

F. W. EILART.

WRENCH.

APPLICATION FILED APR. 29, 1909.

Patented Sept. 21, 1909.

2 SHEETS—SHEET 1.

934,899.

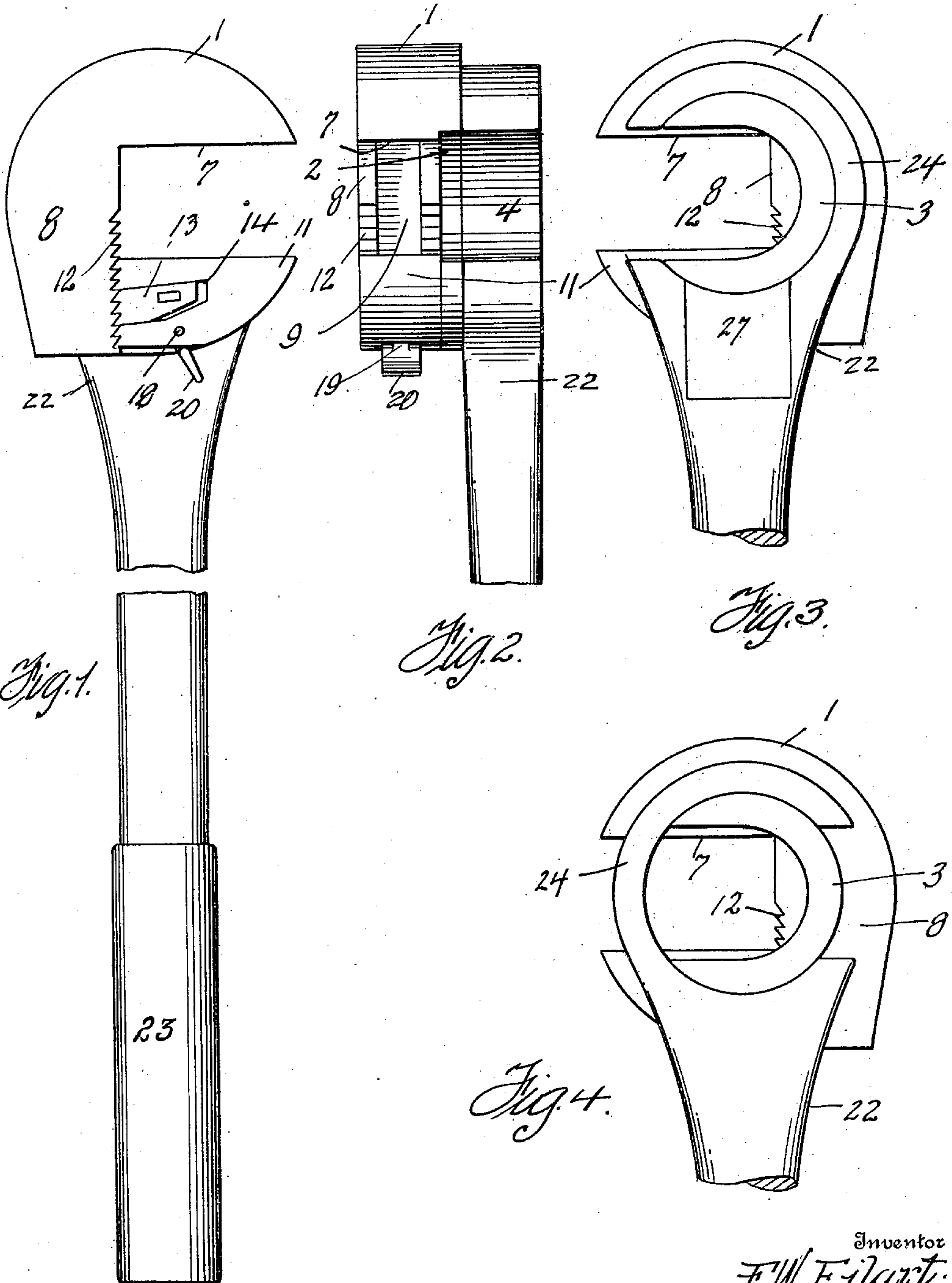


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Witnesses

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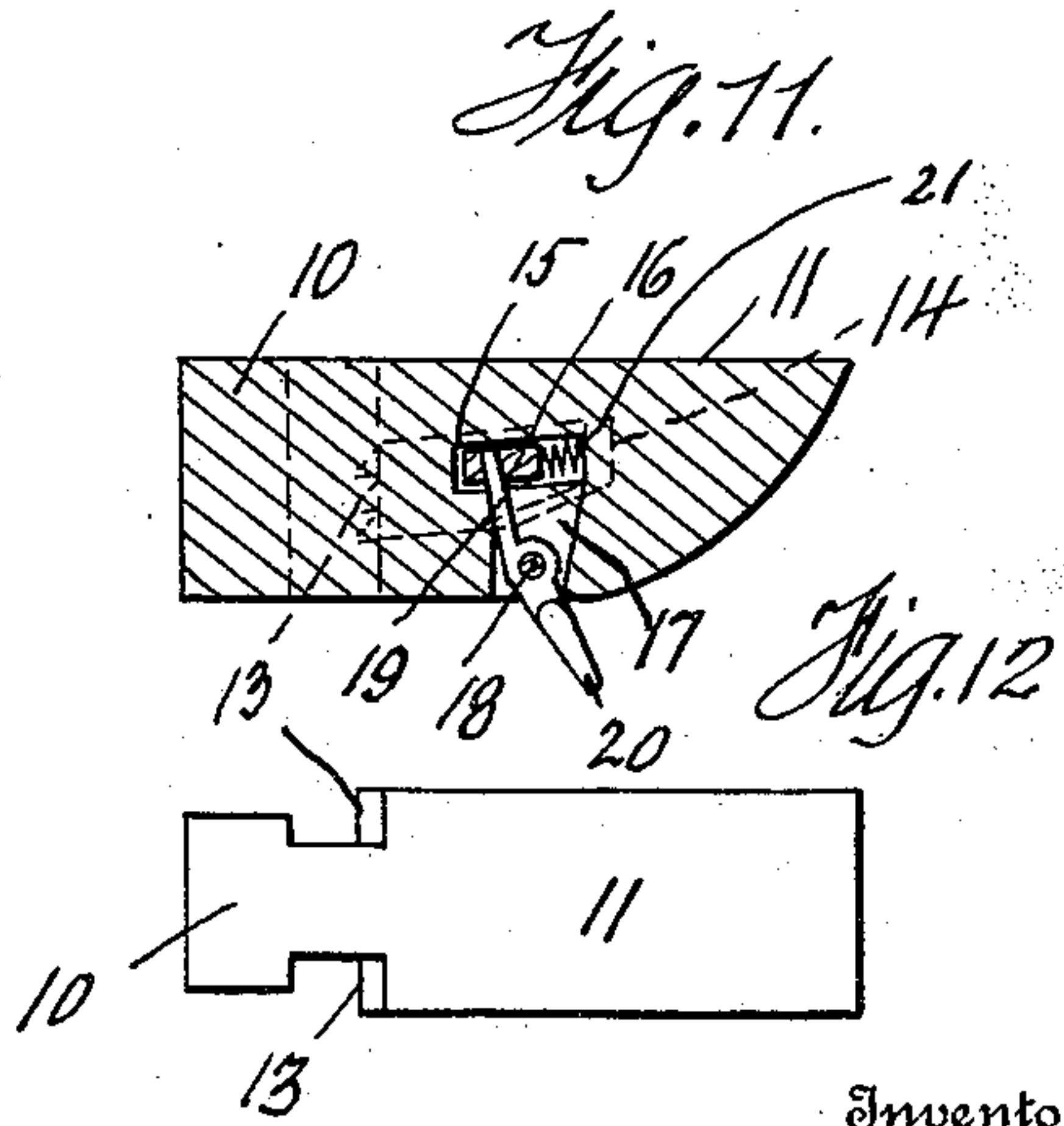
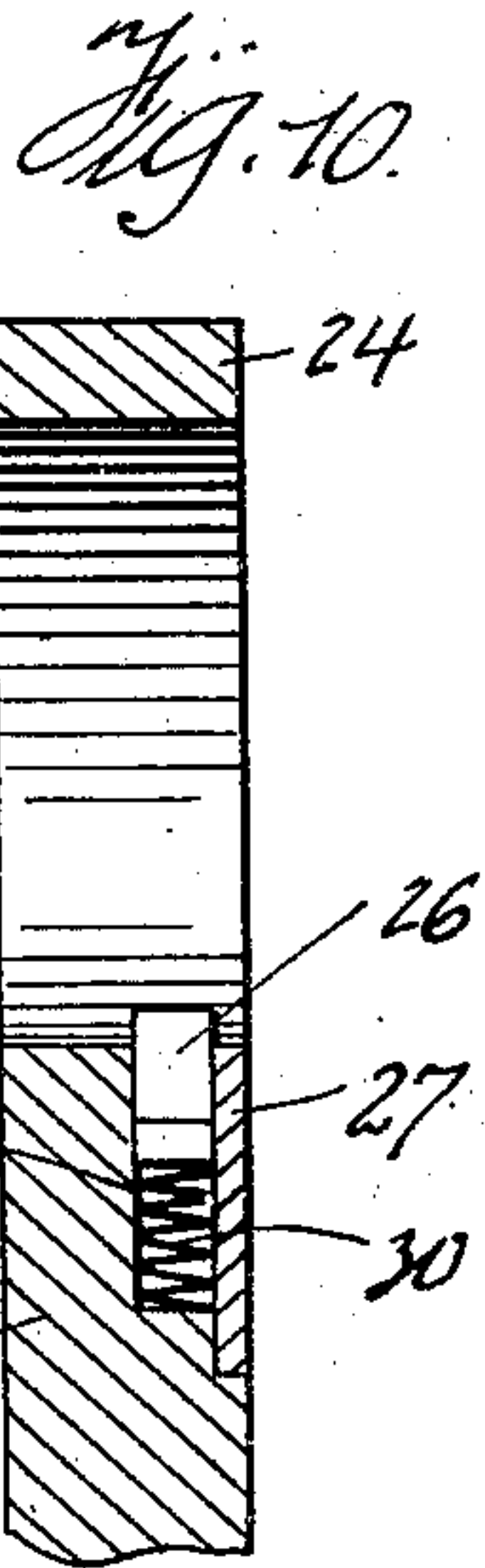
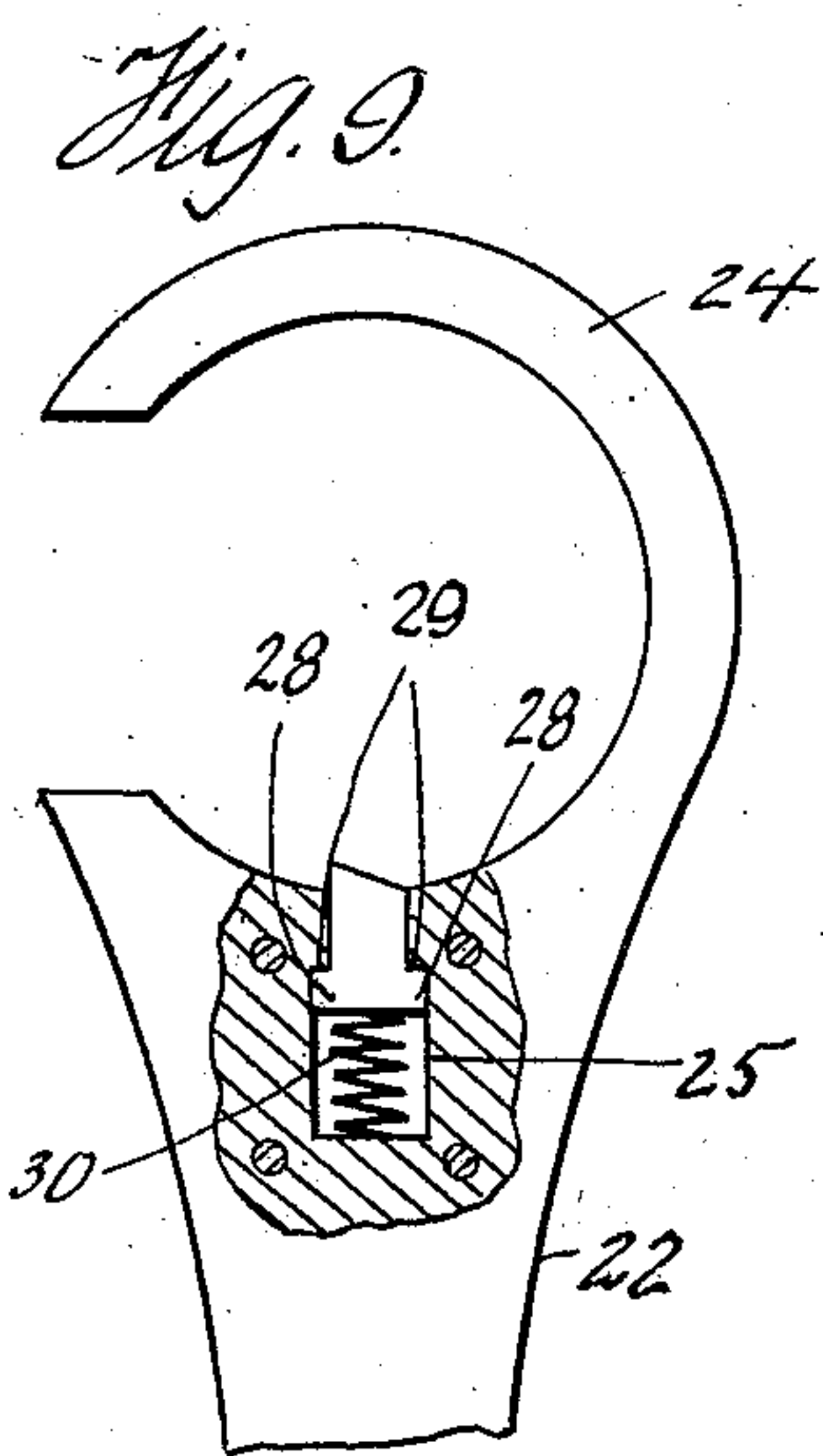
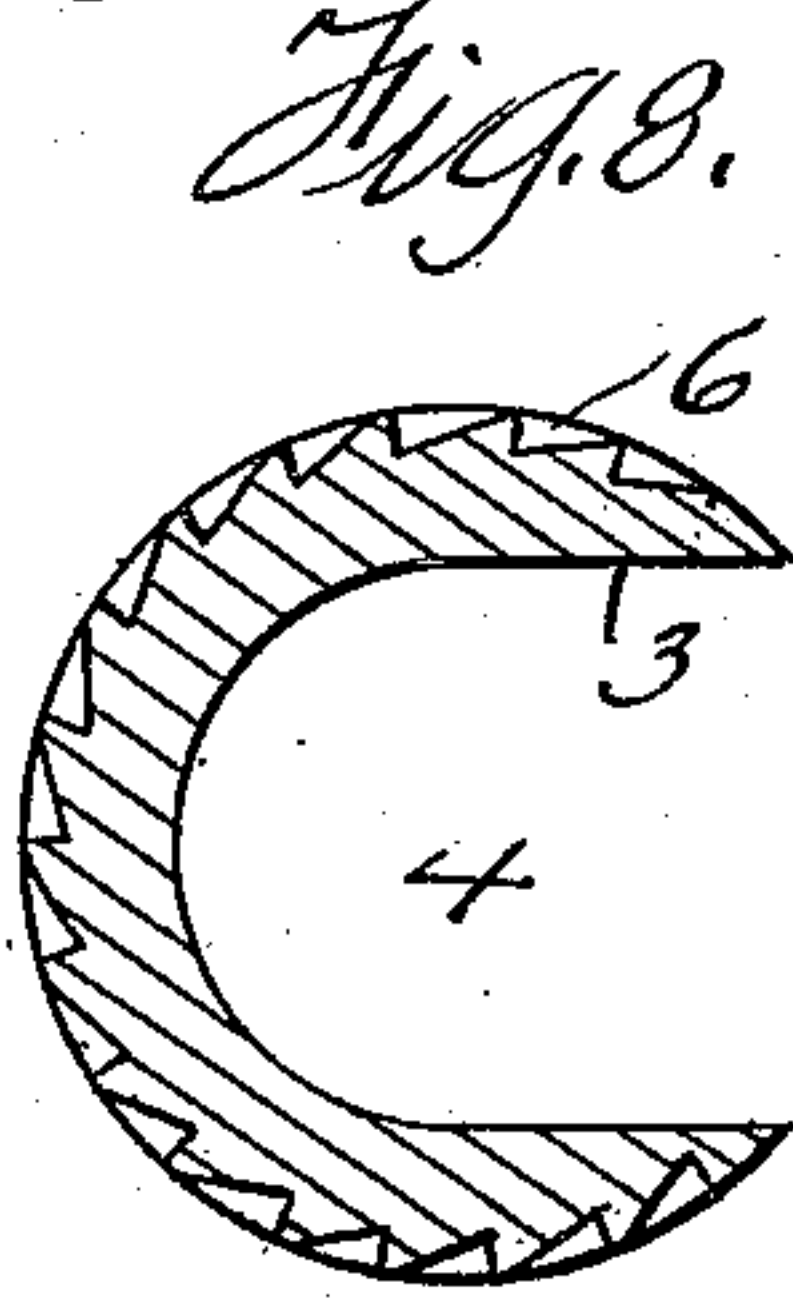
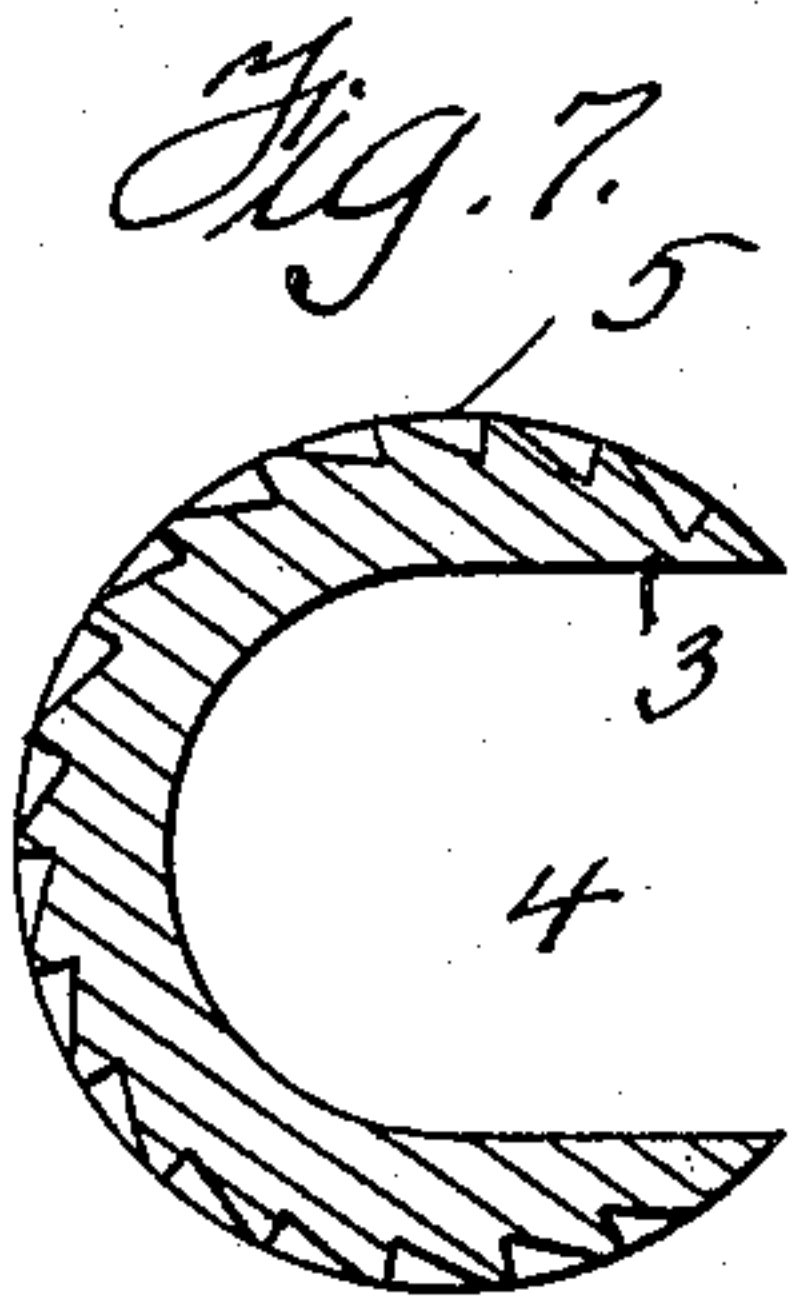
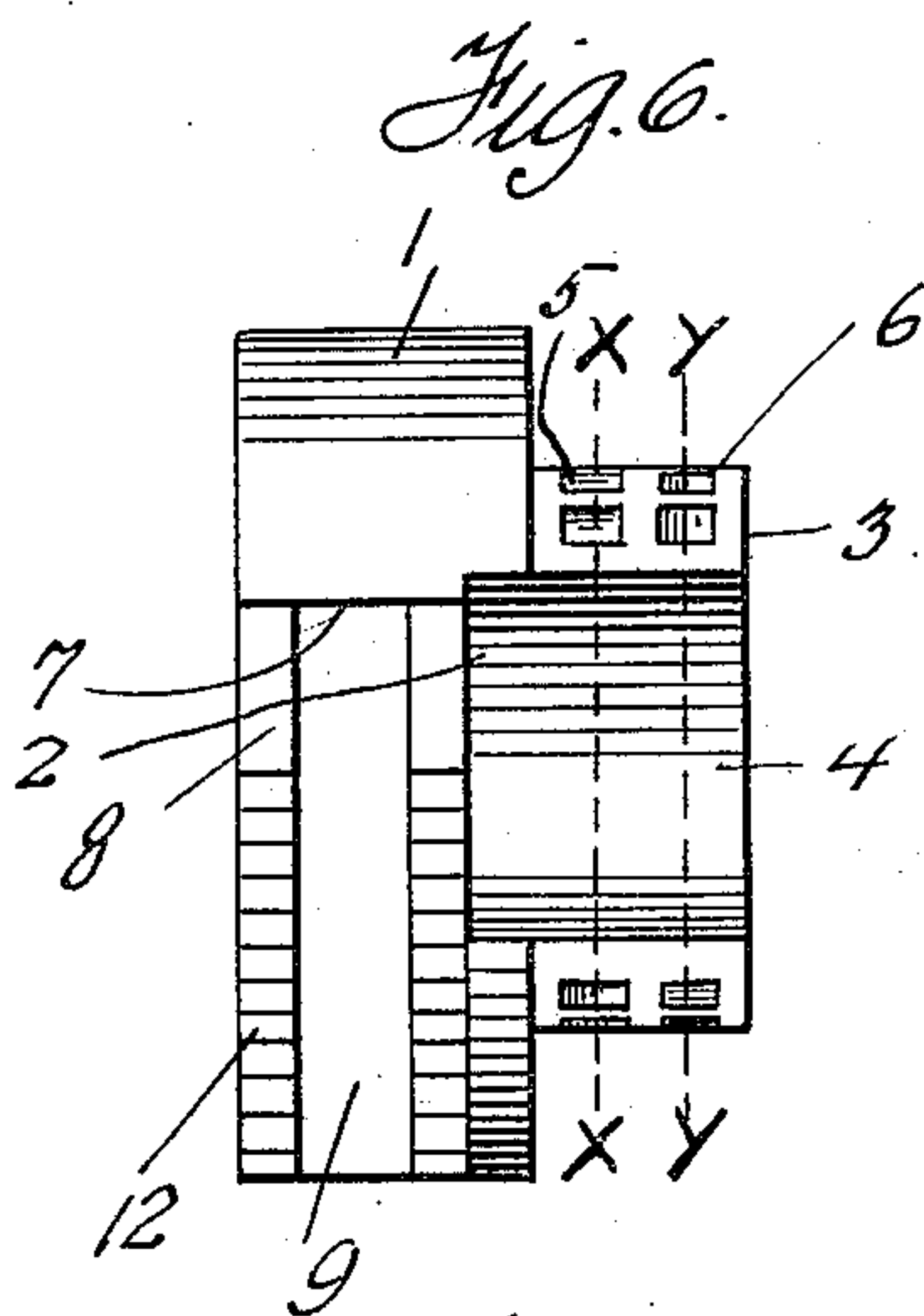
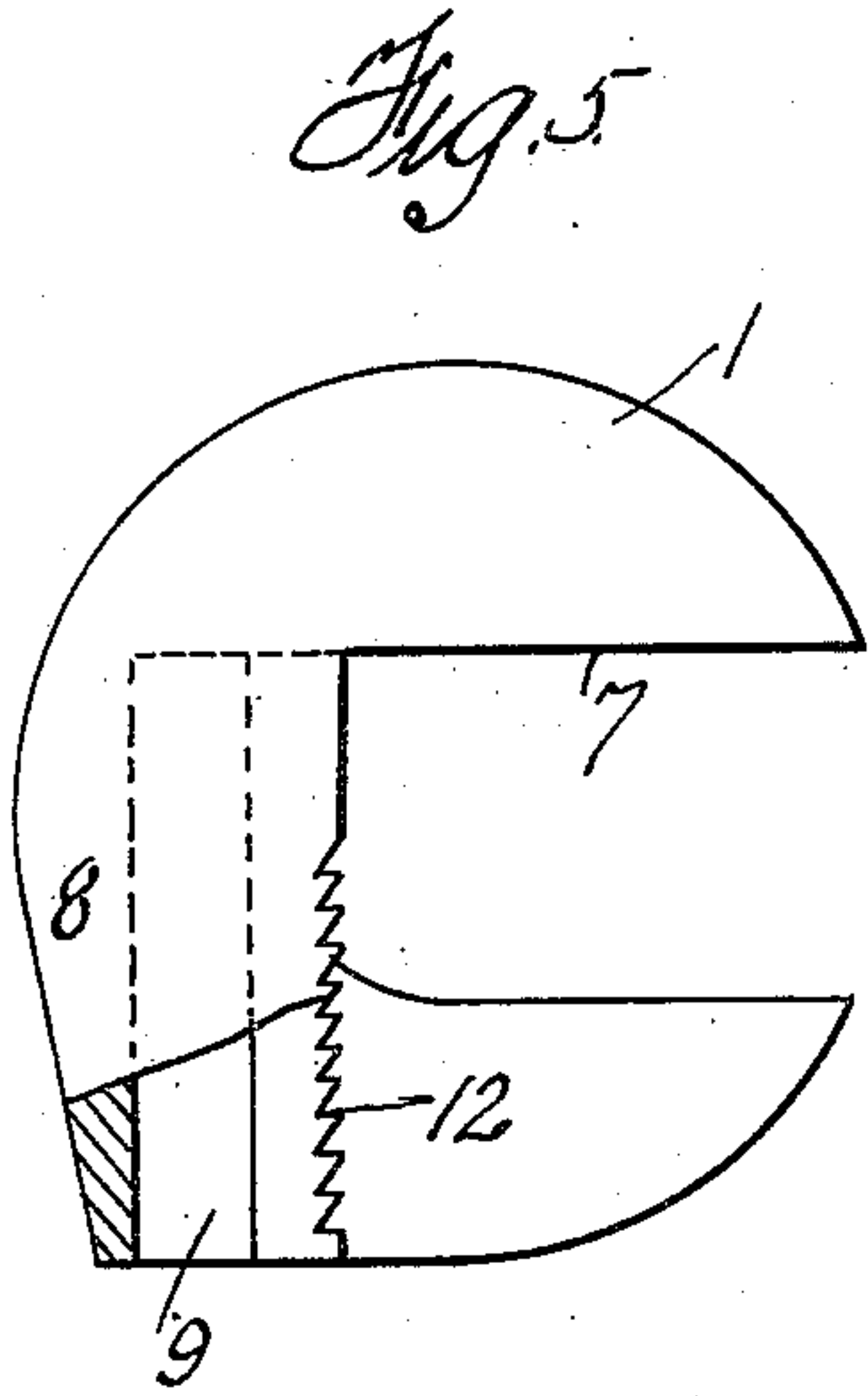
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# UNITED STATES PATENT OFFICE.

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## WRENCH.

934,899.

Specification of Letters Patent. Patented Sept. 21, 1909.

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*To all whom it may concern:*

Be it known that I, FREDERICK W. EILART, a citizen of the United States of America, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Wrenches, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to wrenches, and more particularly to that type of wrench commonly styled "a reversible ratchet wrench".

The invention has for its primary object to provide a wrench of the above type with simple and effective means for reversing the same without necessitating the removal of the gripping jaws of the wrench from the nut or object in engagement with which they are placed.

Another object of the invention is to provide a strong and durable wrench that can be manipulated in places inaccessible to an ordinary monkey wrench.

These and such other objects as will hereinafter appear are attained by a wrench consisting of comparatively few parts easily and quickly assembled, the wrench being free from injury by ordinary use and highly efficient for the purposes for which it is intended.

Reference will now be had to the drawing forming part of this application wherein there is illustrated a preferred embodiment of the invention, but it is to be understood that the structural elements thereof can be varied or changed, as to the size, and manner of assemblage without departing from the spirit of the invention.

In the drawings, Figure 1 is a front elevation of the wrench, Fig. 2 is an edge view of a portion of the same, Fig. 3 is a rear elevation of a portion of the wrench, Fig. 4 is a similar view with the ratchet lever of the wrench reversed, Fig. 5 is a front elevation of the detached head of the wrench, partly broken away and partly in section, Fig. 6 is an edge view of the same, Fig. 7 is a cross sectional view of the wrench head taken on the line X—X of Fig. 6, Fig. 8 is a similar view taken on the line Y—Y of Fig. 6. Fig. 9 is a front elevation of a portion of the ratchet lever of the wrench partly broken away and partly in section, Fig. 10 is a vertical sectional view of the same, Fig. 11 is a vertical sectional view of the

movable jaw of the wrench, and Fig. 12 is a top plan of the same.

In the accompanying drawings, 1 designates a circular head cut away, to provide a throat 2. One side of the head 1 is provided with a C-shaped ratchet block 3, preferably formed integral with the head, said block surrounding the curved edges of the throat 2 and providing an additional throat 4 that registers with the throat 2, these throats providing clearance for the end of a bolt supporting a nut adapted to be rotated by the wrench. The outer side of the ratchet block 3 is provided with two rows of circumferentially arranged ratchet teeth 5 and 6, the object of which will presently appear.

The opposite side of the head 1 is provided with a fixed gripping jaw 7 and a fixed shank 8, said jaw being at right angles to the shank, which is provided with a vertical groove 9, T-shaped in cross-section for the T-shaped tongue 10 for a movable or adjustable jaw 11. The edges of the shank 8 bordering upon the groove 9 are toothed, as at 12, and are adapted to be engaged by toothed gripping members 13 located in recesses 14 provided therefor in the jaw 11. The jaw 11 is provided with a transverse opening 15 establishing communication between the recesses 14, and in the opening 15 is arranged a transverse bar 16 connecting the members 13, whereby said members can be moved in unison. The jaw 11 is provided with still another opening 17, this opening being formed at right angles to the opening 15, and in said opening is pivotally mounted, as at 18, a lever 19 having the upper end thereof extending into the bar 16, while the lower end extends beneath the jaw 11, and is provided with a thumb piece 20. In the opening 15, intermediate the ends thereof is a coil spring 21 and the tension of this spring is adapted to normally maintain the toothed members 13 in engagement with the teeth of the shank 8 and by releasing the members 13, the jaw 11 can be moved relative to the jaw 7, to grip small or large objects, as nuts.

Detachably mounted upon the C-shaped ratchet block 3 is a ratchet lever 22 having one end thereof provided with a handle 23 while the opposite end is provided with a C-shaped gripping head 24 for embracing the C-shaped ratchet block 3. The head 24



of the ratchet lever 22 is recessed, as at 25, for a spring pressed pawl 26, said pawl being retained within the recess by a detachable plate 27, counter-sunk in one side 5 of the head 24. The inner end of the pawl 26 is provided with side lugs 28 adapted to engage shoulders 29 of the recess 25 and limit the outward movement of the pawl, said side lugs 28 being normally retained 10 in engagement with the shoulders 29 by a coil spring 30 located in the recess 25.

By reference to Figs. 9 and 10 of the drawings, particularly the latter, it will be observed that the pawl 26 is located near 15 one side of the head 24 so as to engage but one set of ratchet teeth. The object of such an arrangement is that it enables the lever to be removed and then positioned in an opposite manner so that the pawl 26 will en- 20 gage the other set of ratchet teeth.

With the head 24 in a position shown in Fig. 3 of the drawings, the pawl 26 engages the teeth 6 and with the head in the position shown in Fig. 4, the pawl 26 en- 25 gages the teeth 5. By swinging the ratchet lever 22 until the pawl 26 registers with the throat 4 of the block 3, said ratchet lever can be easily removed from the head and reversed.

30 The wrench in its entirety is made of strong and durable metal, and can be used for various kinds of work.

Having now described my invention, what I claim as new, is;—

35 1. A wrench of the type described, comprising a ratchet block, the outer side of said block having teeth formed therein, a ratchet lever detachably mounted upon said block, a pawl carried by said ratchet lever

for engaging the teeth of said ratchet block, 40 a fixed jaw in connection with said ratchet block, a grooved and toothed fixed shank in connection with said ratchet block, a movable jaw engaging in said shank, toothed 45 members arranged upon the sides of said movable jaw for gripping the teeth of said shank, and means carried by said movable jaw for moving said members.

2. A wrench of the type described, comprising a head, a ratchet block carried by 50 one side of said head, said block having the outer side thereof provided with two rows of circumferentially arranged ratchet teeth, the teeth of one row being the reverse of 55 the teeth of the other row, a ratchet lever, a head carried by said lever and embracing said block, a spring pressed pawl carried by the ratchet lever head for engaging the teeth of said block, a fixed jaw carried by 60 the wrench head, a shank carried by said wrench head and having a groove formed therein and further provided with teeth, a movable jaw, a tongue carried by said movable jaw and adapted to engage in the 65 groove of said shank, said movable jaw having communicating recesses formed therein, toothed members located in said recesses for engaging the teeth of said shank to hold said movable jaw, a spring pressed bar lo- 70 cated in said movable jaw and connecting said members, and means carried by said movable jaw for moving said bar.

In testimony whereof I affix my signature in the presence of two witnesses.

FREDERICK W. EILART.

Witnesses:

A. H. RABSÁG,  
R. C. FURLONG.