

W. C. RIESBERRY.
WRENCH.

Patented Feb. 14, 1893.

Fig. 1.

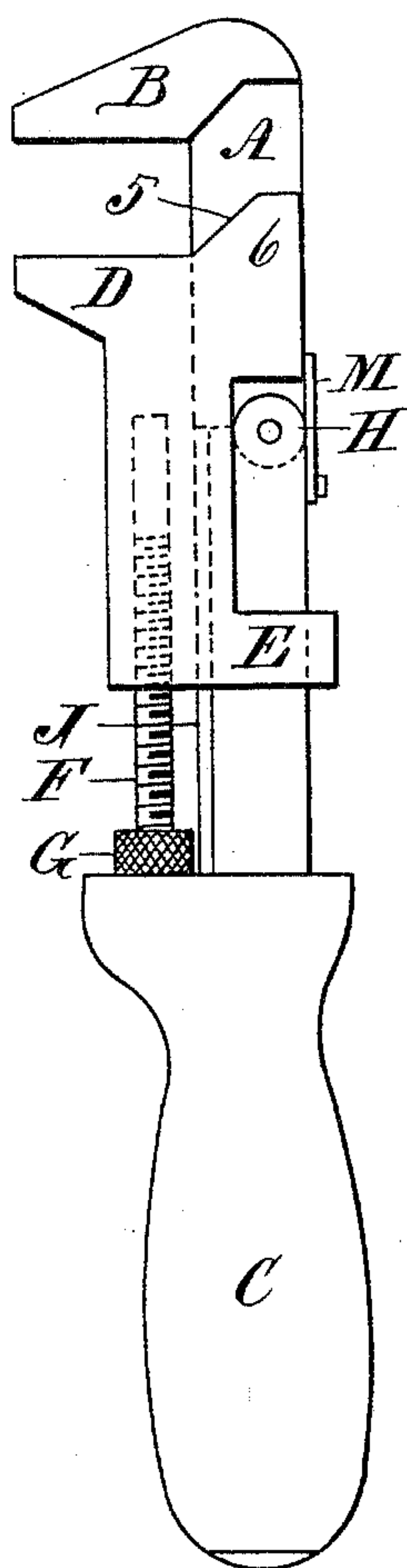


Fig. 2.

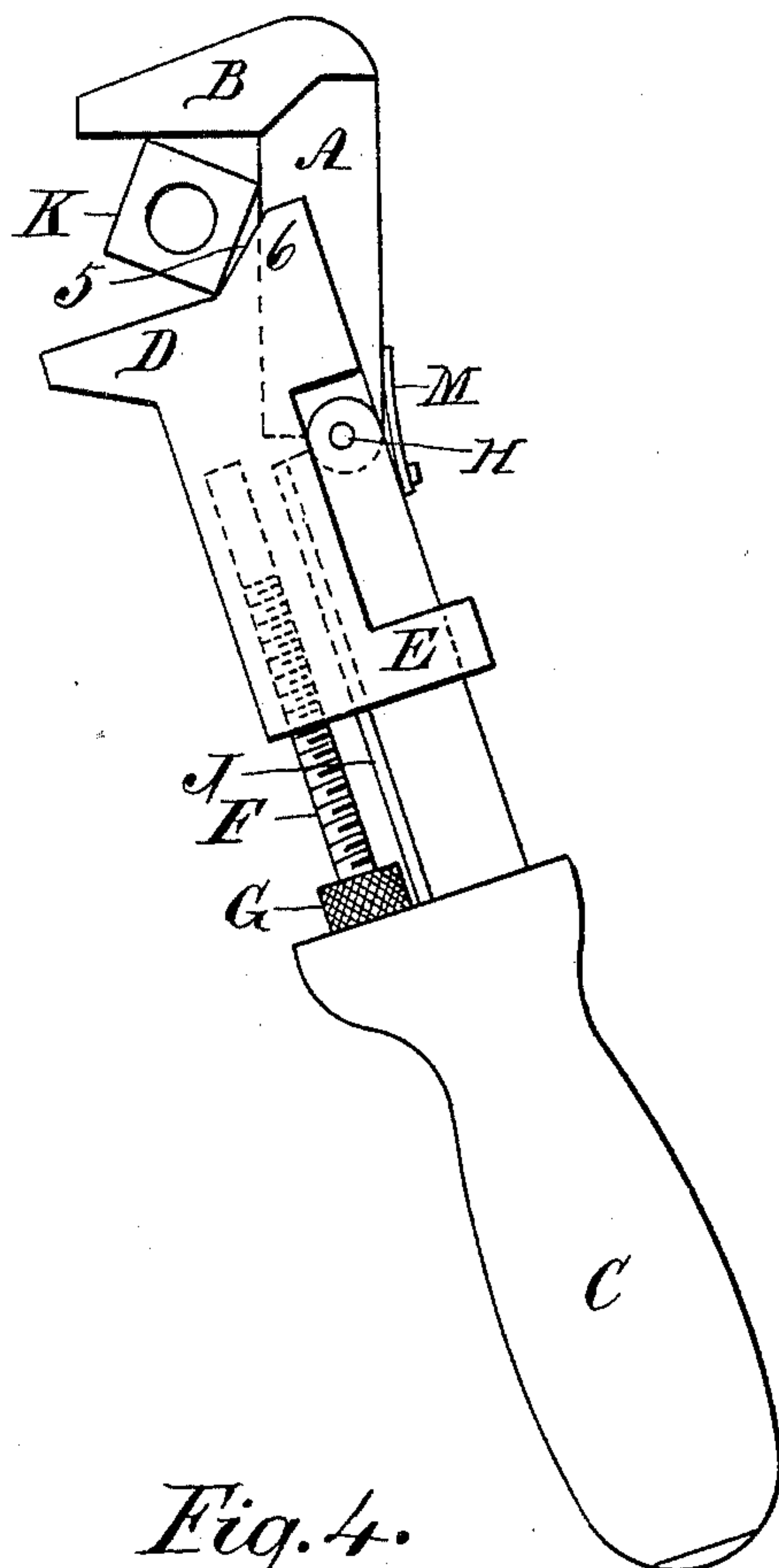


Fig. 3.

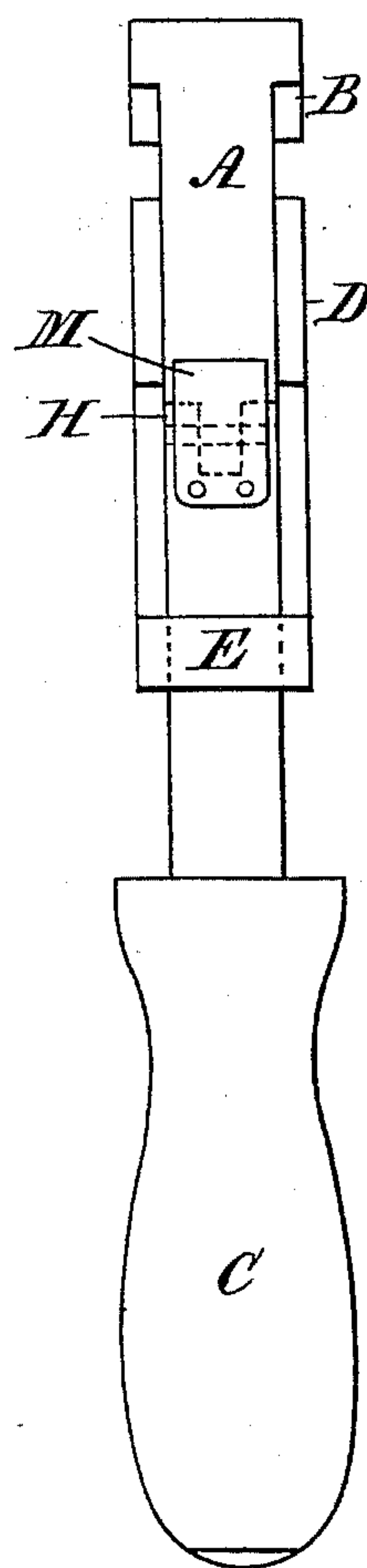
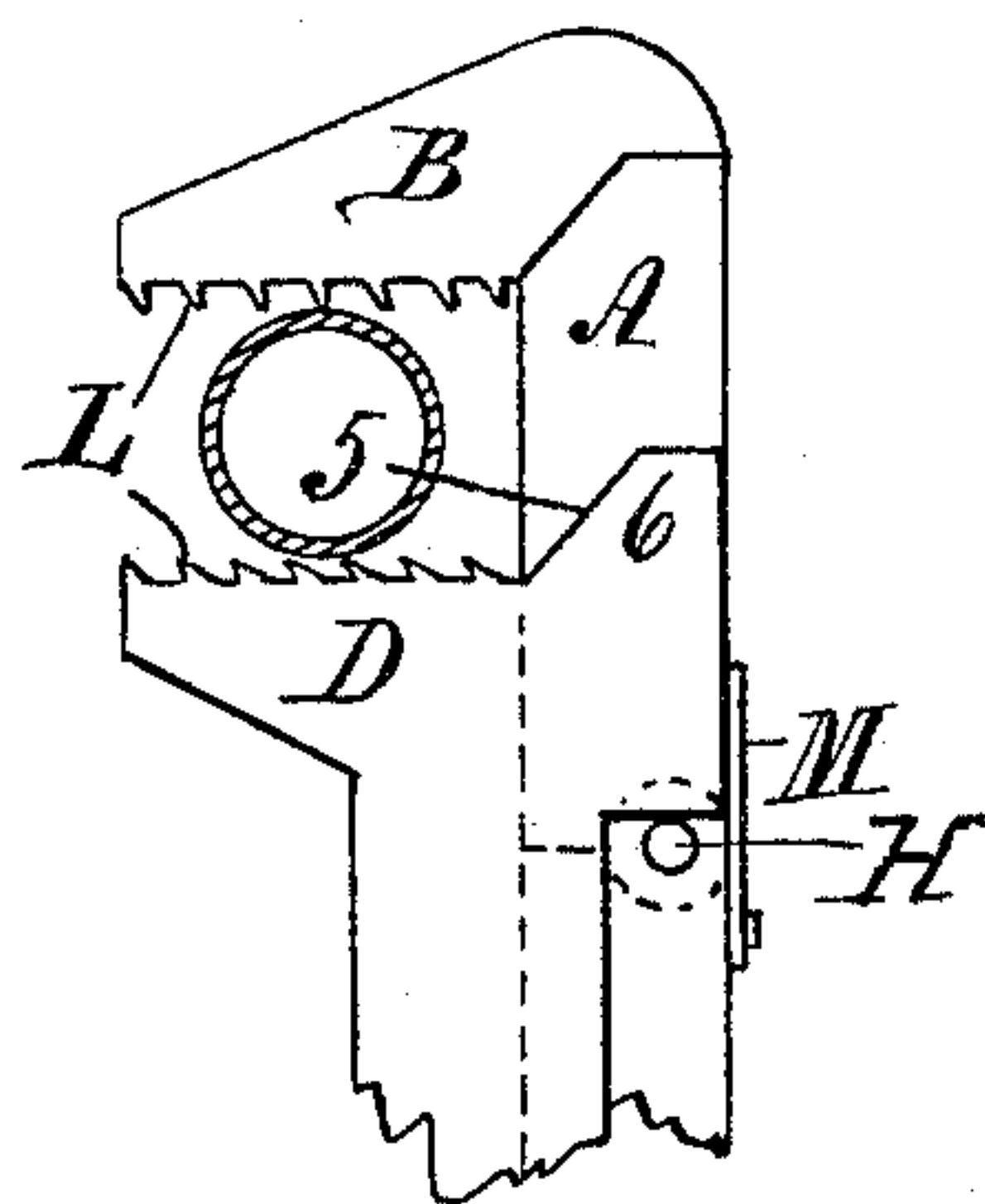


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM C. RIESBERRY, OF CARBERRY, CANADA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 491,721, dated February 14, 1893.

Application filed November 28, 1892. Serial No. 453,393. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. RIESBERRY, of Carberry, in the Province of Manitoba, in the Dominion of Canada, have invented certain new and useful Improvements in Screw Wrenches; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

10 Figure 1, is a side elevation of my improved wrench. Fig. 2, is a like view showing action of the jaws when obtaining a fresh grip of a nut without removing the wrench from the nut. Fig. 3, is an elevation of the back of the wrench, and Fig. 4, is a view of serrated or 15 toothed jaws; for use as a pipe wrench.

My invention has for its object to have a screw wrench perform the operation of a ratchet wrench, and when provided with serrated or toothed jaws perform the work of a 20 pipe wrench.

My invention consists of a screw wrench having the stem of the top jaw provided with a stop joint hinge, as hereinafter set forth.

25 A, is the stem of the upper or top jaw B, and said stem terminates in a handle C, fixedly.

D, is the lower jaw having a downward extension provided with a socket E, at the lower end sleeved on the stem A, to slide reciprocally thereon when moved by the screw F, 30 screwing into said lower jaw when the screw is rotated by the adjustment of the nut G, in the usual manner of turning the nut by the thumb to fit a larger or smaller nut. The stem

35 A, is provided with a guide rib J, sliding in a corresponding groove of the downward extension of the lower jaw to make the movement of the jaw smooth and free when reciprocating.

The stem A, is divided transversely between 40 the jaw and the handle, and the parts connected by a hinge stop joint H, at the back of the stem to allow the lower part of the stem and handle to be moved to the right, at an angle to the upper part of the stem. The connection of the lower jaw with the stem A, by the 45 socket E, is below the hinge joint, so that the lower part of the wrench assumes a position angular to the upper portion, whereby the upper jaw will yield when the lower jaw is tilted

50 when the handle is moved to the right, to allow the jaws to open sufficiently to pass the corners of the nut without removing the

wrench from the nut when taking a fresh grip, the wrench in this respect acting as a ratchet wrench; hence in screwing a rectangular sided 55 nut, the nut can be screwed a quarter turn without removing the wrench, and such action is shown in Fig. 2, wherein K, is the nut on which the wrench is at work, the wrench screwing the nut to the left, to its bearings. 60 After the wrench has made a partial turn of the nut by drawing the handle to the left, the handle is then moved to the right to get a fresh grip, and when in that position a corner of the nut rests in an angle formed by the 65 gripping surface of the lower jaw and an inclined plane 5 of a flange or cheek 6 in frictional contact with the side of the stem A, said incline plane rising from the rear of said gripping surface and the angle thereby formed 70 becomes a fulcrum when the handle is moved toward the left until the side of the nut strikes the inclined plane. By the pressure of the lower jaw on the nut, the upper jaw is forced 75 back on its hinge against the resistance of a spring M, hereinafter referred to. When the side of the nut strikes the inclined plane, the corner of the nut slides outward on the lower jaw until the next corner of the nut reaches 80 the angle of intersection of the jaw surface and the inclined plane cheek or flange, the spring then pushes the upper part of stem A, into place, whereby the jaws will be parallel and capable of turning the nut to the left 85 when the handle of the wrench is moved in the same direction. While the back movement is being given to the wrench to obtain a fresh grip of the nut, the spring M, keeps the upper jaw of the wrench in contact with the 90 nut, by forcing the stem A, to move the jaw downwardly, whereby the nut is pinched against the lower jaw and when the forward movement is given to the wrench, the lower jaw pinches the nut against the upper jaw. My improved wrench therefore has approxi- 95 mately the function of a ratchet wrench in screwing a nut, and when the jaws are serrated or provided with teeth L, the upper teeth inclining inwardly and the lower teeth outwardly, the wrench will have the function 100 of a pipe wrench in gripping a pipe or other cylindrical body. The flat spring M, is secured near one end to the lower part of the stem A, near the upper end, and the upper

part of said spring bears against the upper part of said stem, said spring thus covering the joint of the hinge. The resiliency of the spring closes the joint of the hinge by bringing the upper and lower parts of the stem in alignment to close the jaws against opposite parallel sides of the nut after the handle has been moved to open the jaws to pass the corners of the nut when taking a fresh grip.

10 I claim as my invention.

1. In a screw wrench, the combination of the upper jaw having a stem A, provided with a handle C, and divided transversely between said jaw and handle and connected by a hinge joint H, a spring M, secured to one section of said stem to keep the other section in alignment therewith, a lower jaw having a downward extension or socket E, sleeved on said lower section and having an upwardly ex-

tending cheek or flange 6, provided with an inclined plane 5, and an adjusting screw to reciprocate the lower jaw, as set forth for the purpose described. 2c

2. In a screw wrench, the combination with the upper jaw having a stem A, divided transversely and connected by a hinge joint H, the lower jaw having a downward socket E, sleeved on said stem below the joint and provided with a screw F, and nut K, for adjusting the lower jaw, and a spring M, to keep the upper and lower sections of the stem A, in alignment, and permit the upper jaw to yield by the force of the lower jaw when taking a fresh grip of a nut, as described. 25 30

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Witnesses:

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