

(No Model.)

H. J. KAPKA.
WRENCH.

No. 574,487.

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Fig. 1.

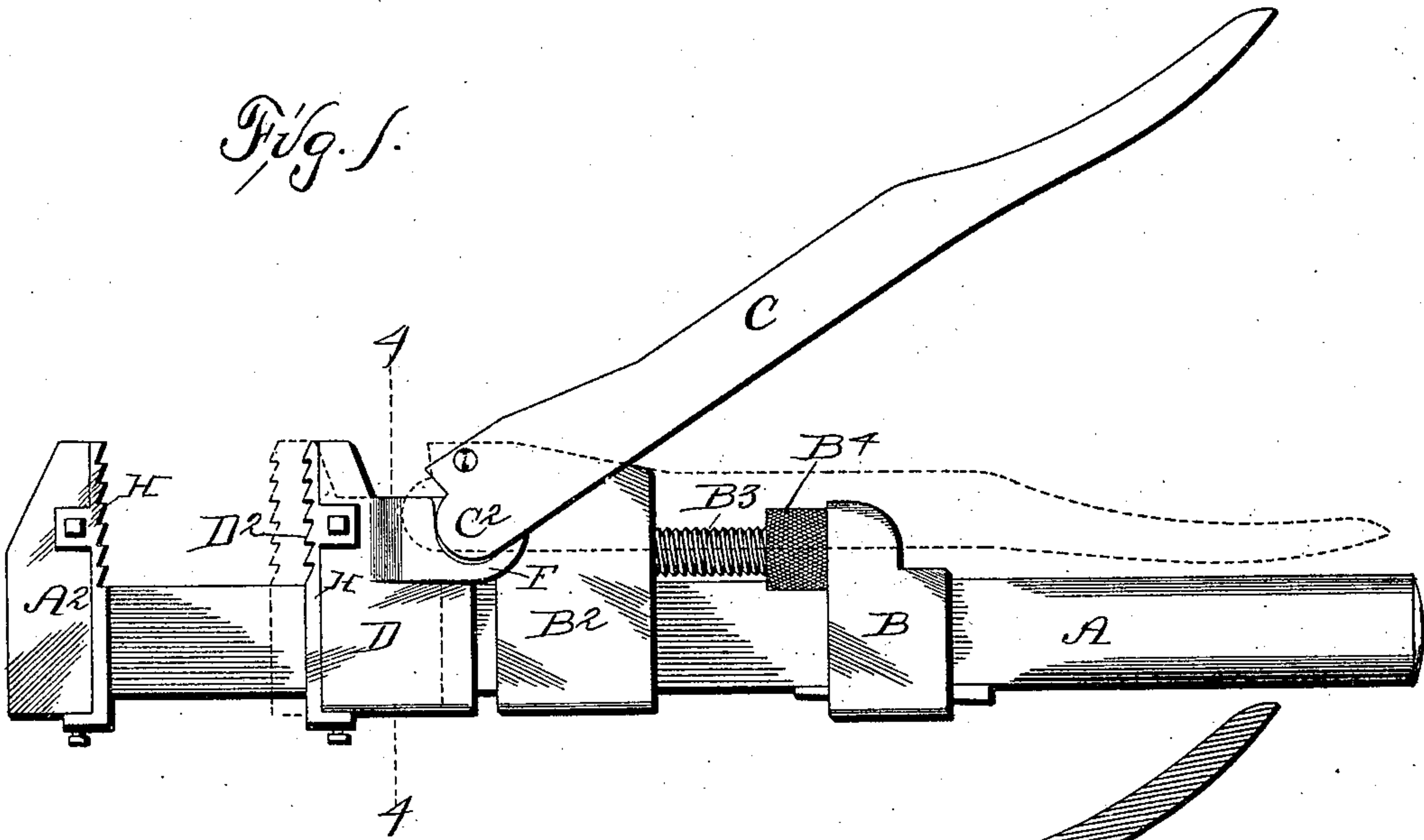


Fig. 2.

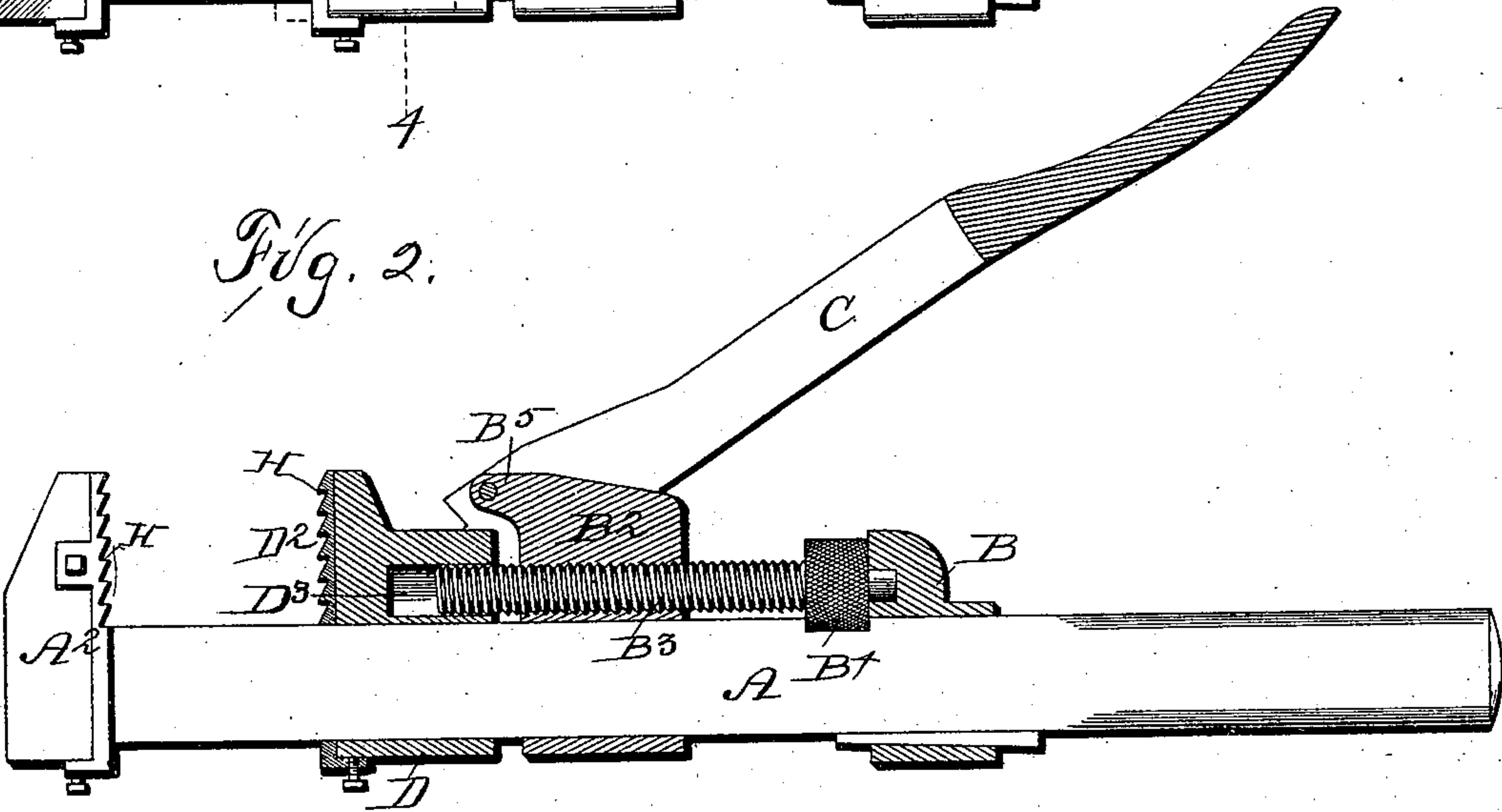


Fig. 3.

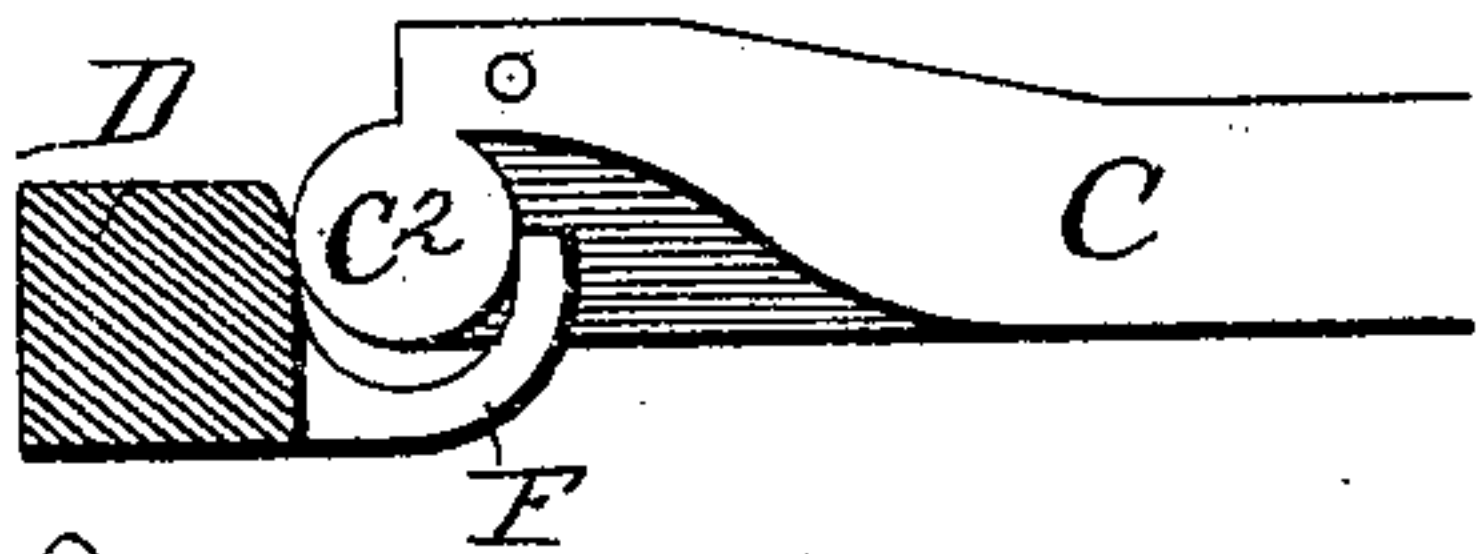
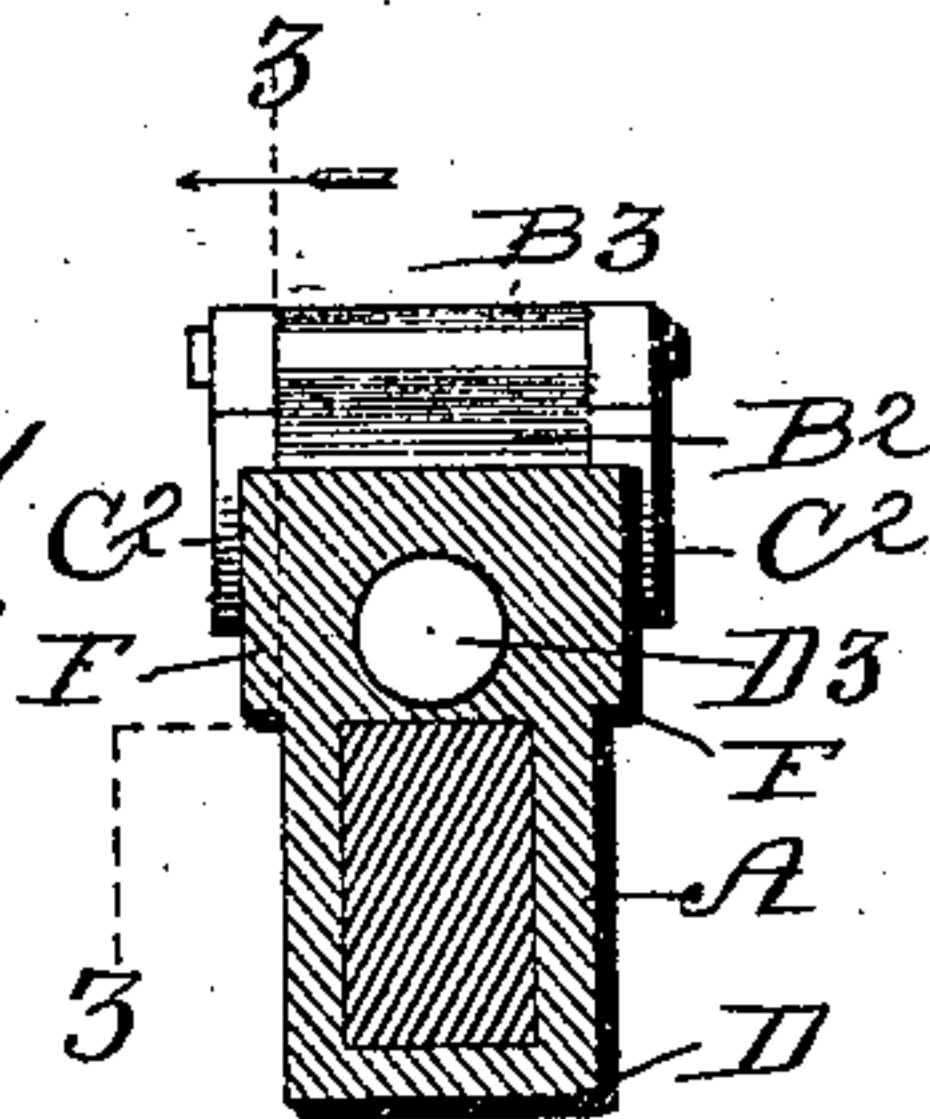


Fig. 4.



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UNITED STATES PATENT OFFICE.

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SPECIFICATION forming part of Letters Patent No. 574,487, dated January 5, 1897.

Application filed August 19, 1896. Serial No. 603,277. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. KAPKA, a citizen of the United States of America, residing at Charles City, in the county of Floyd and State of Iowa, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My object is to provide a wrench of cheap, simple, strong, and durable construction which may be operated in the usual way to approximately engage a nut or other object and may then be operated to firmly or tightly engage the same with much greater force than would be possible by the use of the ordinary screw, as required to adapt the wrench for use as an ordinary wrench and also a pipe-wrench or pincers. It is of great advantage also when used as a wrench to grasp nuts or objects of approximately the same size and yet which vary slightly, in which case the wrench may be placed on the nut and fitted very quickly and without turning the screw.

My invention consists in the construction, arrangement, and combination, with a wrench, of an auxiliary jaw and means for operating said auxiliary jaw independently of the main jaw, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of the complete tool and by dotted lines a changed position of the auxiliary jaw and related parts. Fig. 2 shows a longitudinal section of the same. Fig. 3 shows a detail sectional view through the line 3 3 of Fig. 4. Fig. 4 shows a transverse sectional view through the line 4 4 of Fig. 1.

Referring to the accompanying drawings, I shall first describe in general terms only the parts of the wrench that are of ordinary construction and finally the novel parts in detail.

A indicates the straight angular handle of the device, having an integral stationary jaw A^2 on its outer end.

B indicates a collar keyed or otherwise firmly fixed to the handle.

B^2 indicates a part which will be called the "movable jaw," it corresponding to the movable jaw of an ordinary wrench.

B^3 indicates a screw-threaded shaft rotatably mounted in the collar B and passed

through a screw-threaded opening in the movable jaw B^2 . On the said shaft is a thumb-wheel B^4 , whereby the shaft may be rotated to advance the movable jaw longitudinally upon the handle. This jaw differs from the usual movable jaw in that a forward projection B^5 is formed thereon to which a lever is fulcrumed.

C indicates a lever bifurcated and fulcrumed to the said projection and having rounded ends C^2 to lie flat against the sides of the movable jaw and somewhat in advance of the fulcrum of the lever.

D indicates an auxiliary movable jaw slidably mounted on the handle above the movable jaw and provided with a toothed forward face D^2 . An opening D^3 is formed in the rear end, with which the forward end of the screw-threaded shaft may pass, and at its sides are two arms F to project rearwardly and curved to fit against the edges of the rounded ends C^2 . By this arrangement of parts it is obvious that a movement of the lever relative to the handle must cause the auxiliary movable jaw to slide relative to the movable jaw.

H indicates toothed plates detachably secured to the jaws.

Assuming that it is desired to use the device as a pipe-wrench, the lever is first moved to a position at right angles to the handle and the thumb-wheel manipulated until the pipe is engaged between the toothed jaws. Then the lever is drawn down to lie parallel with the handle, hence forcing the teeth into the pipe and firmly gripping it, so that it may be turned as soon as the wrench is turned and the lost motion common with other pipe-wrenches be obviated. This is of vital importance in cases where there is limited room for turning the wrench.

When used for turning nuts of nearly the same size, it is obvious that the movable jaw may first be set to fit the larger nuts and then the smaller nuts may be fitted by simply operating the lever, which process is obviously much quicker and easily accomplished, and the nuts may be fit more more accurately and firmly, thus preventing mutilation of the corners of the nuts caused by inaccurate fitting of wrenches.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. An improved wrench comprising a handle or shank, a stationary jaw on its outer end, a movable jaw slidingly mounted on the handle or shank, means for adjusting the movable jaw relative to the fixed jaws, a lever pivoted to the movable jaw and having a cam on its end, an auxiliary sliding jaw, mounted on the handle or shank between the said jaws and independently movable relative to both jaws, and an arm or arms formed on or fixed thereto to engage said cam and serve to move the auxiliary jaw both to and from the movable jaw when the lever is operated, for the purposes stated.

2. A wrench, comprising a straight handle, a stationary jaw on the outer end, a collar fixed to the handle, a screw-threaded shaft rotatably mounted in the collar, a movable jaw slidingly mounted on the handle and having a screw-threaded opening to admit said shaft, a thumb-wheel on the shaft, a lever fulcrumed to the movable jaw, two rounded projections on its forward end to overlap the sides of the jaw in advance of the fulcrum of

the lever, an auxiliary movable jaw slidingly mounted on the handle, and two arms thereon curved to receive said rounded projection of the lever, substantially as and for the purposes stated.

3. A wrench, comprising a straight handle, a stationary jaw on the outer end having a toothed plate detachably secured to the face, a collar adjustably fixed to the handle, a screw-threaded shaft rotatably mounted in the collar, a movable jaw slidingly mounted on the handle and having a screw-threaded opening to admit said shaft, a thumb-wheel on the shaft, a lever fulcrumed to the movable jaw, two rounded projections on its forward end to overlap the sides of the jaw in advance of the fulcrum of the lever, an auxiliary movable jaw slidingly mounted on the handle having a toothed plate detachably secured to its face and two arms thereon curved to receive said rounded projection of the lever, substantially as and for the purposes stated.

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