

(Model.)

G. M. ALLEN.

WRENCH.

No. 379,627.

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Fig. 1.

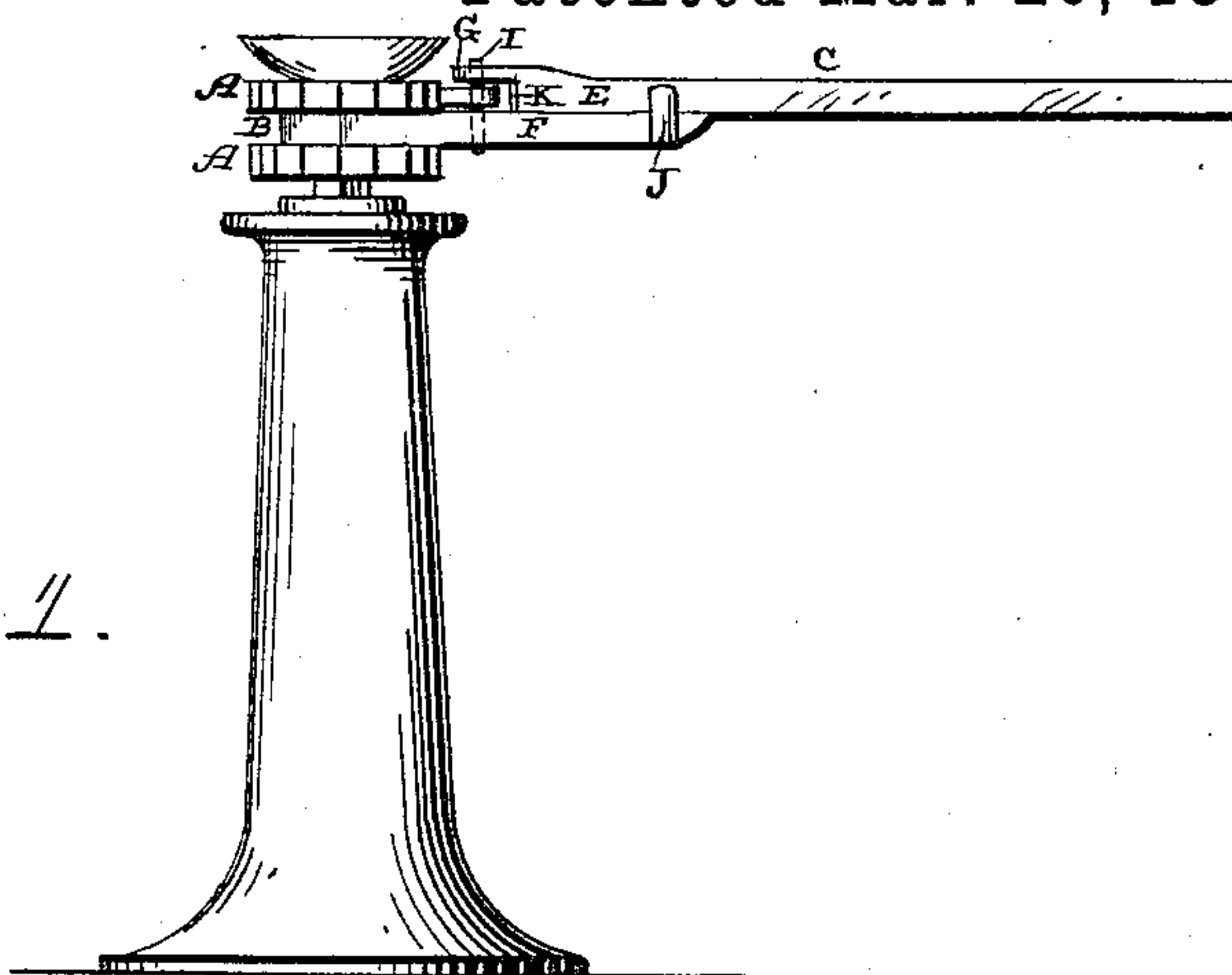


Fig. 2.

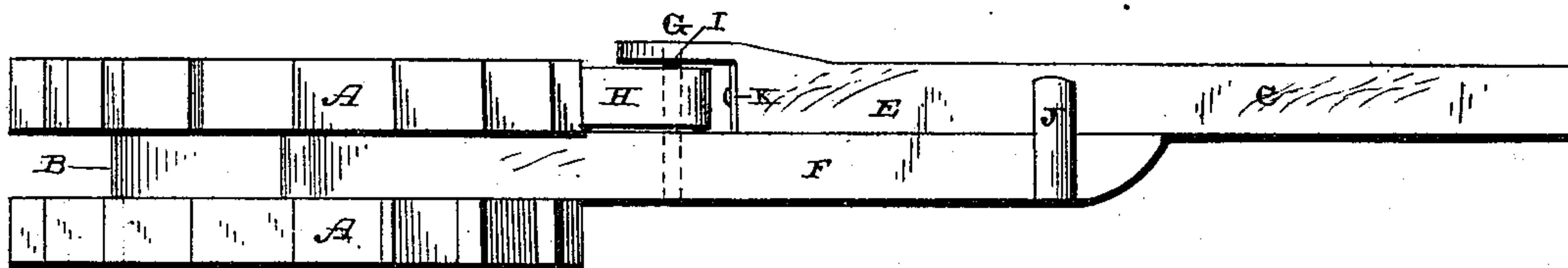
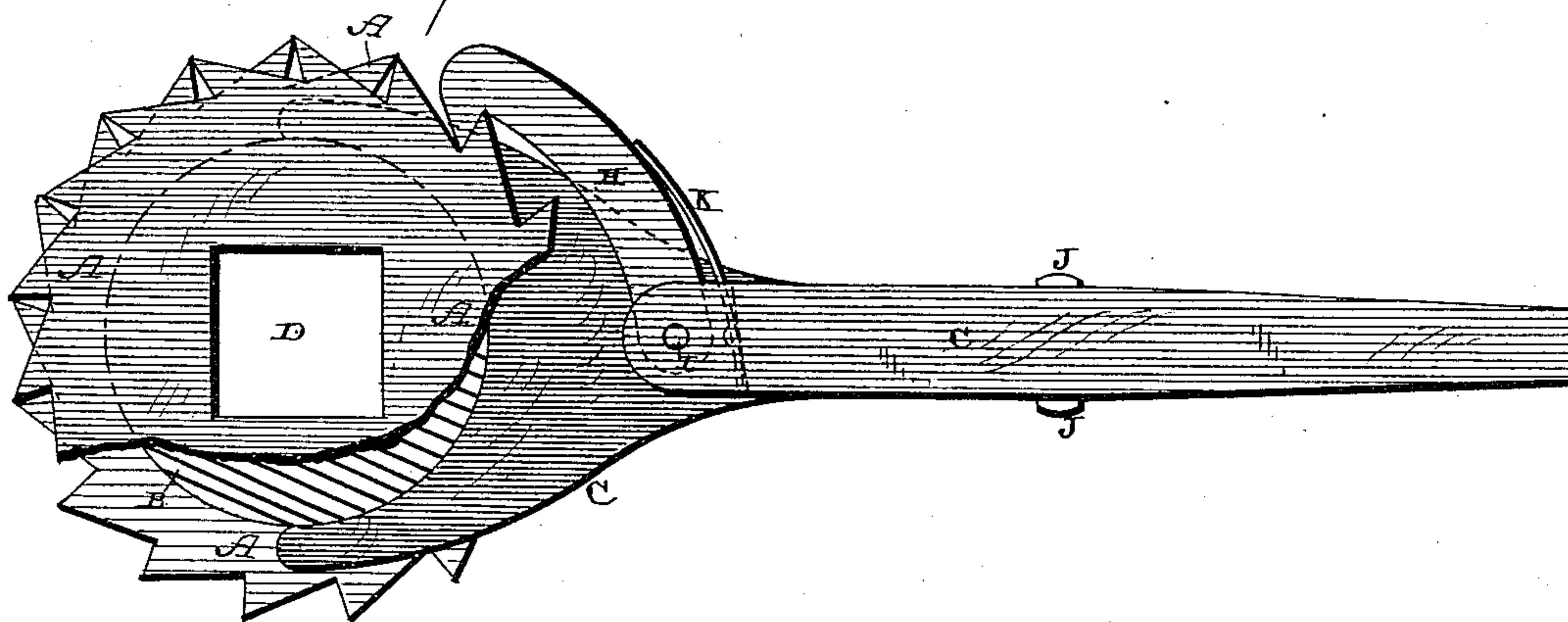


Fig. 3.



WITNESSES.
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SPECIFICATION forming part of Letters Patent No. 379,627, dated March 20, 1888.

Application filed September 2, 1887. Serial No. 248,600. (Model.)

To all whom it may concern:

Be it known that I, GEORGE M. ALLEN, of Cherryfield, in the county of Washington and State of Maine, have invented certain new and useful Improvements in Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in wrenches; and it consists in the combination, with two ratchet-wheels having reversed teeth, a space between them, and an opening through the center of the two wheels, of an operating-lever which is placed between the two wheels, and having its end semicircular, so as to correspond to the surface of the space, and a dog for catching in the teeth of the ratchet-wheels, all of which will be more fully described hereinafter.

The object of my invention is to provide a wrench which can be applied to jack-screws, and is intended especially to be used in close places where the screw can be given but a partial revolution, such as raising houses, vessels, and steamboats, which will lower as well as raise the object desired, and which will require but one operating-lever for several jack-screws.

Figure 1 is a side elevation of my invention as applied to an ordinary jack-screw. Fig. 2 is a side elevation of the ratchet-wheels and the operating-lever. Fig. 3 is a top plan view of the ratchet-wheels and the operating-lever.

A A represent two ratchet-wheels, having their teeth formed in reverse directions and an intervening space, B, between them, which forms a journal or bearing for the operating-lever C. The ratchet-wheels A and the bearing B will preferably be cast in one piece, but may be cast separately and secured together by bolts, if desired. Formed in the center of the ratchet-wheels A is the opening D, through which passes the upper end of the jack-screw, as shown in Fig. 1. This opening will vary in shape according to the shape of the upper end of the jack-screw.

The operating-lever C consists of the bar E, which has its inner end bolted or riveted to

the plate F. The inner end of this plate F is bifurcated and made semicircular in shape, so as to correspond to the circular surface of the bearing B between the ratchet-wheels A. The inner end of the operating-lever E is cutaway so as to form a projection, G, between which projection and the inner face of the plate F is pivoted the dog H by means of the bolt I, which passes through the plate F and the projection G. In order to prevent any possibility of lateral movement of the bar E upon the plate F, the plate F is provided with projections or ears J, which are formed integral therewith or rigidly secured thereto, and extend upward upon opposite sides of the bar C.

By means of a wrench of this description but one operating-lever will be necessary for several jack-screws, as the operating-lever C can be instantly detached or removed from the ratchet-wheels A. When the operating-lever C is placed between the ratchet-wheels A, the dog H is forced or held in the teeth of the ratchet-wheels by means of the spring K, and when a sidewise movement is given to the operating-lever C the semicircular portion of the operating-lever is forced against the bearing B, and the operating-lever cannot therefore slip from between them, but is held all the more tightly the greater pressure there is upon it. If a pawl were used instead of a dog, as shown, the tendency would be to force the operating-lever from between the ratchet-wheels and make it impossible to operate the ratchet-wheels. Where a pawl is used it is necessary to have the plate F to extend entirely around the bearing B, in order to hold the operating-lever C in place when pressure is exerted upon it.

By forming the ratchet-teeth upon the wheels A in opposite directions, bifurcating the inner end of the plate F, and the use of the dog H, I am enabled to withdraw the operating-lever C at any time and turn it over. The operating-lever C can then be placed between the two ratchet-wheels A, which will bring the dog H in contact with the opposite ratchet-wheel, which has teeth extending in opposite directions, and thus reverse the revolution of the jack-screw.

Having thus described my invention, I claim—

In a wrench, the combination of the two ratchet-wheels A, having teeth extending in reverse directions and an opening through which passes the object which it is desired to
5 turn, and the space or bearing B of the operating-lever C, having its inner end bifurcated and made semicircular, so as to correspond to the bearing B, and a spring-actuated dog, H,

which engages with the teeth, substantially as shown. 10

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

GEORGE M. ALLEN.

Witnesses:

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