of getting out of order obviated.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the head A, lever B provided with a catch, *g*, links C C, and pins D D', arranged and operating substantially in the manner and for the purpose set forth.

2. The construction of the lever B with a stationary catch *g*, substantially as described.

In testimony that the above is my invention, I have hereunto set my hand and affixed my seal, this 23d day of April, 1870.

WALTER F. WOLFKIEL. [L. S.]

Witnesses:

THOMAS J. BEWLEY,  
JAMES NICHOLSON.