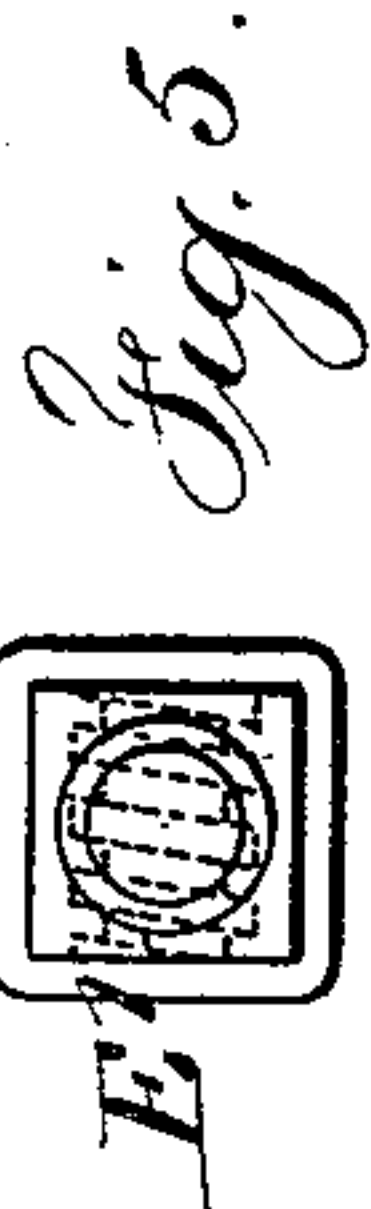
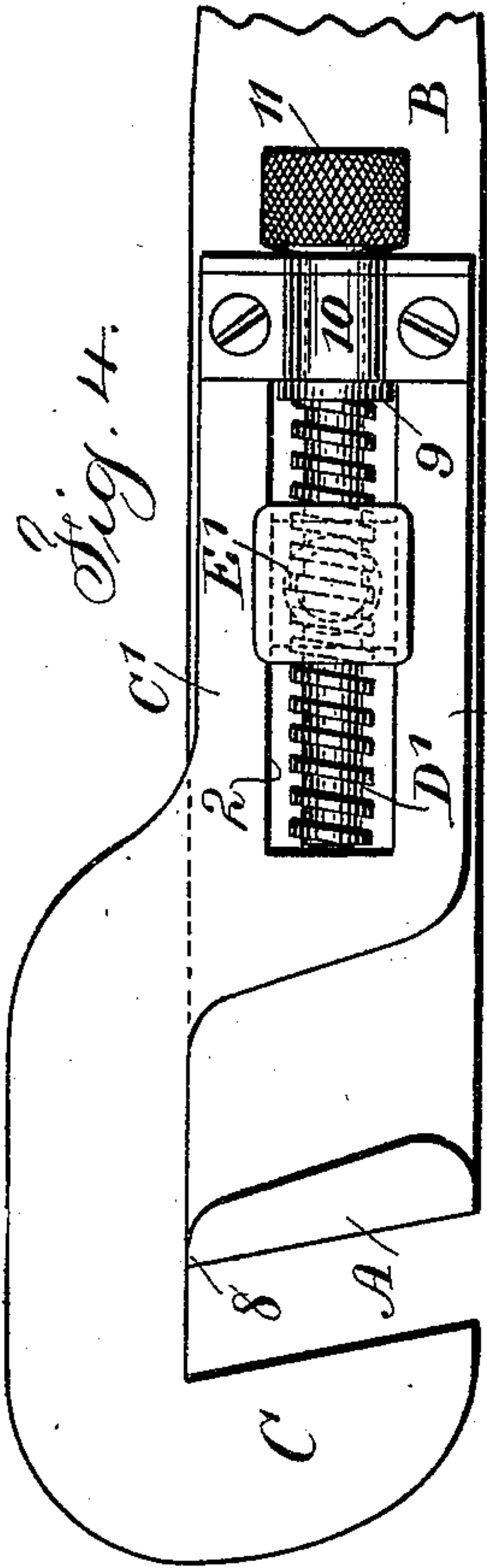


(No Model.)

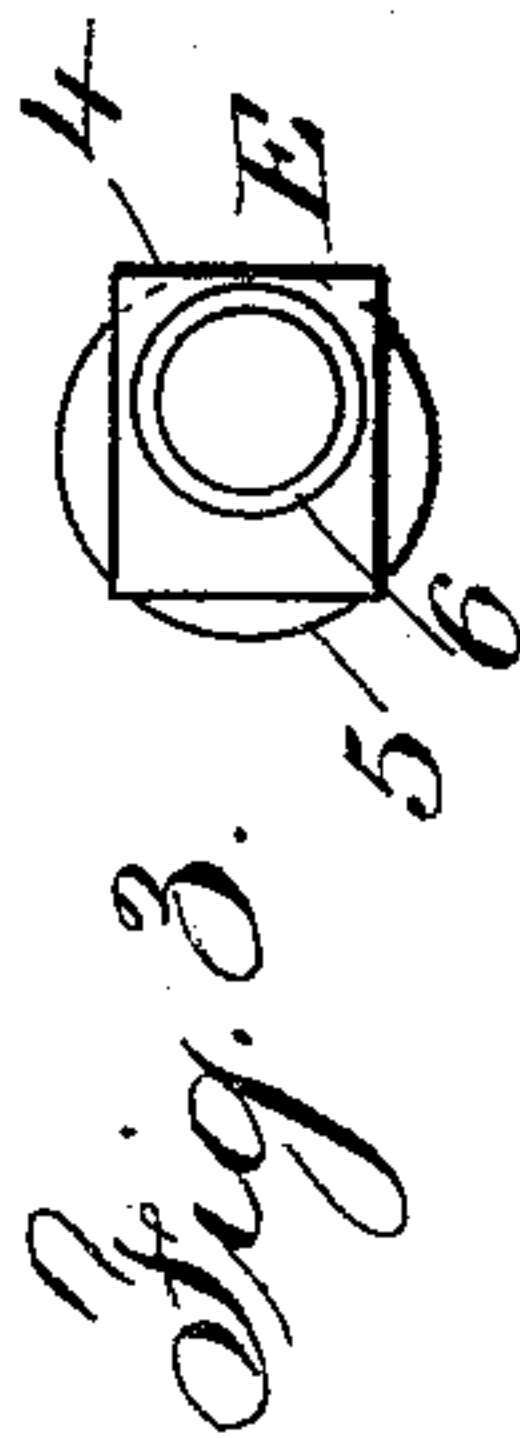
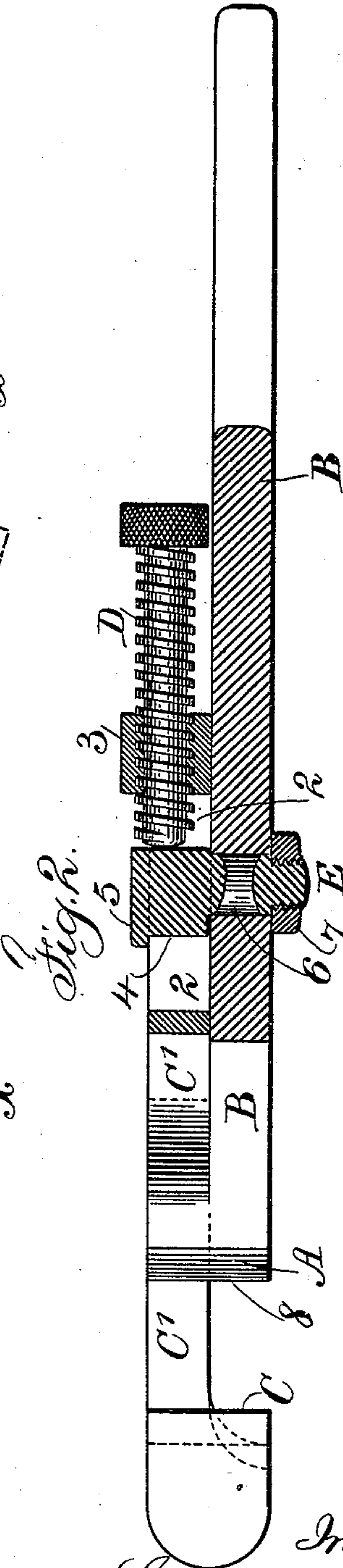
C. HALL.  
WRENCH FOR PIPES, RODS, &c.

No. 521,312.

Patented June 12, 1894.



Witnesses  
Charles H. Smith  
J. Staib



Inventor  
Charles Hall  
per Lemuel W. Serrell  
Att'y



# UNITED STATES PATENT OFFICE.

CHARLES HALL, OF NEW YORK, N. Y.

## WRENCH FOR PIPES, RODS, &c.

SPECIFICATION forming part of Letters Patent No. 521,312, dated June 12, 1894.

Application filed December 28, 1893. Serial No. 494,943. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES HALL, a citizen of the United States, residing in the city and State of New York, have invented an  
5 Improvement in Wrenches for Pipes, Rods, &c., of which the following is a specification.

The object of this invention is to simplify the construction of the wrench and to allow for the parts being easily separated for re-  
10 pairs and to give considerable extent of movement with a comparatively small head and jaw handle, and the present invention relates to the combination of devices hereinafter described and claimed.

15 In the drawings, Figure 1 is a side elevation. Fig. 2 is a partial section at the line  $x$ . Fig. 3 is an end view of the pivot pin separately. Fig. 4 is a detached view showing a modification in the attachment of the screw,  
20 and Fig. 5 is an end view of the pivot pin shown in Fig. 4.

The jaw A is at the end of the lever handle B, which handle is preferably of metal and in one piece with the jaw, and the jaw A is made  
25 wider than the thickness of the handle B, such jaw projecting at one side of the handle, and the swinging jaw C is of the same width or nearly so as the jaw A, and the shank portion C' is reduced in thickness so as to lie  
30 against the side of the handle B and beneath the over-hanging portion of the jaw A, and this shank C' is slotted longitudinally at 2 and provided with a nut portion 3 at the end of the slot, through which nut portion 3 passes  
35 the adjusting screw D, and the pivot pin E is made with a square or rectangular portion 4 that fits into the slot 2 and with a head 5 coming against the side of the shank C' and with a round portion 6 passing through a hole in  
40 the handle B, and the nut 7 at the back of the handle B is screwed tightly against a shoulder upon the pivot pin so as to prevent the nut 7 turning, but the parts are sufficiently loose for the pivot pin E to turn upon  
45 the portion 6 that is in the hole through the handle B, and the adjusting screw D takes against one side of the polygonal portion 4 of the pivot pin E, and the parts are so proportioned and arranged that when the screw  
50 D is turned backwardly the slotted shank C' of the jaw C can slide upon the pivot pin until the angle or shoulder in the shank por-

tion of the swinging jaw is adjacent to the back surface of the overhanging portion of the jaw A, and the wrench is open to its ex- 55  
treme width, and when the adjusting screw D is rotated in the other direction, the jaw C is drawn toward the jaw A until brought to the desired proximity, and the jaw C is free to be swung upon the pivot pin E in any 60  
of its positions so as to adapt the wrench to seizing a pipe, rod, bolt or nut.

It will be observed that the surface of the jaw A and the inner surface of the jaw C are parallel or nearly so, in order to adapt the 65  
wrench to a nut or bolt head, and when a pipe, rod or round bolt is to be grasped by the wrench, the jaw C receives such article into the angle thereof and the chisel-shaped edge 8 of the jaw A is brought into contact 70  
with the surface of such pipe or rod and grasps the same while the wrench is swung to rotate such pipe or rod in the usual manner, and in consequence of the shank C' of the swinging jaw coming at one side of the 75  
handle B of the stationary jaw A, the parts are in line or nearly so and a proper bearing is taken by the respective jaws upon the article to be moved, and I am enabled to make the pivot pin E of a sufficient size to with- 80  
stand the strain to which it ordinarily would be subjected.

In Letters Patent No. 516,485, granted to me March 13, 1894, a wrench is shown with the flat interior surface of the swinging hook- 85  
shaped jaw parallel to the handle bar jaw when the hook is stopped by the handle bar. This is also the case in the present wrench, and when the handle is swung on its pivot in grasping a nut or other polygonal article, the 90  
acute angled jaw at the end of the handle bar clamps such nut or other polygonal article.

It is sometimes advantageous to pass the screw D' through the pivot pin E', so that 95  
such pivot pin becomes the nut, as represented in Fig. 4. In this case the screw D' is provided with a collar 9 adjacent to a cap 10 which is adapted to set around a neck formed between the collar 9 and the burr or head 11. 100  
The operation of this modification is the same as before described, and in some forms of wrench this construction is preferable because the screw does not project beyond the



end of the slotted jaw C' and is less liable to injury.

I claim as my invention—

1. The combination in a wrench for pipes  
5 and other articles, of a handle lever having an acute angled end forming a jaw with a chisel-shaped edge, a hook-shaped jaw having a shank at one side of and in line with the handle lever and slotted longitudinally, the inner edge of the hook-shaped jaw being substantially in line with or parallel to the side of the handle lever when the parts stop against each other, a pivot pin having a polygonal portion within the slot and a circular portion  
10 passing through a hole in the handle lever, and a screw acting to adjust the hook-shaped jaw in its relation to the handle lever, substantially as set forth.
2. The combination in a wrench for pipes  
20 and other articles, of a handle lever having an acute angled end forming a jaw with a chisel-shaped edge, a hook-shaped jaw having a shank at one side of and in line with the handle lever and slotted longitudinally, the inner edge of the hook-shaped jaw being substantially in line with or parallel to the side of the handle lever when the parts stop against each other, a pivot pin having a polygonal

portion within the slot and a circular portion passing through a hole in the handle lever, 30 and a screw passing through the pivot pin and acting to adjust the hook-shaped jaw in its relation to the handle lever, substantially as set forth.

3. The combination in a wrench for pipes 35 and other articles, of a handle lever having an acute angled end forming a jaw with a chisel-shaped edge, a hook-shaped jaw having a shank at one side of and in line with the handle lever and slotted longitudinally, the inner surface of the hook-shaped jaw being substantially parallel to the end of the handle lever when the parts stop against each other, a pivot pin having a polygonal portion within the slot, a circular portion passing 45 through a hole in the handle lever, and a screw acting to adjust the hook-shaped jaw in its relation to the handle lever, substantially as set forth.

Signed by me this 26th day of December, 50 1893.

CHAS. HALL.

Witnesses:

GEO. T. PINCKNEY,  
WILLIAM G. MOTT.