

T. H. MUMMA.  
WRENCH.

APPLICATION FILED JAN. 27, 1908.

915,463.

Patented Mar. 16, 1909.  
2 SHEETS—SHEET 1.

Fig. 1.

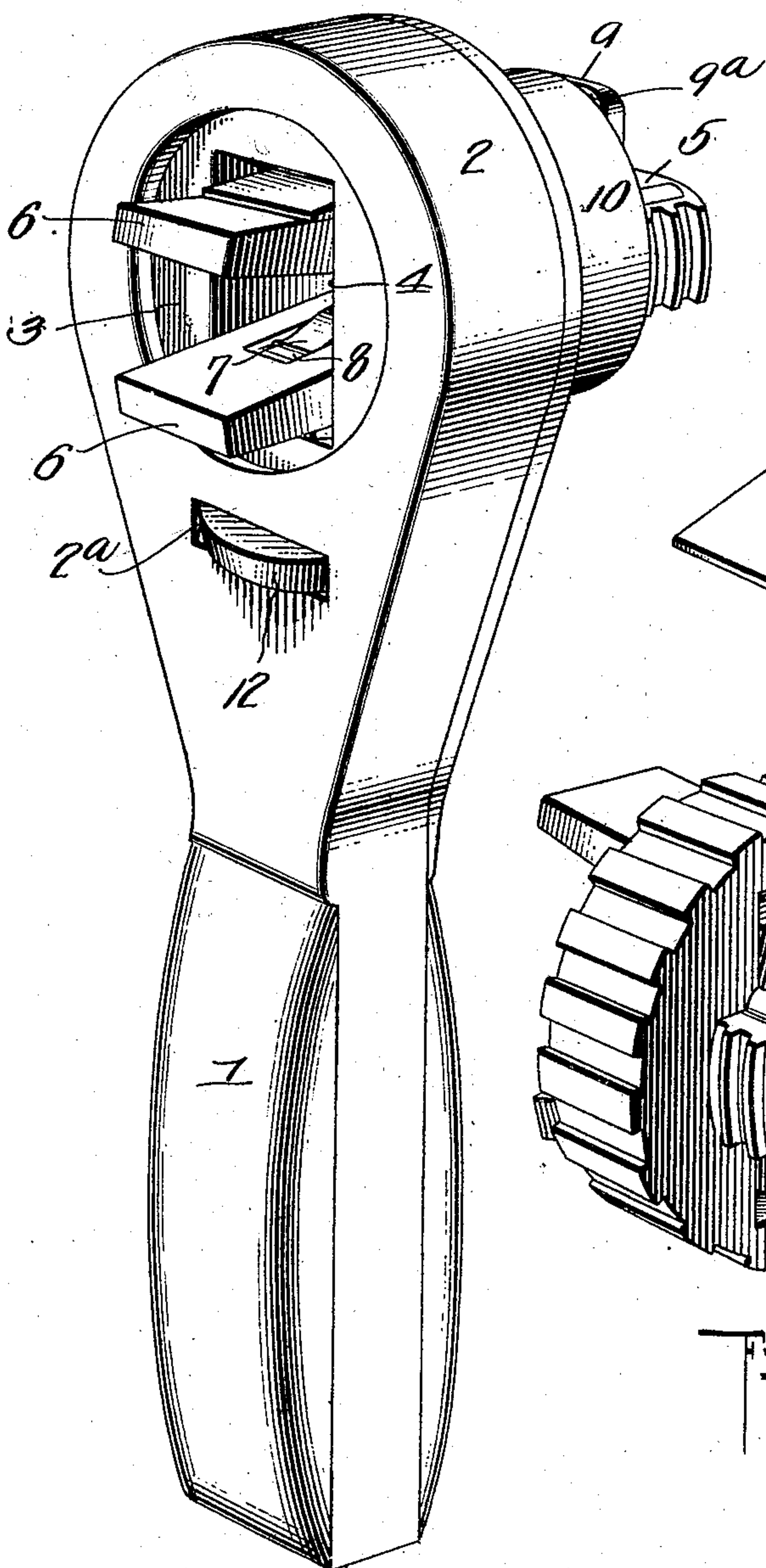


Fig. 5.

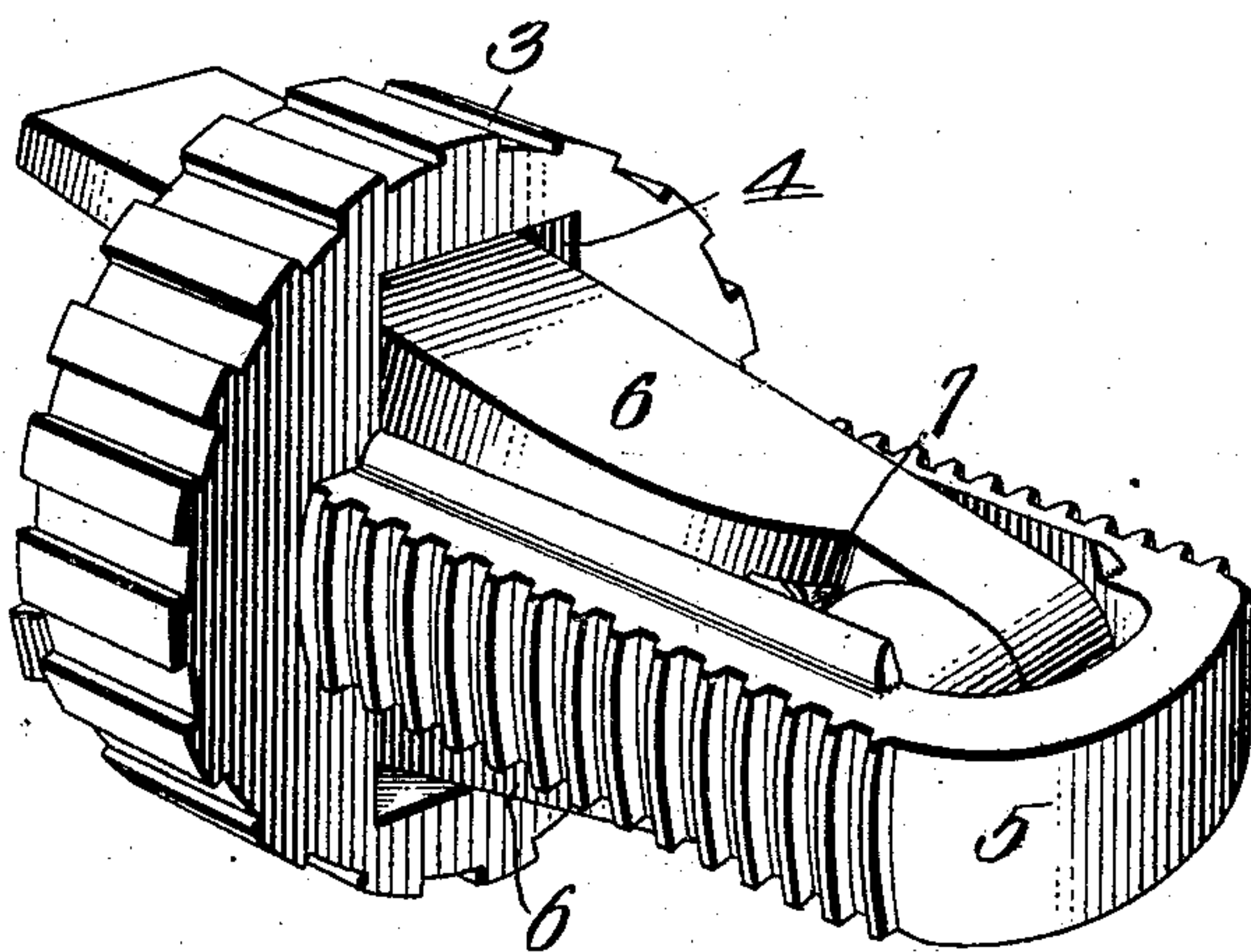
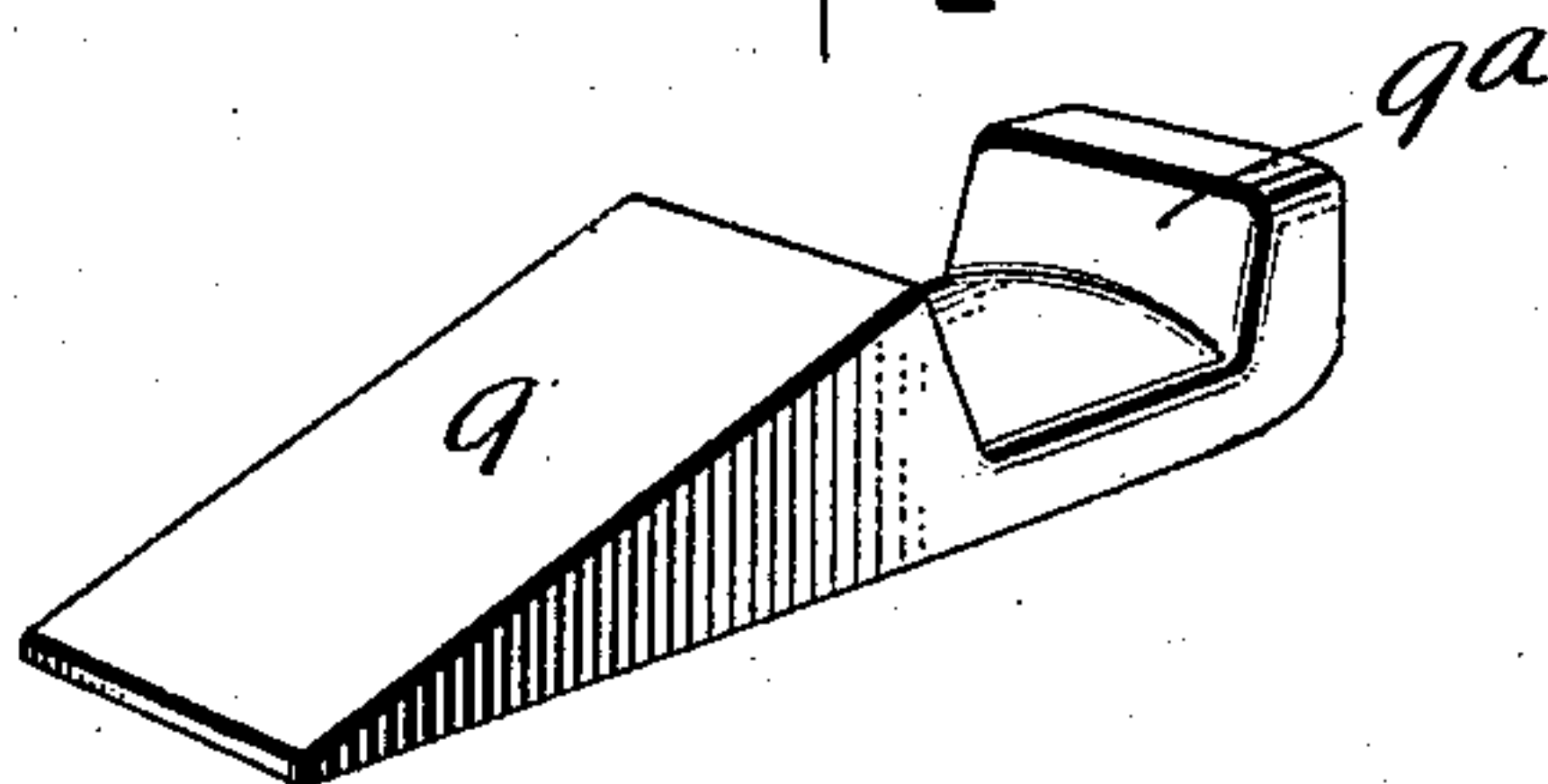


Fig. 6.

Witnesses

*Oliver H. Holmes*  
*E. B. Smith*

Inventor

*T. H. Mumma,*

*O. Mearns Brock*  
Attorney

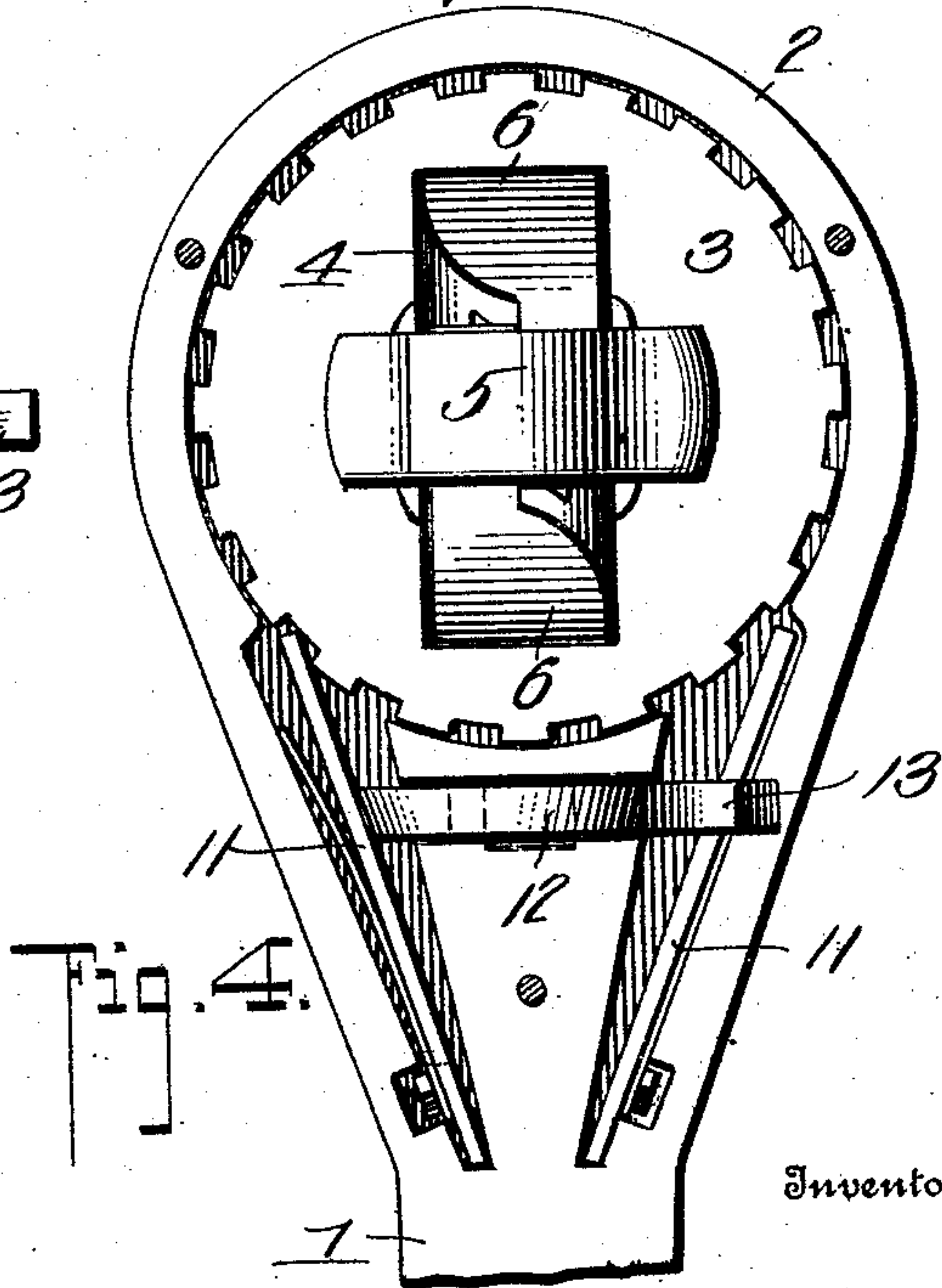
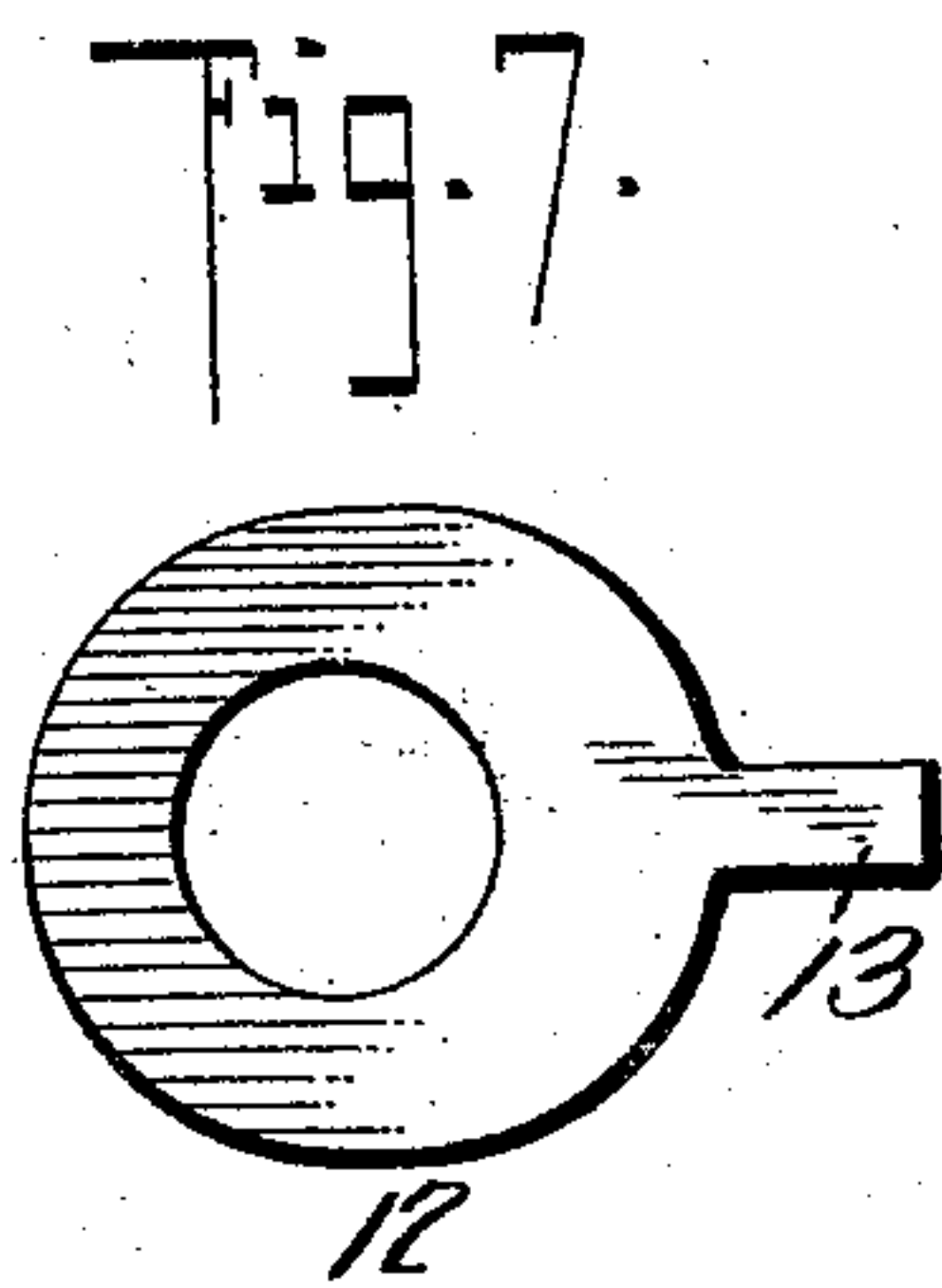
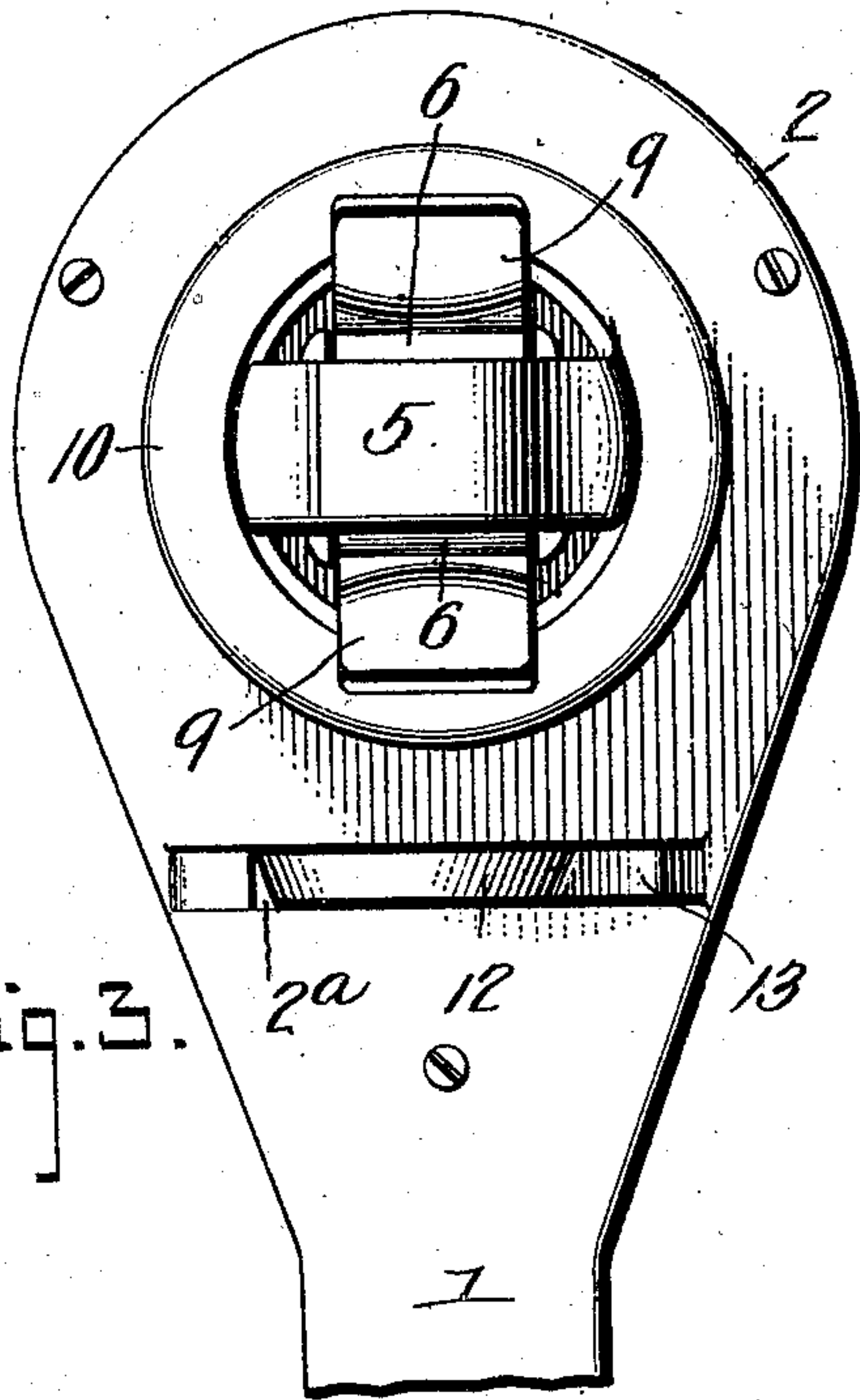
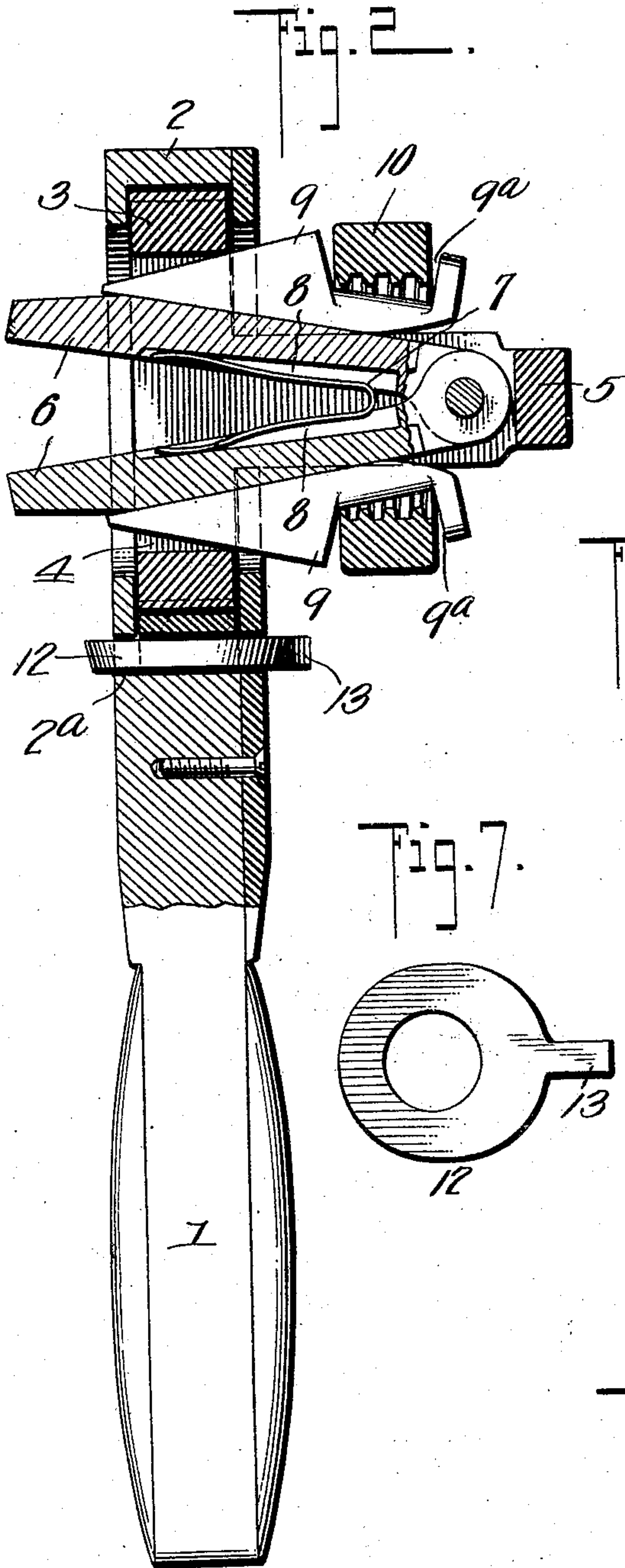
T. H. MUMMA.  
WRENCH.

APPLICATION FILED JAN. 27, 1908.

915,463.

Patented Mar. 16, 1909.

2 SHEETS—SHEET 2.



Witnesses

Oliver H. Holmes  
E. B. McBeth

Inventor

By T. H. Mumma  
O'Meara & Brock Attorneys



# UNITED STATES PATENT OFFICE.

THOMAS HANSHAW MUMMA, OF DUNNIGAN, CALIFORNIA.

## WRENCH.

No. 915,463.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed January 27, 1908. Serial No. 412,820.

*To all whom it may concern:*

Be it known that I, THOMAS HANSHAW MUMMA, a citizen of the United States, residing at Dunnigan, in the county of Yolo and State of California, have invented a new and useful Improvement in Wrenches, of which the following is a specification.

The invention relates to an improvement in a wrench and the object of the invention is a wrench in which the gripping jaws are held at a right angle to the handle, and are positively closed by the action of sliding wedge-shaped blocks.

A further object of the invention is to provide a ratchet with oppositely acting spring pawls, and a locking cam adjustably arranged between the pawls so that the ratchet mechanism can be employed effectively either in tightening or loosening a nut.

The invention consists of the novel features of construction hereinafter described, pointed out in the claims and shown in the accompanying drawings in which—

Figure 1 is a perspective view of the complete wrench. Fig. 2 is a longitudinal sectional view through the wrench, the handle being shown in elevation. Fig. 3 is a top plan view of the wrench head, the handle being broken off. Fig. 4 is a top plan view of the wrench head, the top plate being removed, and the handle being broken off. Fig. 5 is a detail perspective view of a wedge block. Fig. 6 is a detail perspective view of a ratchet wheel and parts carried thereby. Fig. 7 is a face view of a locking cam.

In these drawings 1 represents a handle or shank which carries at one end a housing 2 which forms the head of the wrench and which housing is semi-cylindrical in form and provided with a central opening through which projects the wrench mechanism. Within this housing is loosely mounted a ratchet wheel 3 provided with a rectangular opening 4 and carrying upon one side a U-shaped rack bar 5 in the bow portion of which are pivotally mounted gripping jaws 6, said jaws being normally spaced apart at their free ends by a U-shaped spring 7 which rests in recesses 8 formed in the opposing faces of the jaws 6. These jaws extend through the rectangular opening 4 and project outwardly through the housing 2 upon one side, the rack bar 5 projecting upon the other or upper side. To force the said jaws 6 together and to provide for a positive gripping action wedge-shaped blocks 9 are pro-

vided, one of these blocks sliding upon each of the jaws 6 and extending into the rectangular opening 4. Each block is cut away upon its outer face as shown at 9<sup>a</sup> and through said cut-out portions works loosely an interiorly threaded ring 10 threads of which engage the threads of the bar 5, and it will be obvious that as the ring is rotated and moves along the bar 5 blocks 9 will be moved with it, sliding upon the jaws 6, and when the ring 10 is rotated so as to slide the blocks 9 farther into the rectangular opening 4 the wedging of the blocks will force the jaws 6 toward each other and will cause them to grip tightly any object between them.

To allow for the forward and backward swinging movement of the handle in turning a nut and at the same time to prevent reverse turning of the nut during the action of either tightening or unscrewing it, I provide in the housing 2 spring actuated pawls 11 which engage the teeth of the ratchet wheel 3, and one of the pawls is normally held out of engagement with said wheel by a cam 12 which is mounted between the two pawls and which is provided with a finger portion 13. This cam is simply an eccentrically mounted disk the finger being arranged upon the cam end of the disk. The housing 2 is slotted on opposite sides as shown at 2<sup>a</sup> to permit working of the cam and the finger 13 projects through the opening 2<sup>a</sup> on the upper side or back of the wrench head. By throwing the finger 13 from one end of the said slot 2<sup>a</sup> to the other the cam 12 will release one pawl permitting it to come into engagement with the ratchet wheel 3 and will engage the other pawl forcing the same away from the ratchet wheel, thus permitting reverse movement of the wheel with respect to its previous movement. It will be obvious therefore to those familiar with this art that the wrench handle can be swung back and forth and a nut either tightened or loosened as may be desired, the swinging movement of the wrench handle turning the nut in one direction only.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A wrench of the kind described comprising a handle, a housing carried by the handle and having a transverse opening therein, a ratchet wheel loosely held in said housing, said ratchet wheel being provided with an opening, a U-shaped rack bar carried



by said ratchet wheel, gripping jaws pivotally mounted in the bow portion of said rack bar, said jaws extending through the opening in the ratchet wheel and projecting upon one side of the housing, wedge-shaped blocks sliding upon said gripping jaws and extending into the opening through the ratchet wheel, and means carried by the rack bar for forcing said blocks into said opening, as and for the purpose set forth.

2. A wrench of the kind described comprising a handle, a housing carried by said handle, a ratchet wheel, a U-shaped rack bar carried by one side of said wheel, the wheel being centrally cut-out, gripping jaws extending through said cut-out portion of the wheel, said jaws being pivotally mounted

within the U-shaped member, wedging blocks resting upon said gripping jaws and extending into the opening in the wheel, an interiorly threaded ring traveling upon the rack bar and engaging said blocks, the ratchet wheel being held loosely in said housing, the U-shaped rack bar and the free ends of the gripping jaws projecting from opposite sides of said housing, pawls adapted to engage said ratchet wheel and locking the same to the housing, and a cam for throwing said pawls out of engagement with the ratchet wheel.

THOMAS HANSHAW MUMMA.

Witnesses:

ELMER W. ARMFIELD,  
C. C. WRIGHT.