

No. 628,838.

J. H. NEAL.
WRENCH.

(Application filed Feb. 6, 1899.)

Patented July 11, 1899.

(No Model.)

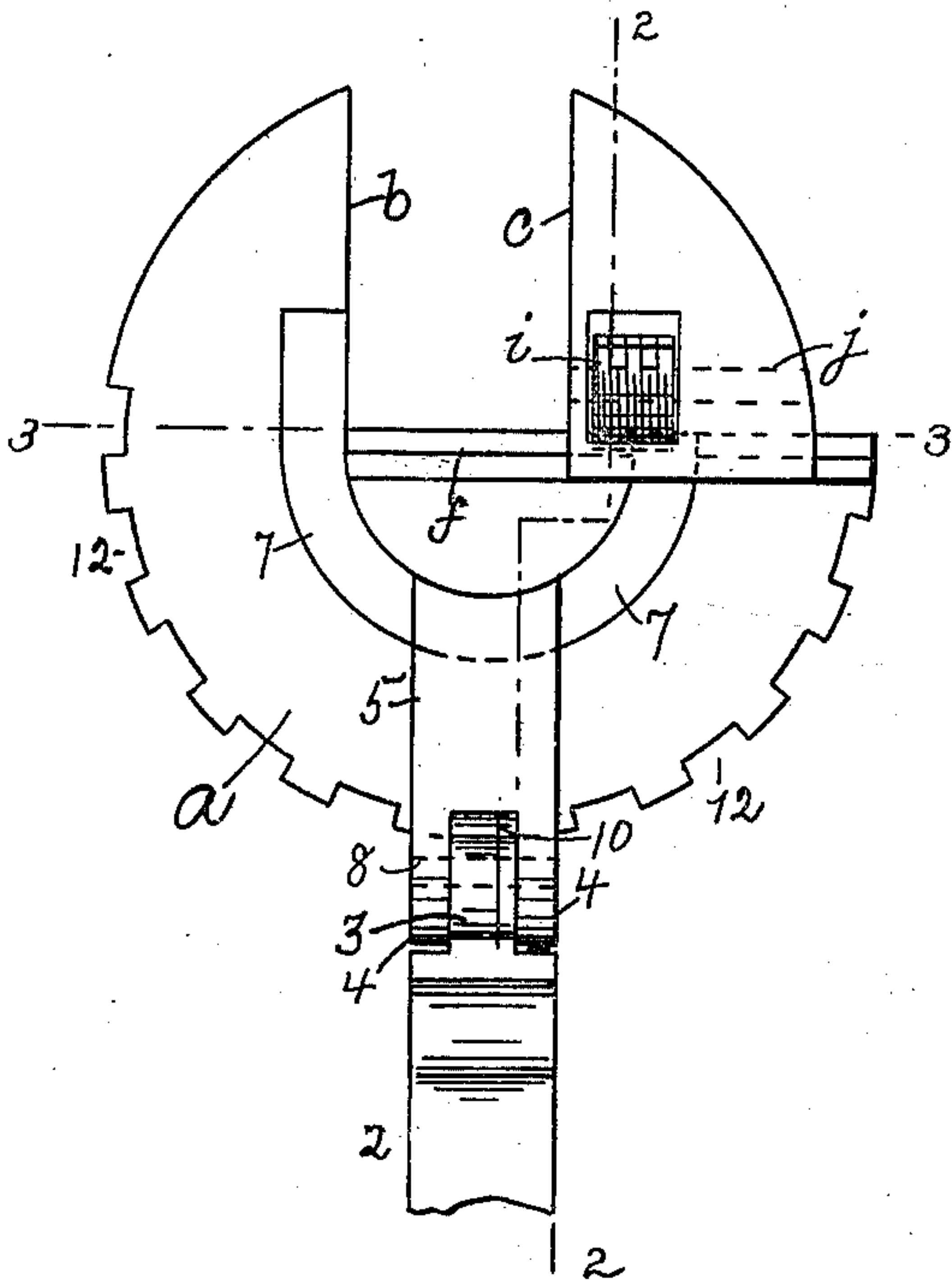


Fig. 1.

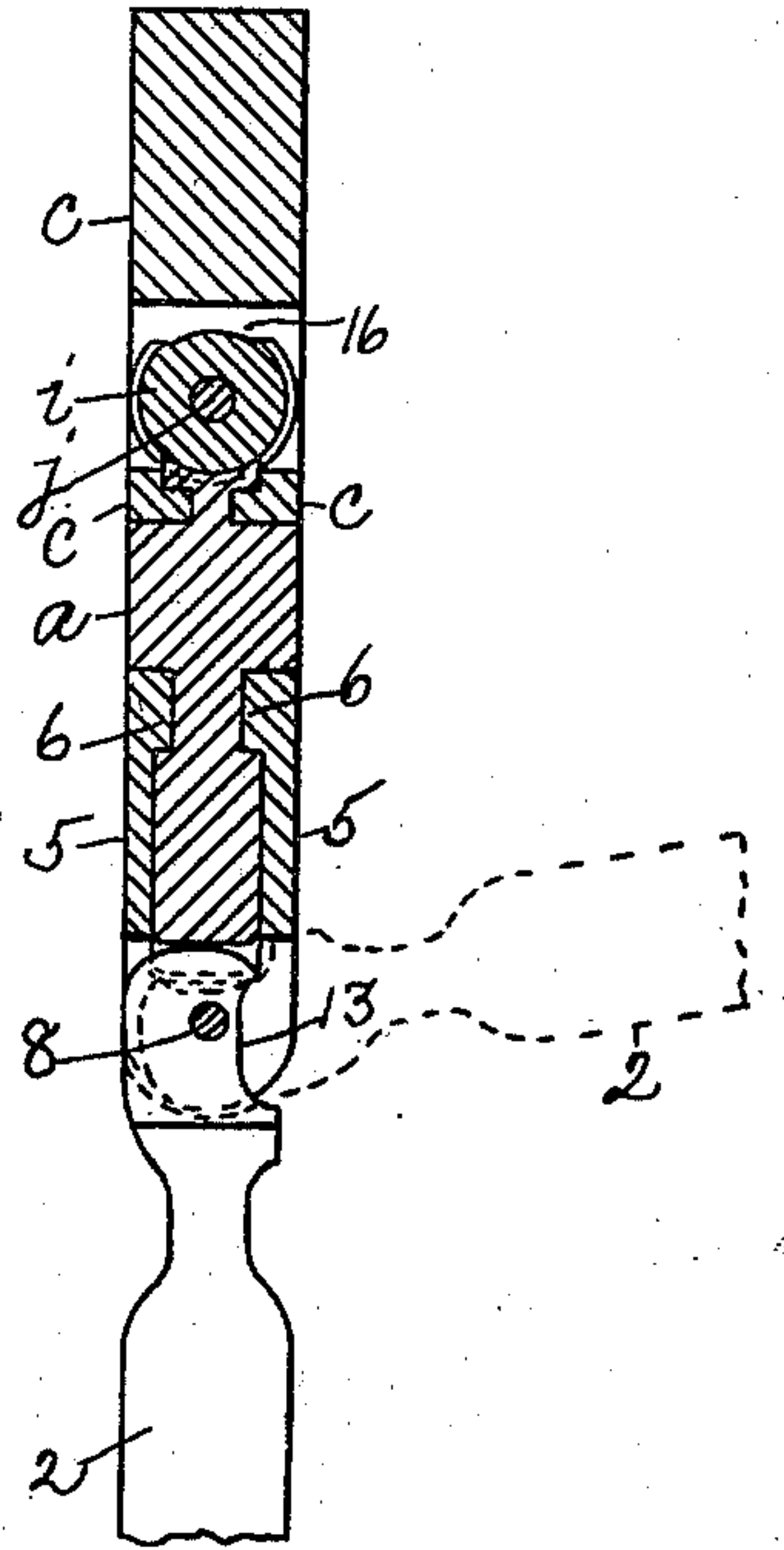


Fig. 2.

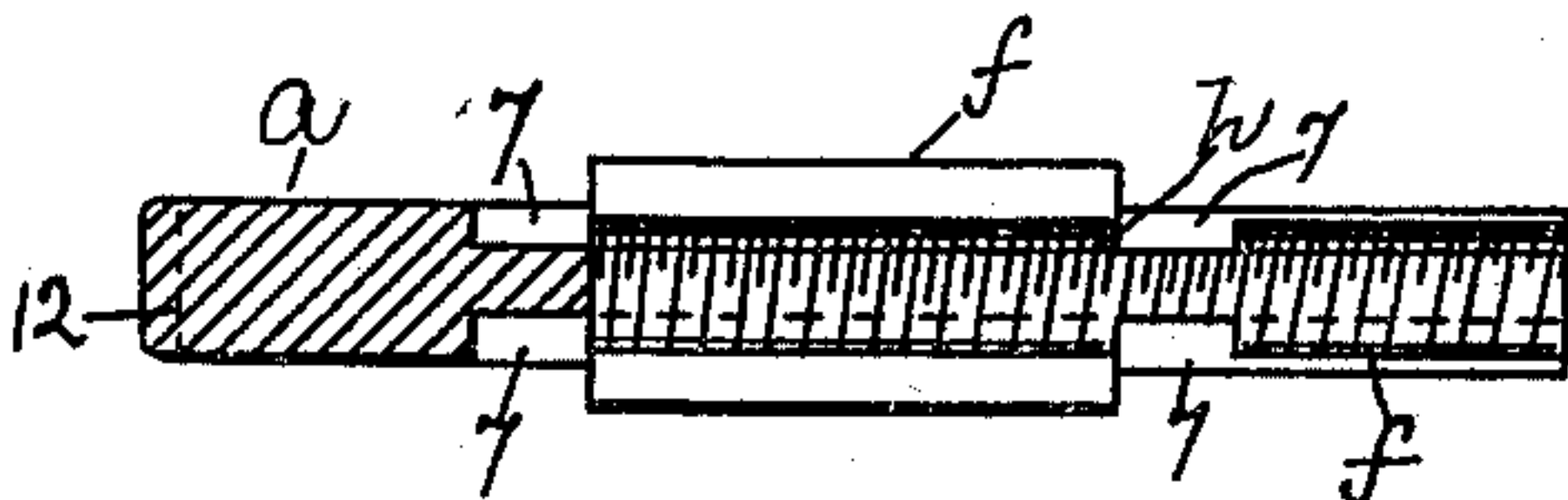


Fig. 3.

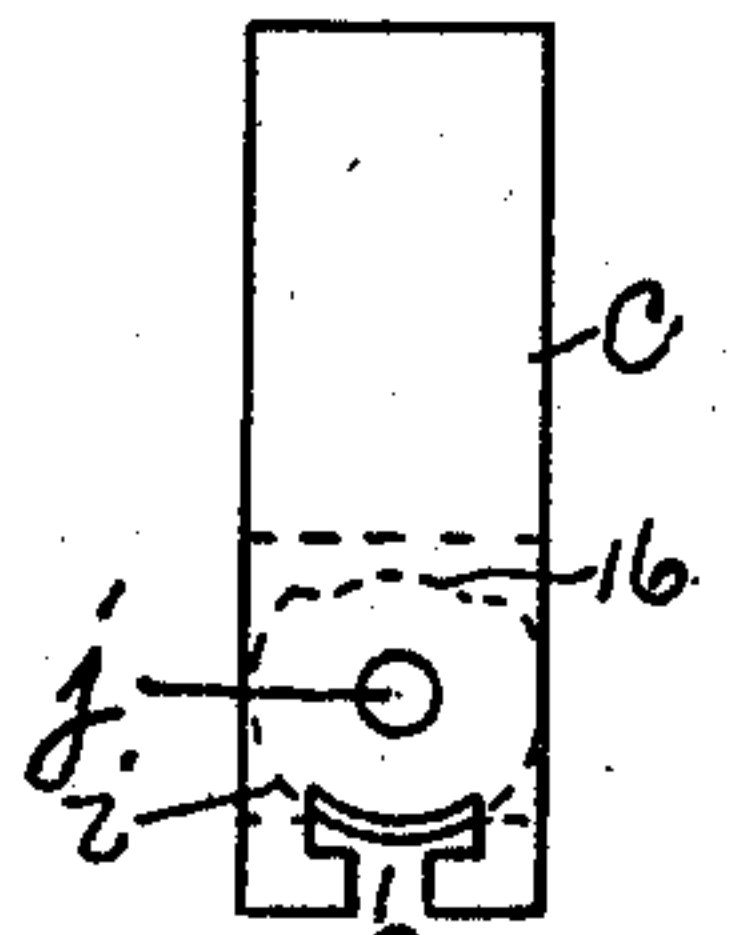


Fig. 4.

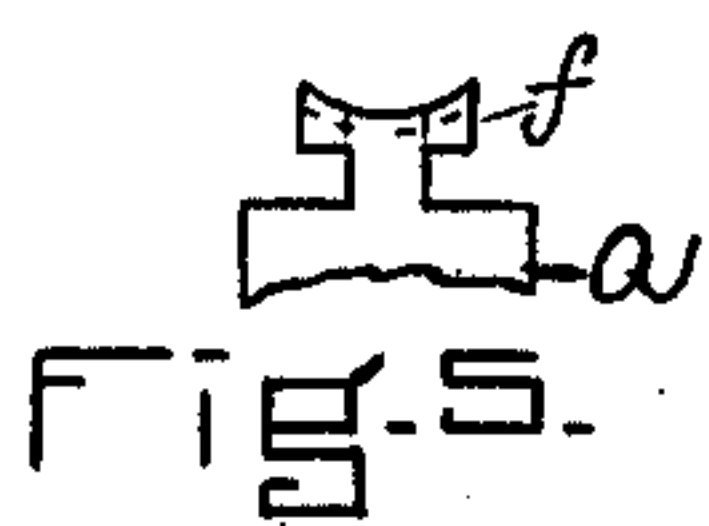


Fig. 5.

WITNESSES.
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WRENCH.

SPECIFICATION forming part of Letters Patent No. 628,838, dated July 11, 1899.

Application filed February 6, 1899. Serial No. 704,632. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. NEAL, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Wrenches, of which the following description, in connection with the accompanying drawings, is a specification, like letters and numerals on the drawings representing like parts.

10 This invention relates to a novel construction of wrench, and has for its object to provide a wrench which can be operated in various positions and in close quarters, as will be described.

15 In accordance with this invention the wrench is provided with a head and with a handle, movable with relation to said head in two directions substantially at right angles to one another, and a link or yoke by which the

20 handle is attached to the head, the said link being movable relatively to the head to adjust the handle relative to the head, and which link is locked in its adjusted position by means of the handle, as will be described.

25 The head is preferably made circular in shape and is provided with grooves in its sides for engagement with the link and with locking teeth or notches in its outer edge or periphery, which are engaged by the handle, as will

30 be described, to lock the said handle to the head. The head referred to may be provided with fixed jaws; but I prefer to make one of the jaws adjustable, as will be described. These and other features of this invention

35 will be pointed out in the claims at the end of this specification.

Figure 1 is a side elevation of a wrench embodying this invention with the movable jaw in its open position; Fig. 2, a section on the

40 line 2 2, Fig. 1, looking toward the left; Fig. 3, a section on the line 3 3, Fig. 1; Fig. 4, an end elevation of the movable jaw detached, and Fig. 5 a detail to be referred to.

The head of the wrench herein shown as

45 embodying this invention consists of a substantially disk-shaped body *a*, provided, as shown, with a fixed jaw *b* and a movable jaw *c*, which is fitted to the body *a* to move toward and from the fixed jaw. The movable jaw *c*

50 is provided on its under side, as herein shown, with a longitudinal substantially dovetailed slot *e*, adapted to fit over and embrace a corre-

spondingly-shaped bed *f* in the body *a*. The bed *f* has its upper surface curved and provided with screw-threaded teeth *h*, which are engaged by a nut *i*, threaded on its outer circumference and mounted on a shaft or pin *j*, extended through a suitable hole in the movable jaw. By rotation of the nut *i* the movable jaw may be adjusted with relation to its

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coöperating jaw *b*.

The body *a* has attached to it a handle 2, provided with a projection or lug 3, extended between forks or arms 4 on a substantially U-shaped link or yoke 5, which embraces the

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body *a* (see Fig. 2) and is provided with inwardly-projecting lugs 6, which extend into grooves 7 in the opposite sides of the body *a*, the said grooves in the present instance being substantially circular in form. The handle

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2 is attached to the yoke 5 by a pivot-pin 8, and the lug 3 is preferably split, as at 10, to obtain sufficient friction to enable the wrench to be operated with the handle laterally extended with relation to its normal position. (Shown in Figs. 1 and 2.)

The yoke or link 5 forms a connection between the handle 2 and the body *a*, which connection is adapted to be adjusted or moved into different positions with relation to said

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body by the handle, but which is firmly locked in its adjusted position by the lug 3 entering teeth or notches 12 in the outer edge or circumference of the body *a*. The lug 3 is cut away on one side, as at 13, so that the handle may be disengaged from the teeth 12, and thus

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permit the yoke or link 5 to be moved in the grooves 7.

The handle, when locked to the head of the wrench in its normal position, lies in the same plane as the said head, as represented in Figs. 1 and 2, and by reference to Fig. 2 it will be seen that the handle may be turned on its

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pivot 8 to the right or left of this normal position to a greater or less degree without unlocking the connecting link or yoke 5 from the head—that is, without disengaging the lug 3 from the notches or teeth 12. By reason of the handle being thus adjustable or movable from its normal position without disengaging the same from the head the wrench is adapted for use in close quarters and in a variety of different positions and situations where it would be substantially impossible to

use a wrench of ordinary construction. So, also, it will be noticed that the handle is not only adjustable to the right and left from its normal position, (shown in Figs. 1 and 2,) but

5 is further adjustable in the same plane as the head, which permits the latter to be adjusted to the work, and when fitted thereon the handle is engaged with the peripheral teeth or notches.

10 The invention is herein shown as embodied in a wrench having smooth jaws; but, if desired, the jaws may be provided with teeth to adapt the wrench for use as a pipe-wrench. So, also, if desired, the invention may be embodied in a wrench in which both jaws are

15 made movable or both made stationary. To obtain quick adjustment of the movable jaw *c*, the exteriorly-threaded nut *i* is provided with a smooth portion 16, (see Fig. 2,) which

20 enables the nut to be disengaged from the threaded bed. By means of the screw-threads in the bed *f* a fine adjustment of the movable jaw *i* toward the fixed jaw may be obtained, and the exterior teeth on the nut engaging

25 said threaded bed insures increased resistance to movement of the jaw *c* while in operation.

I claim—

1. In a wrench, the combination of the following instrumentalities, viz: a head having

30 jaws and provided with notches or teeth in its edge opposite to said jaws, and having grooves in its sides, a link or yoke embracing the notched edge of the head and movable in

35 said grooves, and a handle pivoted to said yoke to move in a plane substantially at right angles to the plane of movement of the yoke and adapted to engage said notches to lock the link against movement on the head, sub-

40 stantially as described.

2. In a wrench, the combination of the following instrumentalities, viz: a head having jaws, a link attached to the said head to move bodily with relation thereto, and a handle connected to the link to move therewith and

45 to also move in a plane substantially at right angles thereto, and means to lock said handle to the head to prevent movement of the said link, substantially as described.

3. In a wrench, the combination of the following instrumentalities, viz: a head having

50 jaws, a link connected to said head to move bodily relative thereto in the plane of said head, and a handle connected to said link to move therewith and also independent thereof

55 in a plane substantially at right angles to the plane in which the link is moved, and adapted to be engaged with and disengaged from said head, substantially as described.

4. In a wrench, the combination of the following instrumentalities, viz: a substantially

60 circular head provided with jaws and with circular grooves in its sides and notches or teeth in its circumference, a yoke or substantially U-shaped link embracing the head and

65 provided with lugs extended into said grooves, and a handle pivoted to said link to move in a plane substantially at right angles to the plane of movement of the link, and provided with a projection adapted to be engaged with

70 and disengaged from said circumferential teeth or notches, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES H. NEAL.

Witnesses:

JAS. H. CHURCHILL,
J. MURPHY.