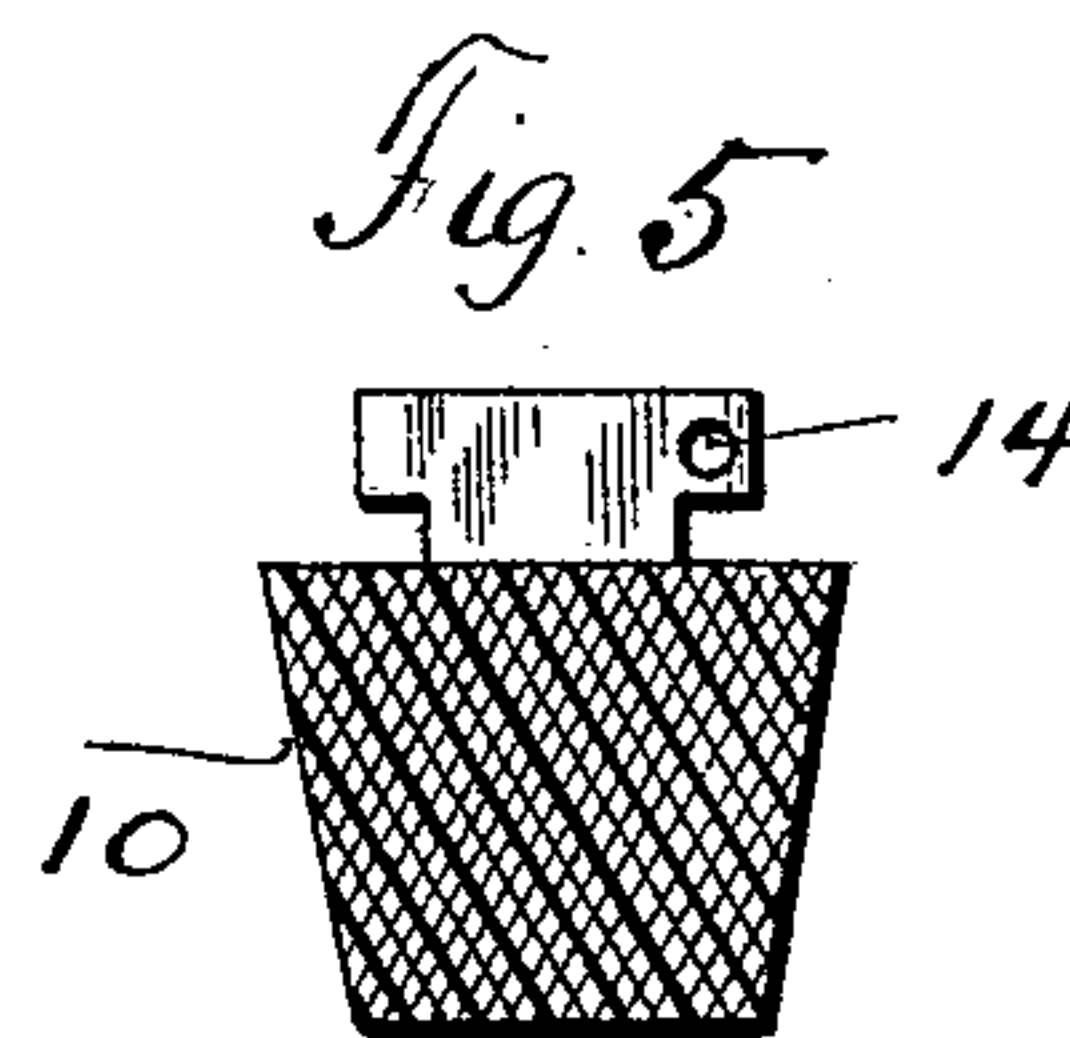
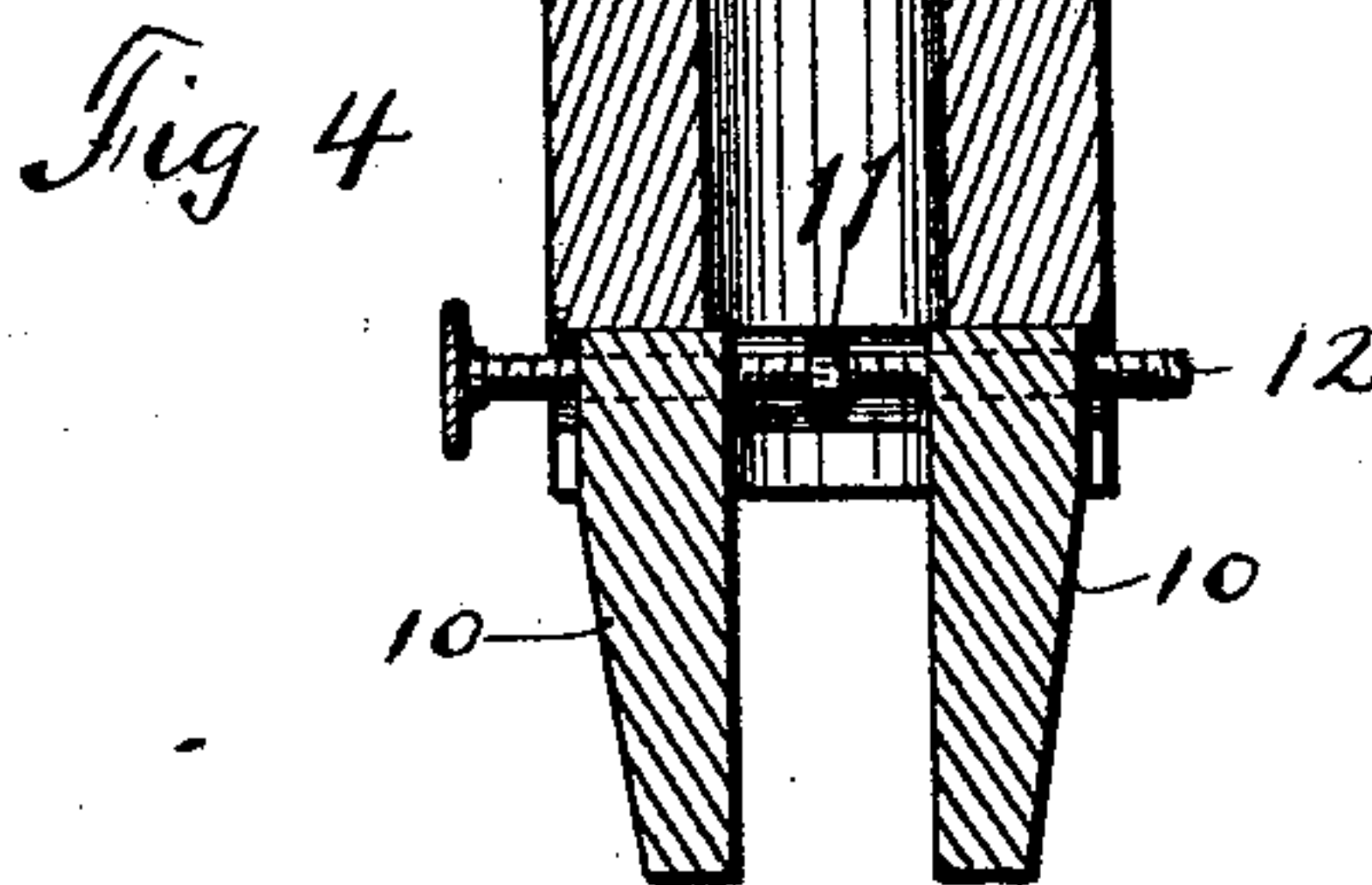
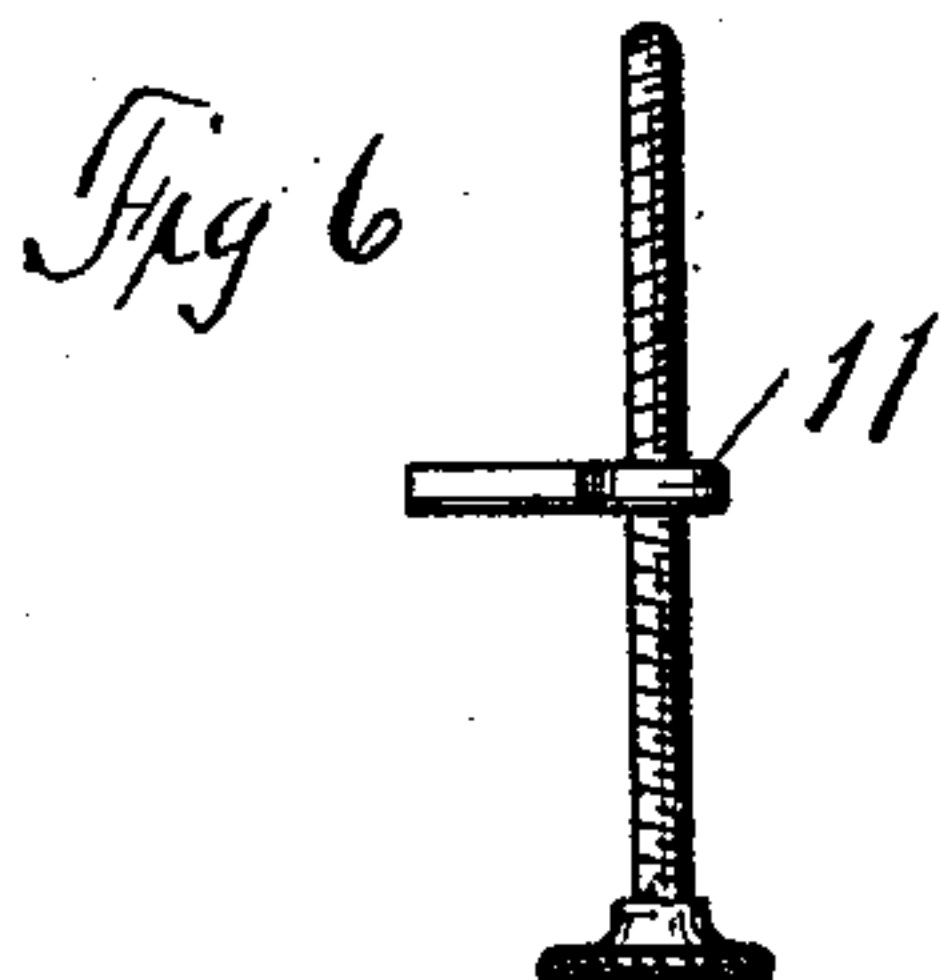
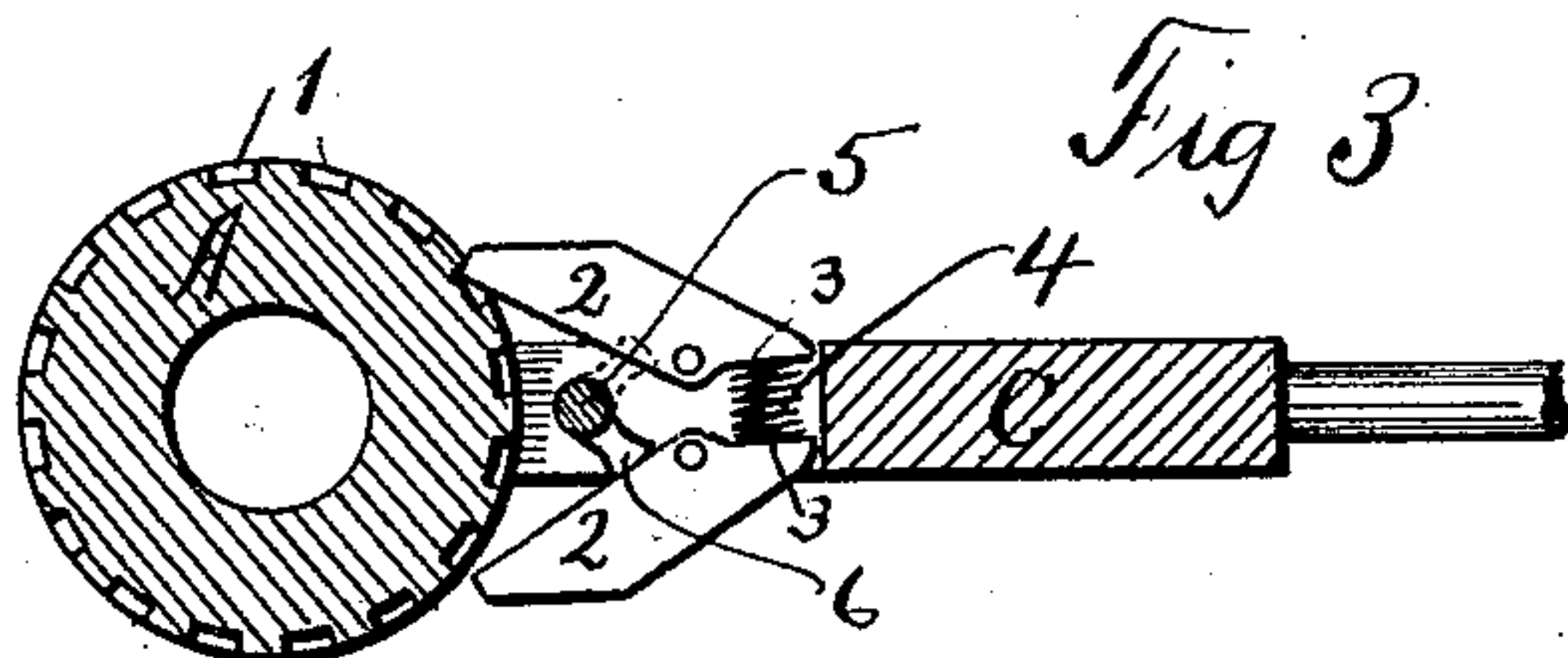
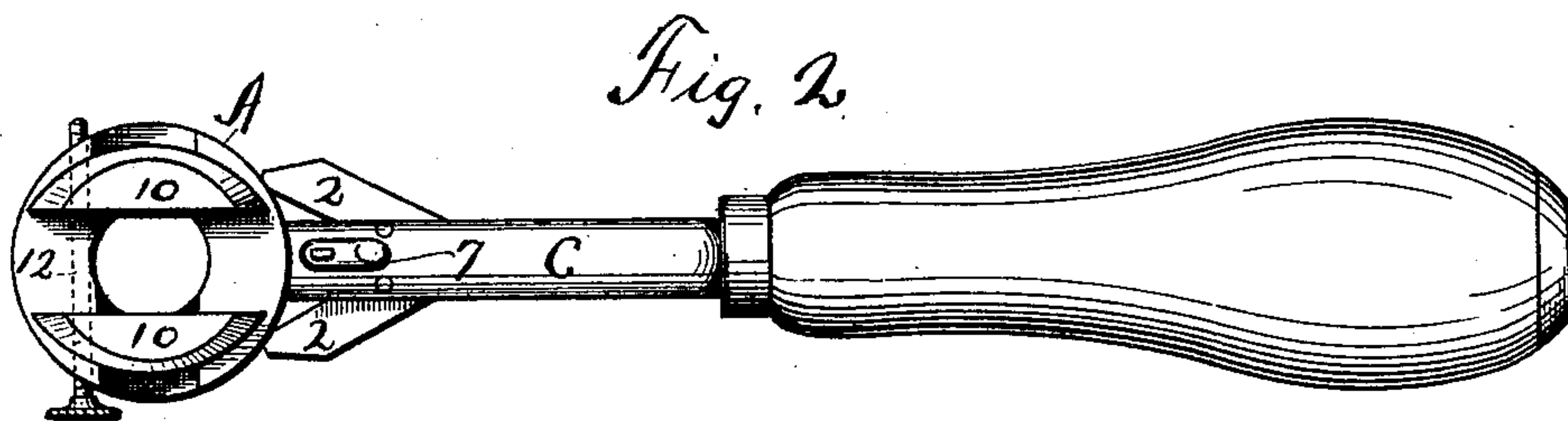
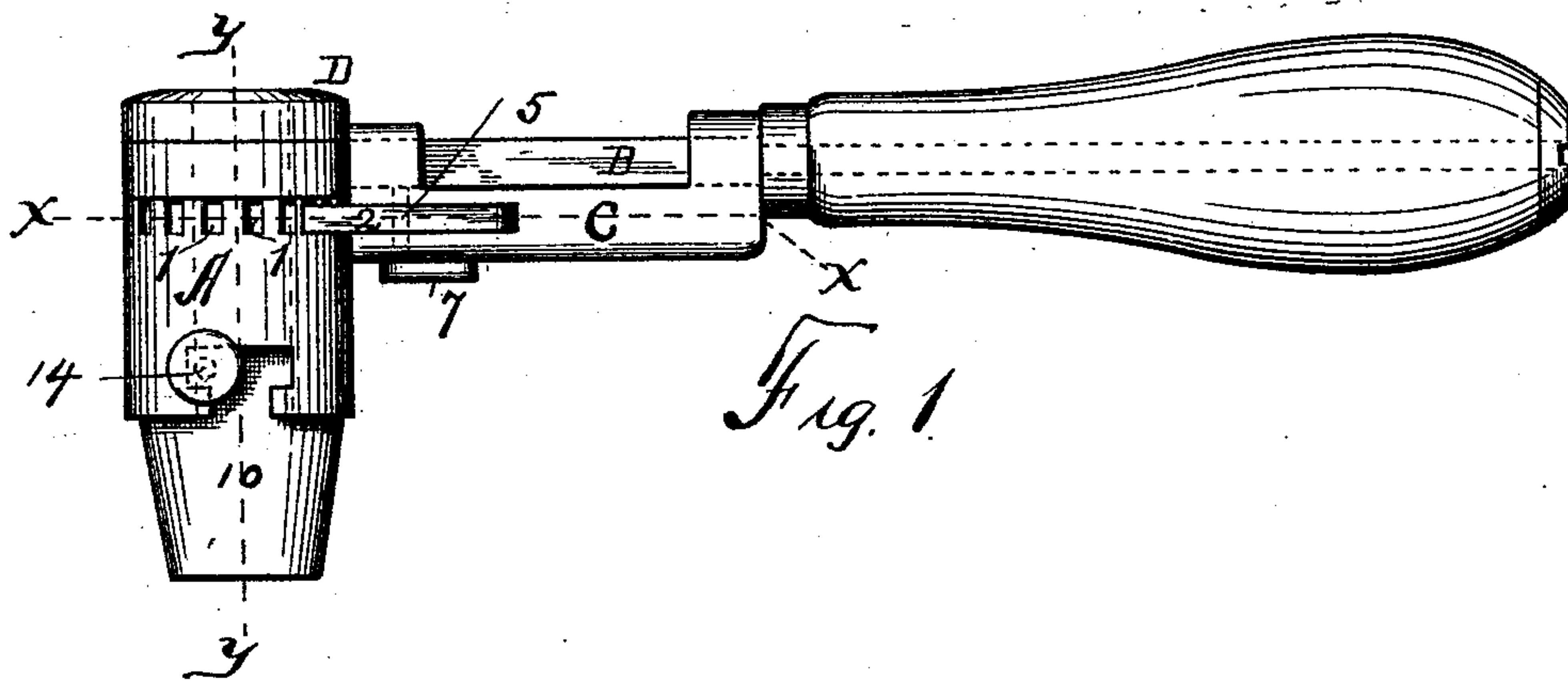


(No Model.)

G. W. WOOD.
RATCHET WRENCH.

No. 500,277.

Patented June 27, 1893.



WITNESSES:

H. A. Carhart
Geo. M. Blumer

INVENTOR.

George W. Wood
BY
Smith & Brinson
ATTORNEYS

UNITED STATES PATENT OFFICE.

GEORGE W. WOOD, OF NORTH GRANVILLE, NEW YORK, ASSIGNOR OF ONE-HALF TO PHILLIP VOGEL, OF SAME PLACE.

RATCHET-WRENCH.

SPECIFICATION forming part of Letters Patent No. 500,277, dated June 27, 1893.

Application filed June 13, 1892. Serial No. 436,436. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. WOOD, of North Granville, in the county of Washington, in the State of New York, have invented
5 new and useful Improvements in Ratchet-Wrenches, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to wrenches and particularly to the construction of ratchet wrenches.

My object is to produce a ratchet wrench, adapted to be used for pipes and nuts, readily adjusted to any size desired, quickly reversed:
15 cheap, durable in its construction and of great utility.

My invention consists of the several novel features of construction and operation hereinafter described and which are specifically set forth in the claims hereto annexed.

20 It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1, is a side view of the wrench complete. Fig. 2, is a bottom plan view thereof. Fig. 3, is a cross section on line $x x$, in Fig. 1.
25 Fig. 4, is a vertical section on line $y y$, in Fig. 1. Fig. 5, is a view of one of the nut jaws, detached. Fig. 6, is a view of the adjusting screw.

A—, is the ratchet head, constructed hollow and provided with recesses —1— near its
30 upper end, reduced in size at its extreme end.

B—, is a handle constructed at its outer end in any manner desired, and having its opposite end provided with a ring adapted to travel upon the reduced end of the ratchet
35 head.

C—, is a bracket secured to the handle —B— in any ordinary and well known manner. And to this bracket —C— are pivoted the dogs —2— having their outer ends adapted
40 to engage with the recesses —1— upon the ratchet head, and having the face of their inner ends, as shown at —3— substantially parallel to each other. And —4— is a spring interposed between said parallel faces for the
45 purpose of exerting a tension to keep one or the other of the dogs at all times in engagement with the recesses upon the ratchet head.

5—, is a post or pin erected in the bracket —C— near the ratchet head and provided
50 with an arm —6— adapted to engage with

the inner faces of the dogs, and upon its outer end is provided with a crank arm —7—.

The lower end of the ratchet wheel is provided with a groove —9— (either dovetailed or otherwise) adapted to receive the ends of
55 the nut jaw —10— and move laterally and freely therein; the inner face of said nut jaw being corrugated or otherwise roughened, for the purpose of more securely and firmly gripping the pipe when the wrench is used as a
60 pipe-wrench. The inner lower face of the ratchet head is provided with an ear —11—, having an eye therein, and adapted to receive the thumb-screw —12— by which the distance between the jaws —10— is varied to
65 adapt the wrench to a nut of any size. The upper end of the nut jaws are provided with openings —14—, threaded internally, and adapted to receive the thumb-screw —12—.

D—, is a cap having a central opening
70 therein, adapted to be screwed or otherwise secured upon the upper end of the ratchet head after the handle has been placed thereon, and for the purpose of securing it thereto.

My invention is operated as follows: When
75 it is desired to turn the handle to the left the arm —7— is turned so as throw the arm —6— against the right-hand dog —2— thus throwing it out of engagement with the recesses in the ratchet head, as shown in Fig. 3. The
80 spring then operating upon the outer end of the opposite dog throws the point of the other dog into engagement with the ratchet head, as shown in Fig. 3, when the wrench is ready for use. To reverse the wrench it is only
85 necessary to thrust the crank arm —7— around until the arm —6— takes the position shown in dotted lines in Fig. 3. The nut jaws —10— are adjusted laterally for the purpose of adapting themselves to any sized nut or
90 pipe by turning the thumb-screw —12—.

It will be observed that the openings in the nut jaws are made upon one side thereof, so that when it is used as a pipe wrench the pipe may pass through the head without being ob-
95 structed. It will also be observed that the nut jaws —10— may be made of any length or tapered desired, and thereby be able to reach a nut where it would be impossible to reach it with an ordinary ratchet wrench. 100

Having described my invention, what I claim is—

1. In a ratchet wrench, the combination with a tubular head having at one end a reduced and threaded neck a series of peripheral notches and at the opposite end and transversely thereof guides or ways, of the approximately T-shaped slides or extensions of the nut jaws working in said guides or ways provided with offset threaded apertures, means for adjusting said jaws comprising a rod supported centrally by a swivel and having right and left hand screw threads engaging the threaded apertures of said slides, the handle having a ring-like portion revolubly mounted and secured on said neck by a threaded cap and the spring pressed dogs, as specified.

2. In a ratchet wrench, the combination with a tubular head having at its upper end a reduced and threaded neck and a series of peripheral notches at its lower end and

transversely thereof guides or ways, of the T-shaped slides or extensions of the nut jaws provided with offset threaded apertures, means for adjusting said jaws comprising a rod supported centrally by a swivel and having right and left hand screw threads engaging the threaded apertures of the said slides, the handle having a shank terminating in a ring-like portion revolubly mounted and held on said neck by a threaded cap, a bracket carried by said shank having pivotally secured therein spring pressed dogs engaging the said peripheral notches and the dog shifting device, as specified.

In witness whereof I have hereunto set my hand this 4th day of June, 1892.

GEORGE W. WOOD.

In presence of—

JOHN B. DAVIS,
GEO. B. CULVER.