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G. THOMPSON

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TURNBUCKLE WRENCH

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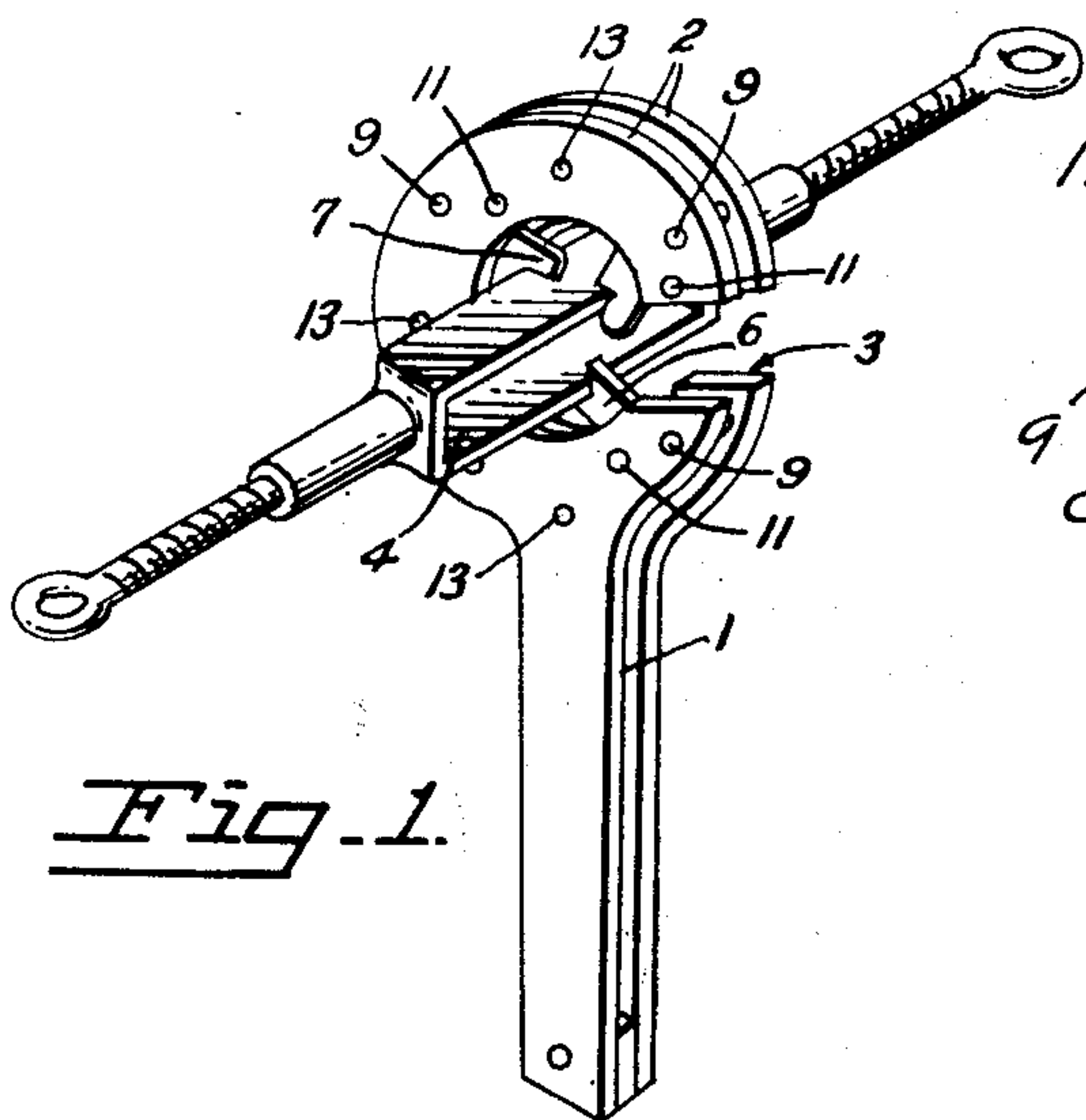


Fig. 1.

Fig. 2.

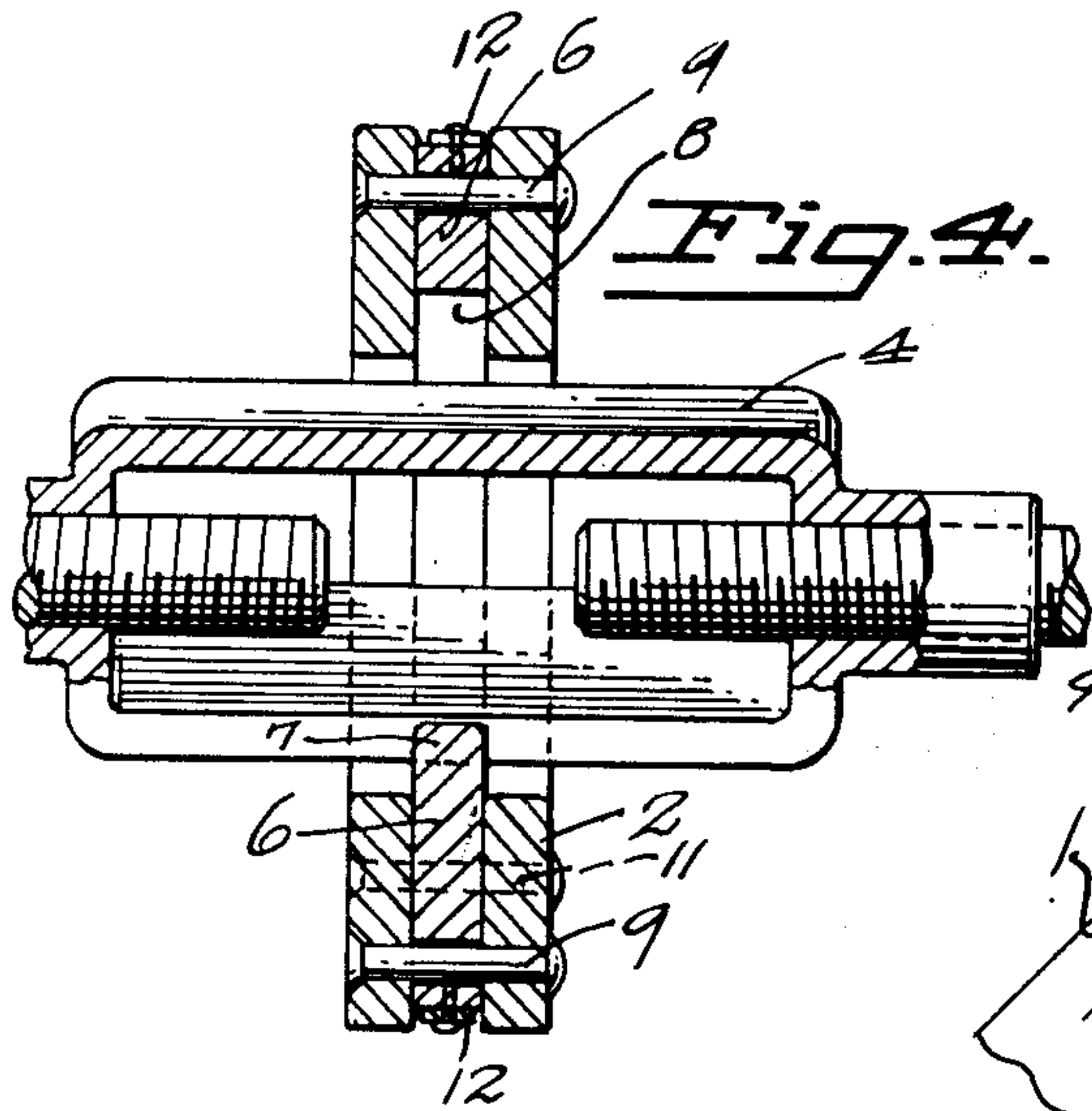
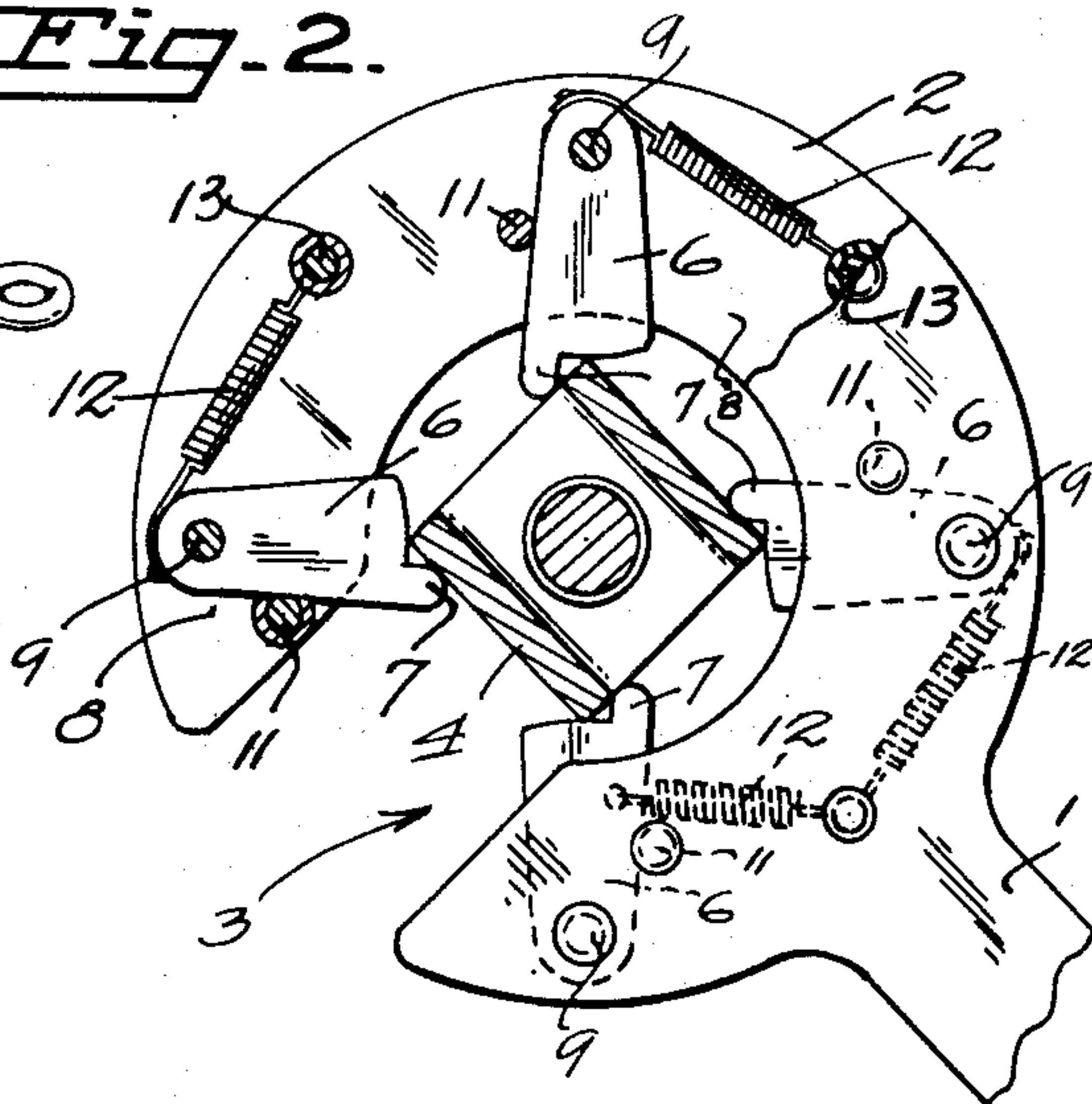


Fig. 4.

Fig. 3.

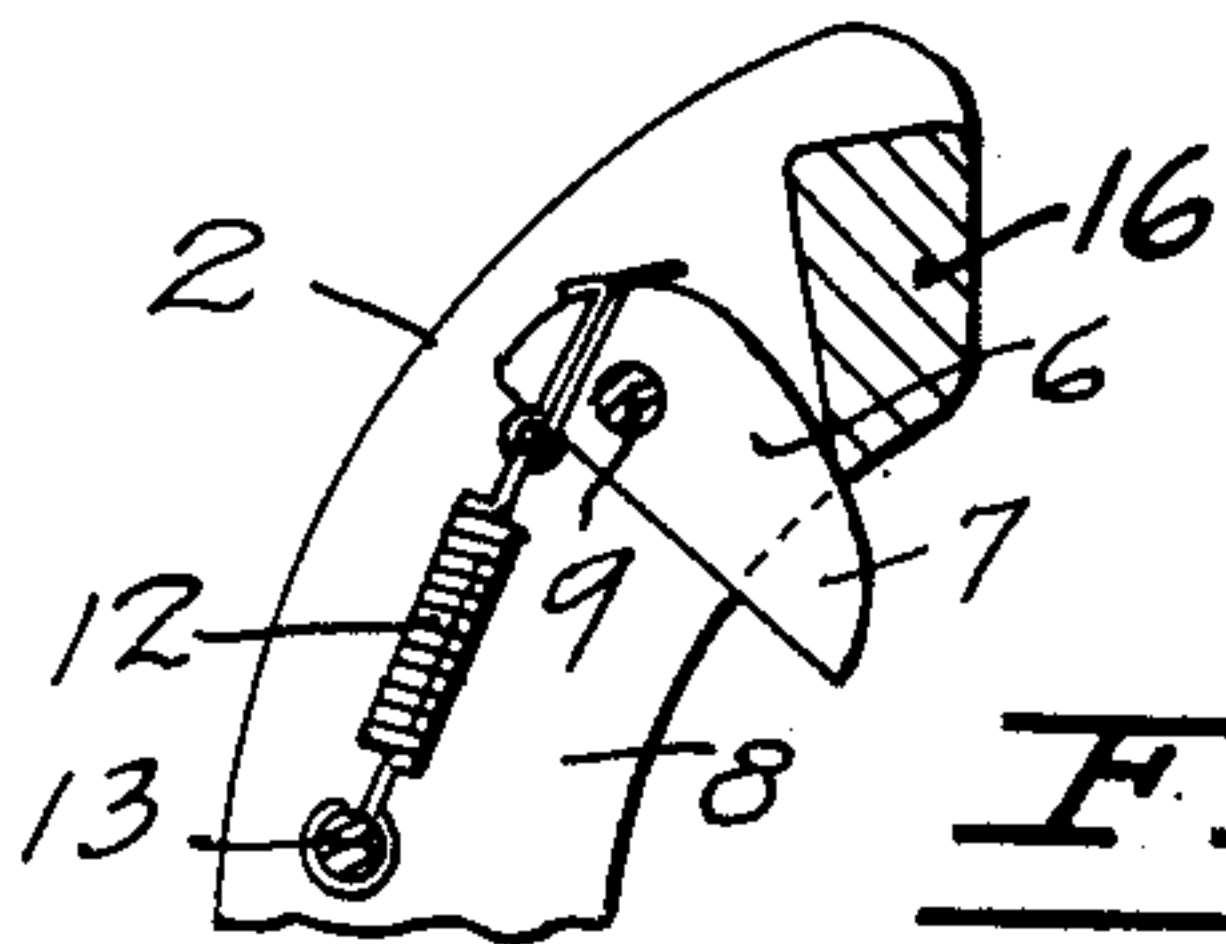
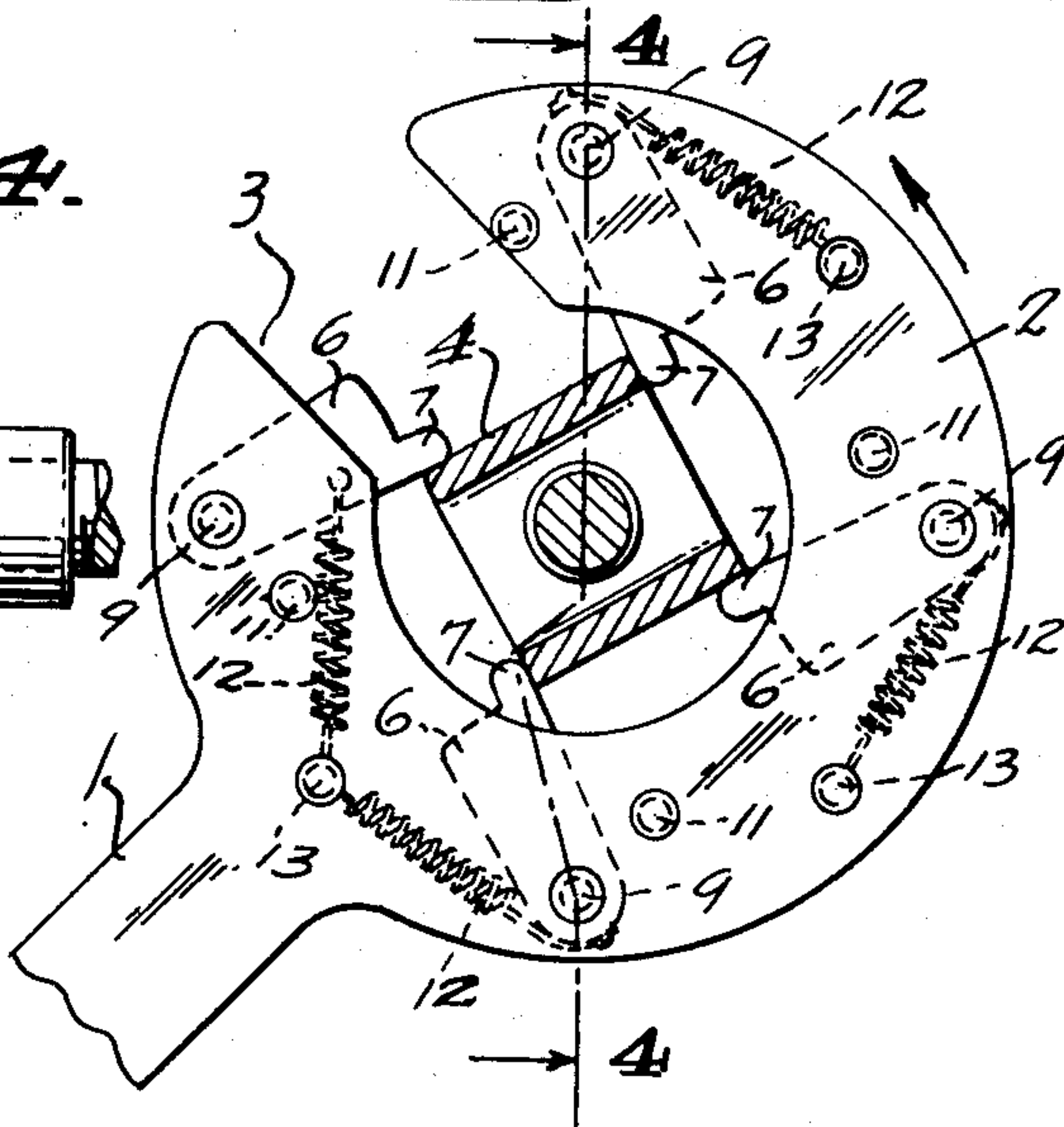


Fig. 5.

INVENTOR  
GARRIE THOMPSON  
BY

*George B. White*

ATTORNEY



## UNITED STATES PATENT OFFICE

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## TURNBUCKLE WRENCH

Garrie Thompson, Berkeley, Calif.

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1 Claim. (Cl. 81—91)

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This invention relates to a turnbuckle wrench. The primary object of this invention is to provide a turnbuckle wrench which can be easily inserted over a turnbuckle selectively for turning the turnbuckle in either direction with easy back and forth motion, and which has pawls so held as to be pushed out of the way by the turnbuckle when the relative turning movement is in the direction in which the turnbuckle is inserted, and which firmly grip the turnbuckle at its corners when the relative turning movement is in the opposite direction.

I am aware that some changes may be made in the general arrangements and combinations of the several devices and parts, as well as in the details of the construction thereof without departing from the scope of the present invention as set forth in the following specification, and as defined in the following claim; hence I do not limit my invention to the exact arrangements and combinations of the said device and parts as described in the said specification nor do I confine myself to the exact details of the construction of said parts as illustrated in the accompanying drawings.

With the foregoing and other objects in view which will be made manifest in the following detailed description, reference is had to the accompanying drawings for the illustrative embodiment of the invention, wherein:

Fig. 1 is a perspective view showing my wrench applied to a turnbuckle.

Fig. 2 is a side view of the head of my wrench, partly broken away, a turnbuckle being shown in section therein.

Fig. 3 is a side view of the head of my wrench as it is turned relatively to the turnbuckle for taking another grip.

Fig. 4 is a sectional view taken through the lines 4—4 of Fig. 3, and

Fig. 5 is a sectional fragmental view of a modified form of the pawl and abutment in the head of my wrench.

In the illustrative embodiment of my wrench I make use of a handle 1 which has a generally circular ring-like head 2. A segment of said ring-like head 2 is open to provide a gap 3 suitable for the passage of a turnbuckle 4 there-through.

A plurality of pawls 6 are pivoted in the ring-like head 2. There are in this illustration four pawls 6 spaced from one another circumferentially around the head 2 so that the inner points 7 of the pawls 6 are in diametrically opposite pairs on diameters generally at right angles to

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one another and generally at forty five degrees to the diameter extended through the center of the ring gap 3.

Each pawl 6 is turnable in a socket or space 8 within the head 2, which socket is open inwardly of the head 2. A pivot 9 extends through each pawl 6 and is secured in the head 2 so as to form a pawl fulcrum on an axis generally at right angles to the plane of the ring-like head 2.

An abutment or back stop 11 is fixed in each socket 8 adjacent an edge of each jaw. A suitable spring, such as the coil spring 12 is anchored at one end thereof within the head 2 on a pin 13 and at its other end on the outer end of the pawl 6. The coil spring 12 extends from the outer end of the pawl 6 to said anchor pin 13 oppositely to the respective back stop 11 so as to turn the pawl 6 about its pivot 9 against said back stop 11.

In the modified form shown in Fig. 5 the pawl points are shaped differently from the first described form, and the back stops are in the form of fixed blocks 16.

It is to be noted that for convenience the spring 12 at the last pawl 6 in clockwise direction viewing Fig. 2, is connected to the pawl 6 inwardly of the pivot 9 and extends to an anchor on the same side as the adjacent abutment 11 to pull the pawl 6 against said abutment 11.

The wrench is applied to the turnbuckle 4 by inserting the gap 3 of the head 2 over the turnbuckle 4 and turning the wrench head 2 in counterclockwise direction viewing Fig. 3. In other words the wrench head 2 is turned around the turnbuckle so that the respective abutments 11 lead the adjacent pawl 6, and the pawls are successively pushed by the turnbuckle 4 out of the way of the respective corners of the turnbuckle without turning the latter. When the wrench is turned in clockwise direction viewing Fig. 2, or in the direction where the respective pawls 6 lead the respective adjacent abutment 11, the points 7 of the pawls 6 are pressed against and grip the corners of the turnbuckle 4 and turn the latter with the wrench. Thus by back and forth turning of the wrench the turnbuckle is alternately released and turned by the wrench in the selected direction. In the event of substantially square cross section of the turnbuckle all four corners thereof may be engaged by the equally spaced four pawls 6. In the event of oblong cross section of the turnbuckle 4 usually two corners only are engaged and upon a quarter turn of the wrench backward the other two pawls are brought into engagement with two corners thereof. In all forms the wrench is simple, it is



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easy to operate and permits quick insertion and efficient manipulation for turning turnbuckles or the like.

I claim:

In a wrench of the character described, a head 5 having a central opening and a gap in the periphery thereof forming an entrance for a turnbuckle, a plurality of spaced pawls pivoted in said head and having portions projecting circumferentially into said opening for engaging 10 the respective corners of a turnbuckle positioned within said opening, abutment elements to hold said pawls against movement from said projecting position when said wrench and turnbuckle 15 are turning as a unit in one circumferential direction, and means to resiliently urge said pawls into said projecting position, said head having space therein to receive said pawls when said pawls are swung outwardly from said opening 20 and away from said abutment elements by turning said wrench around said turnbuckle in the

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opposite circumferential direction in order to obtain a fresh grip on the turnbuckle, and said pawls being pivoted in opposite pairs and on diameters of the central opening which extend generally at about forty five degrees with respect to a diameter of the central opening that bisects said gap.

GARRIE THOMPSON.

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