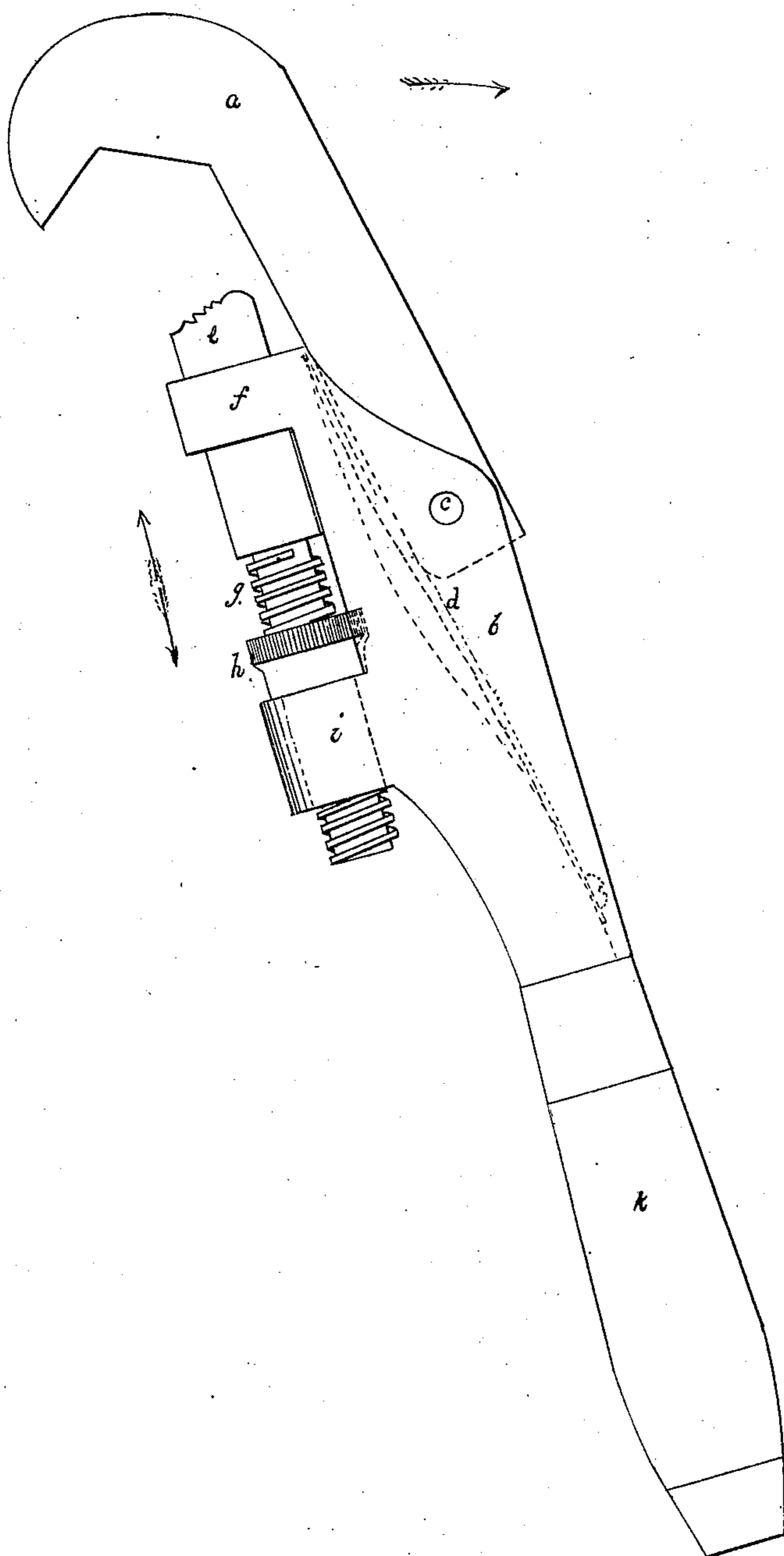


H.M. Clark,

Wrench.

Nº 18,135.

Patented Sep. 8, 1857.



UNITED STATES PATENT OFFICE.

H. M. CLARK, OF NEW BRITAIN, CONNECTICUT.

IMPROVED WRENCH.

Specification forming part of Letters Patent No. 18,135, dated September 8, 1857.

To all whom it may concern:

Be it known that I, H. M. CLARK, of New Britain, in the county of Hartford and State of Connecticut, have invented a certain new and useful improvement on a combined hinged claw and screw-adjusting gripper-wrench for grasping and turning cylindrical bodies, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms part of this specification, and which represents a side view of my improved cylinder-wrench.

In pipe and other like wrenches used to grasp and turn bodies presenting a curved or circular surface to the grip, a claw or hook and rag-jaw or gripper have been prominent features. In the wrench described in the patent granted to Bartholomew and Merrick, in 1849, the outer claw portion was a rigid extension of the stock or handle, and the rag-jaw or gripper, acted upon by a spring, was hinged to a slide made adjustable along the stock by a traveling nut fitting a screw-thread thereon. Many defects were attendant upon this arrangement, some of which were explained in the patent granted to G. A. Jenks on the 24th of June, 1856, the improved wrench described in which was but little more than a reversal of the details of the Bartholomew and Merrick wrench above referred to, the rag-jaw in this case being stationary and the claw portion under action of a spring being hinged to the slide, that traversed on the stock by means of a nut fitting a screw-thread thereon. One of the advantages of this change or reversal was the facility with which the wrench could be released from its grip by turning back the claw without disturbing the screw adjustment or set-gage of the clamping portions. The hinged claw to a wrench, however, had before been used and connected with the stock in a steadier and less destructive manner, as in the case of pipe-tongs made with a curved movable jaw affixed either by a permanent or transferable and adjustable fulcrum-pin to a handle having a stationary jaw, but no screw adjustment, as in either of the cases previously cited, in which, as in the instance of the pipe-tongs spoken of, the one jaw was stationary.

I have deemed it advisable to preface my description with these remarks in order that the distinguishing feature of my improvement

may be more clearly discerned and no undue credit be given as regards certain details; and here in this connection it may be observed that two moving jaws instead of one, irrespective of their relative actions, are not here claimed as new, nor is operating a clamping-jaw by screw arranged on one side of the stock and turning thumb-nut or rosette having a fixed relationship, such principle of action being old as applied to wrenches.

As a wrench for grasping and turning cylindrical bodies the one represented in the accompanying drawing embraces most of the advantages of previous arrangements, with others in addition, and avoids many defects.

The one jaw I make to partake of a stationary character, yet both jaws may be said to be movable, and this in a most advantageous manner. Thus the hook or claw piece *a* is hinged to the permanent stock *b* by a joint-pin *c*, and is acted on by a spring *d* to give it a hinge action for the purpose of taking hold and releasing the grip, while the rag-jaw *e* has a sliding motion along or on the permanent stock through, say, a lateral guiding projection *f*, by means of a screw-thread *g*, cut on the jaw and turning thumb-nut or rosette *h*, here shown to have a fixed relationship to the stock. A further lateral projection *i* serves to guide and steady the jaw at its back end, and in connection with the front guide *f* insures a free and easy but straight travel to the rag-jaw when operated by the nut *h*. In this arrangement of the combined hinged claw and screw-adjusting gripper-wrench not only may the claw, as in a previous arrangement before mentioned, be thrown back to release grip without disturbing the screw-adjustment or set-gage of the wrench, but where it is particularly desirable to avoid one-sided strainage, as is sometimes the case in acting on a long length of piping, the delicacy of the work being handled, or deviation from the cylindrical form of the body being gripped, or any other instance that renders it necessary or advisable (whether it be for the sake of increased expedition or otherwise) to aid the releasing action of turning back the claw by operating as well the screw-adjusting devices of the wrench, the arrangement here shown is particularly advantageous, as the two grippers which act upon either side of the body, though con-

nected, are independent in their actions and pressure—the one upon the other—operated by distinct motions, and the curvilinear action of the claw in being thrown back not straining on the sliding rag-jaw or causing it to bind, but leaving to it that free and easy action which its, in a manner, detached mode of operation here gives it to ease or tighten grip, while the hinging of the claw to the permanent stock is, as before observed, a steadier and more durable arrangement, and it gives every facility of releasing grip without disturbing the screw-adjustment where such is desired or practicable.

Assuming the sliding rag-jaw to be operated by a nut having a fixed relationship, as shown in the drawing, then in effecting a release of the grip by giving to the two jaws their respective and different actions, not even a variation in the relative distance of the operator's hands in using the wrench on cylinders of different diameters is necessary, by reason of the claw-fulcrum *c* and operating-nut *h* having fixed relationships to each other, as they also have to the main handle *k*.

In the construction shown in the drawing it will be seen that the permanent stock requires no turning or screw-thread to be cut on it. The spring *d*, that bears on the hook or claw, may be concealed within the stock and protected from injury, and the permanent stock forms a firm jaw to stiffen the claw in its gear therewith, the lateral position of the rag-jaw favoring this arrangement.

What I claim as new and useful herein, and as my improvement on wrenches of the character referred to, and desire to secure by Letters Patent, is—

The combination, with a hook or claw-gripper *a*, hinged to the permanent stock and acted on by spring, of a sliding rag-jaw *e*, having a screw-adjustment on or along the permanent stock for joint and independent action, in the manner set forth.

In testimony whereof I have hereunto subscribed my name.

II. M. CLARK.

Witnesses:

S. C. BELDEN,
S. E. CASE.