

No. 753,505.

PATENTED MAR. 1, 1904.

J. F. MEIGS & H. G. JAKOBSSON.

GUN SIGHT.

APPLICATION FILED OCT. 30, 1903.

NO MODEL.

4 SHEETS—SHEET 1.

Fig. 1.

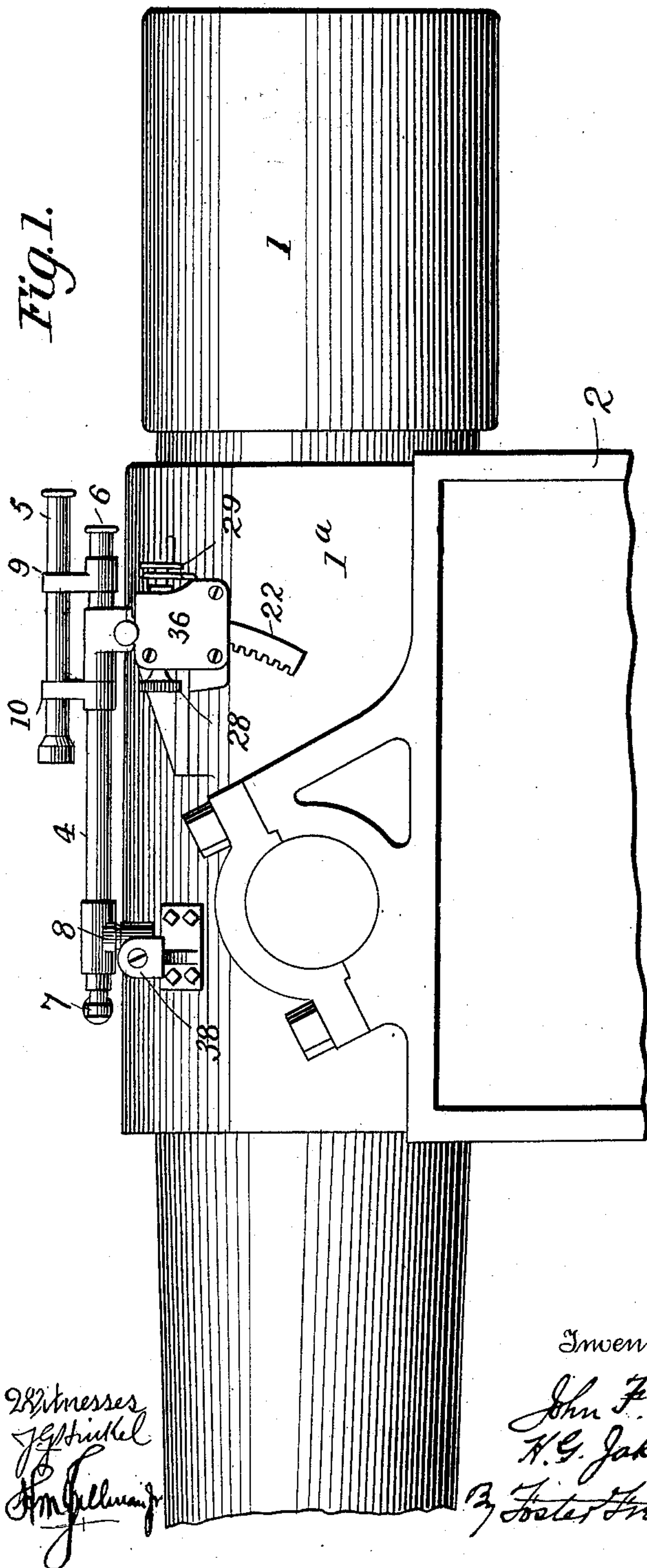
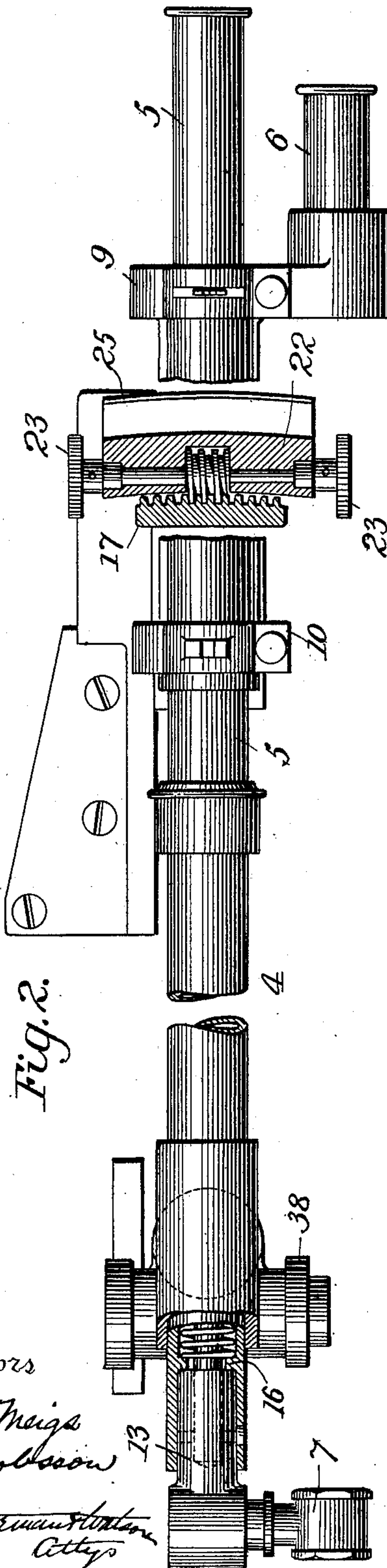


Fig. 2.



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4 SHEETS—SHEET 2.

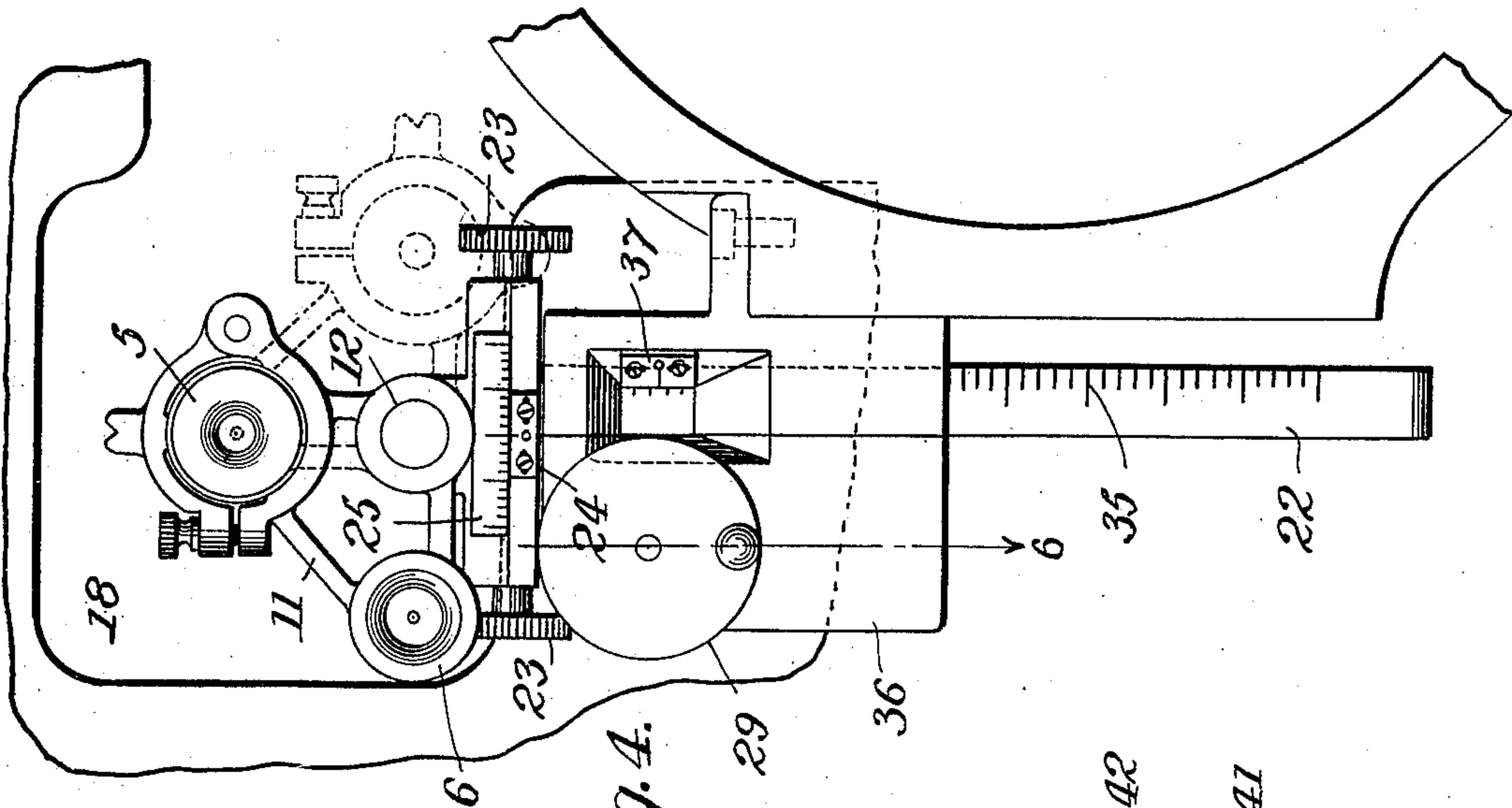


Fig. 4.

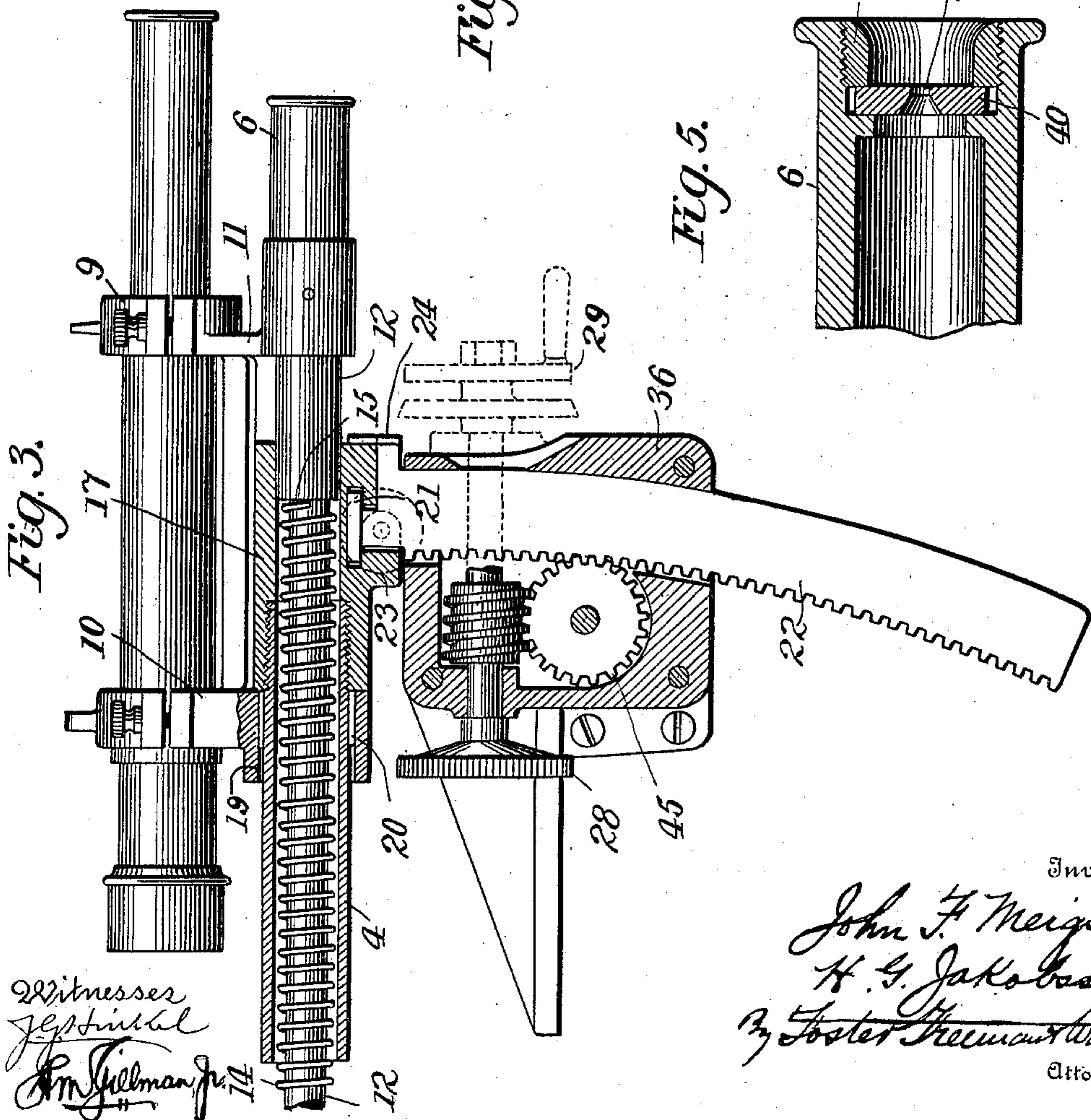
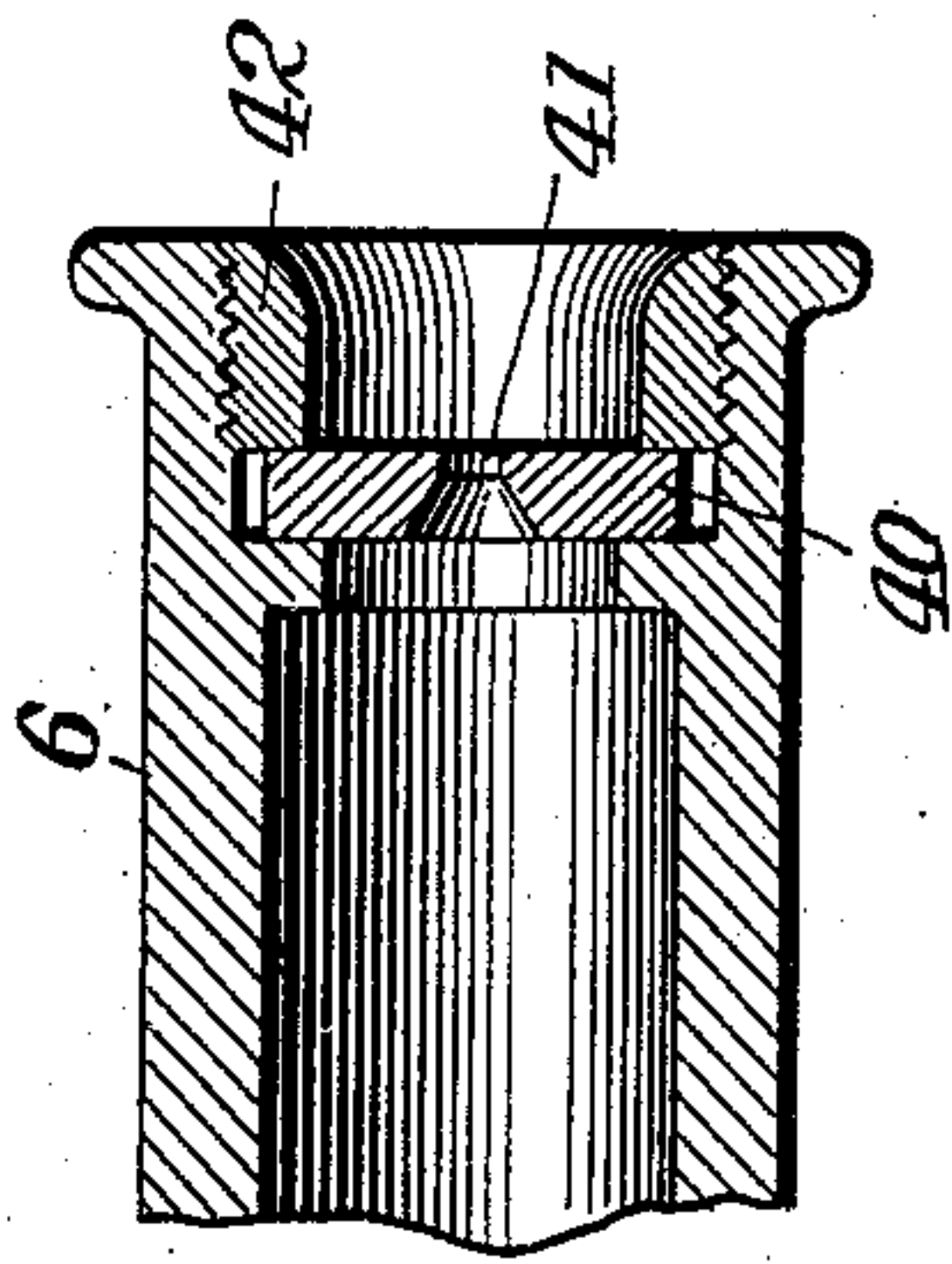


Fig. 3.

Fig. 5.



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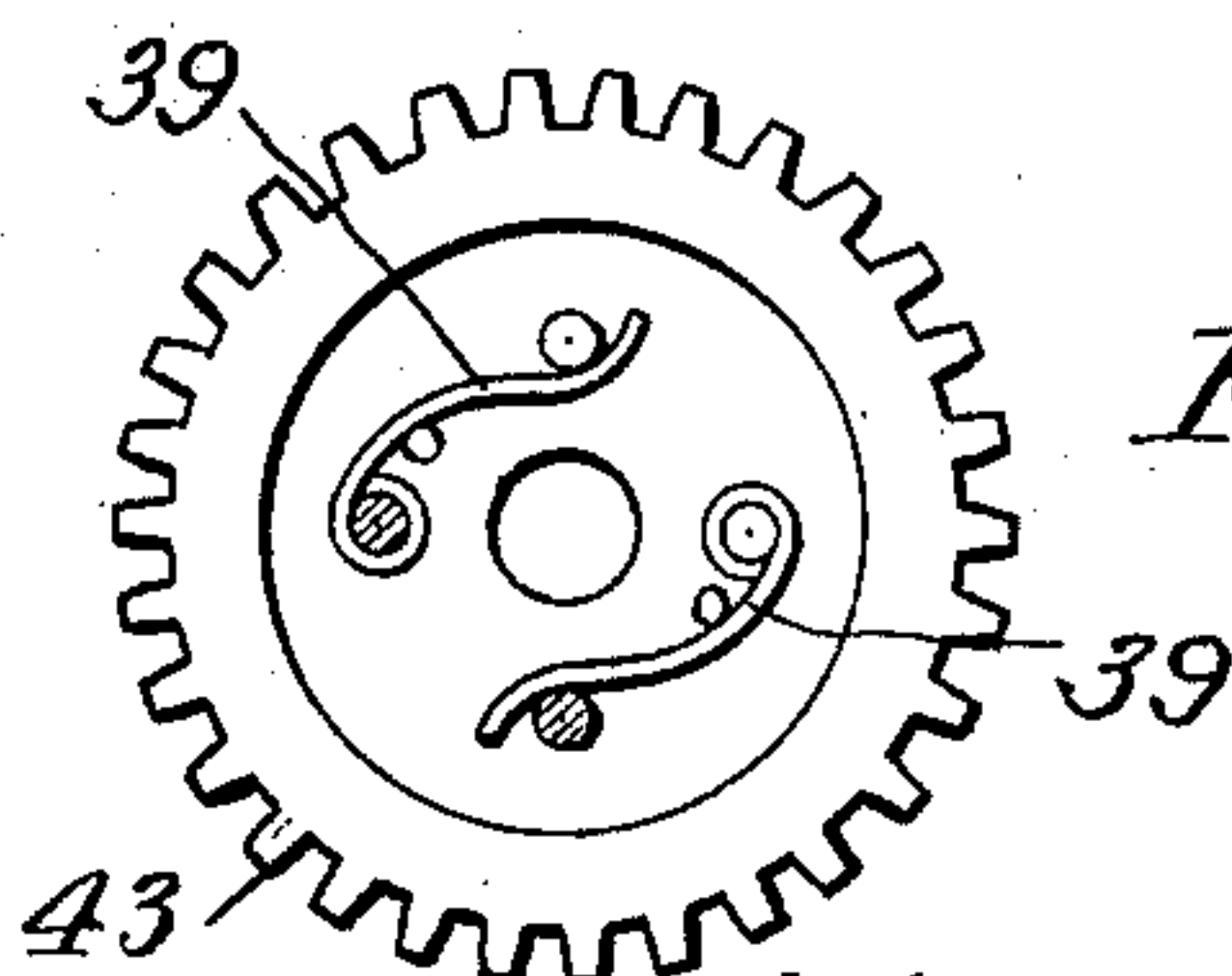
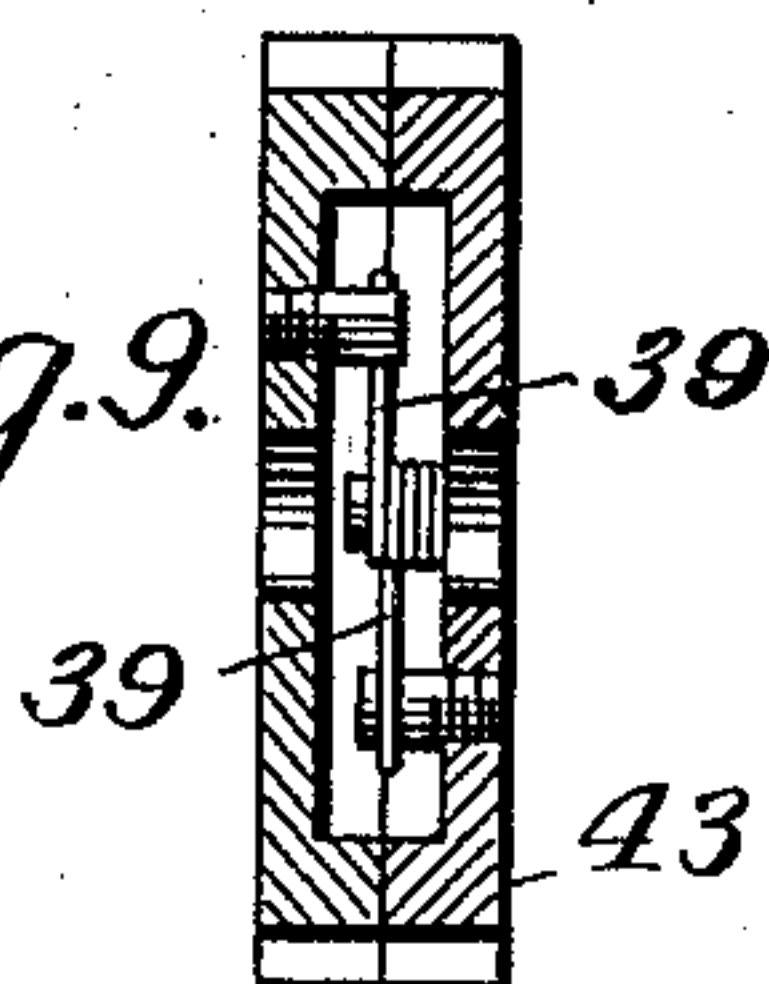
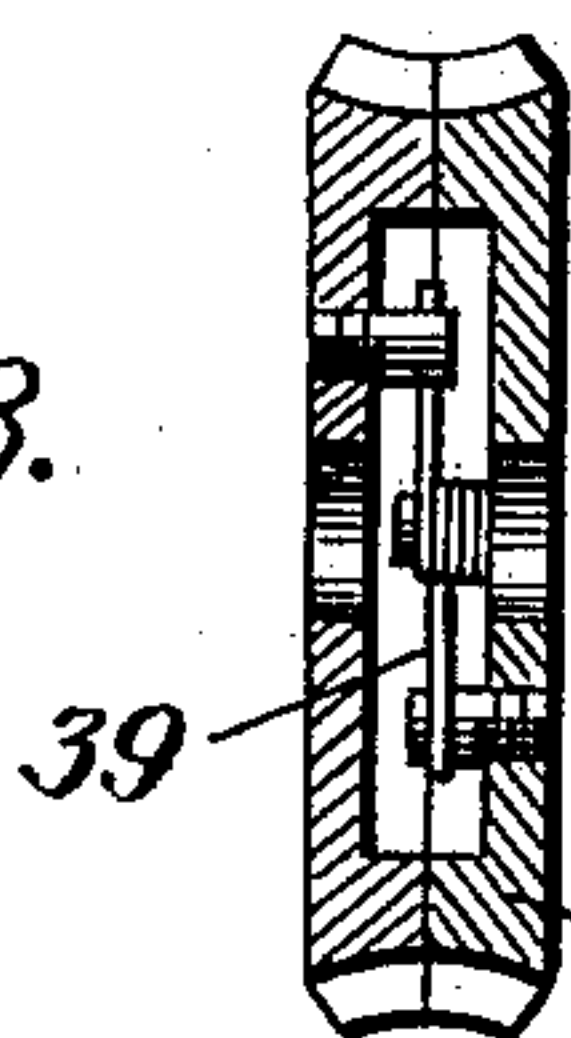
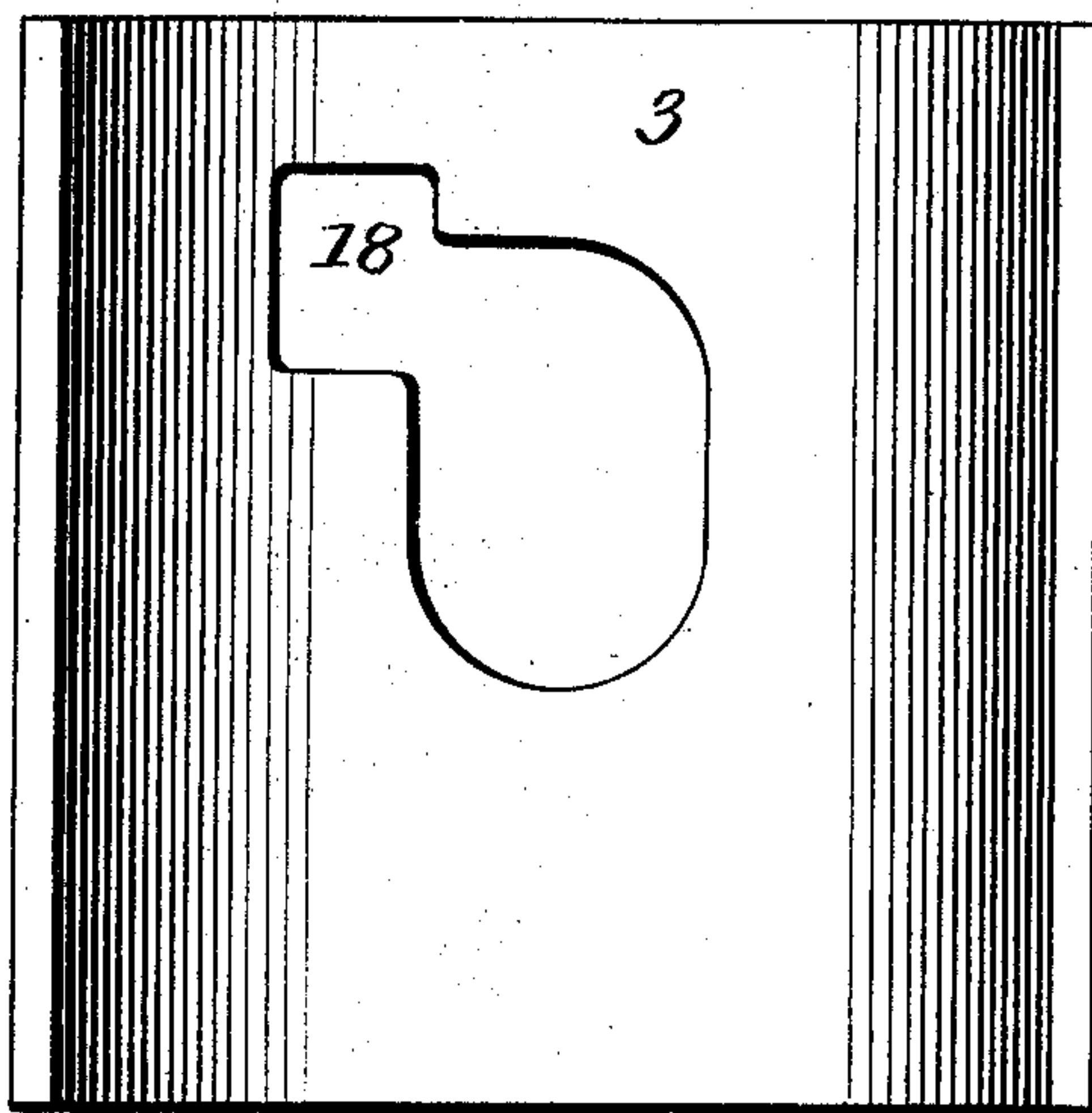
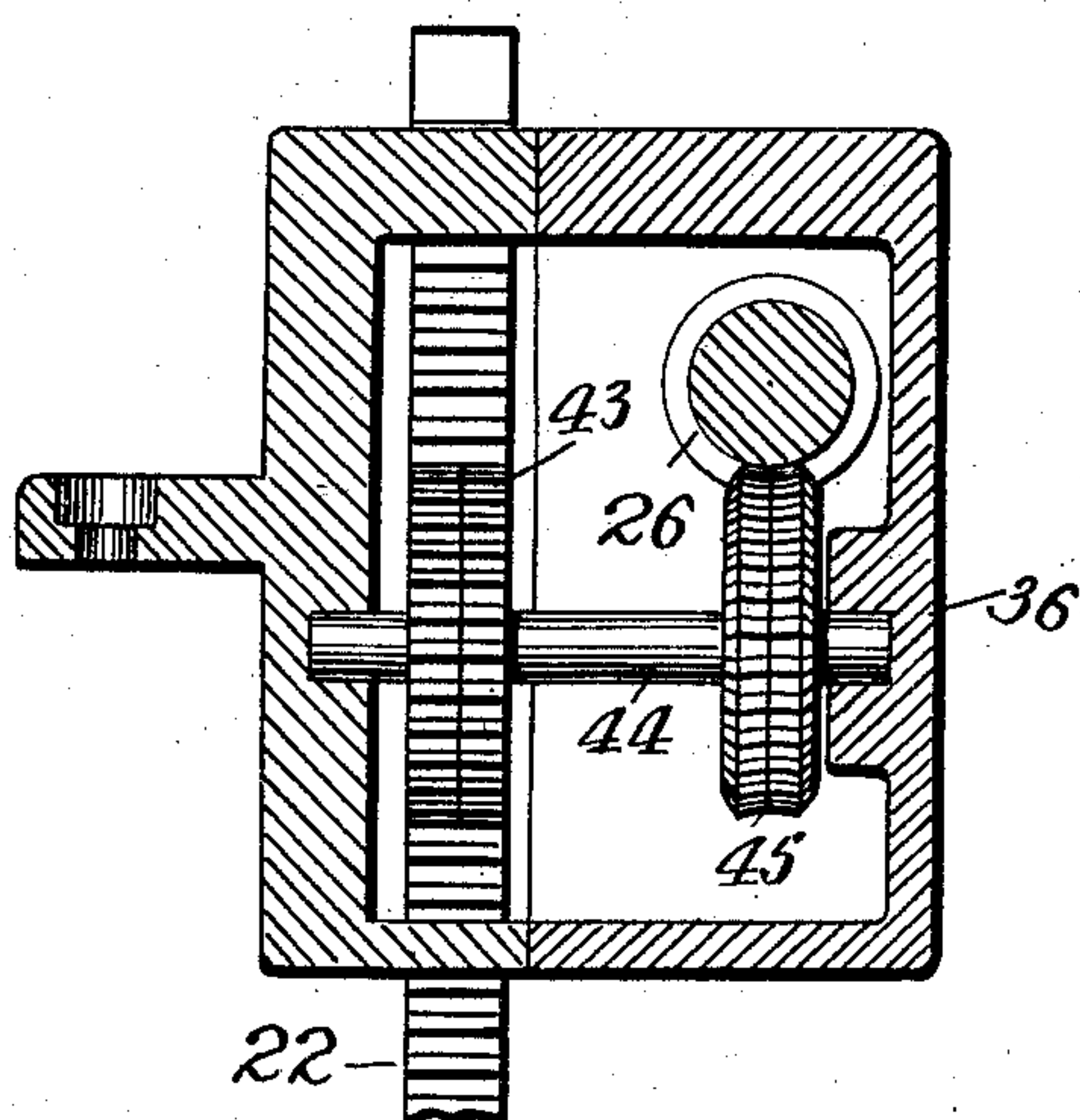
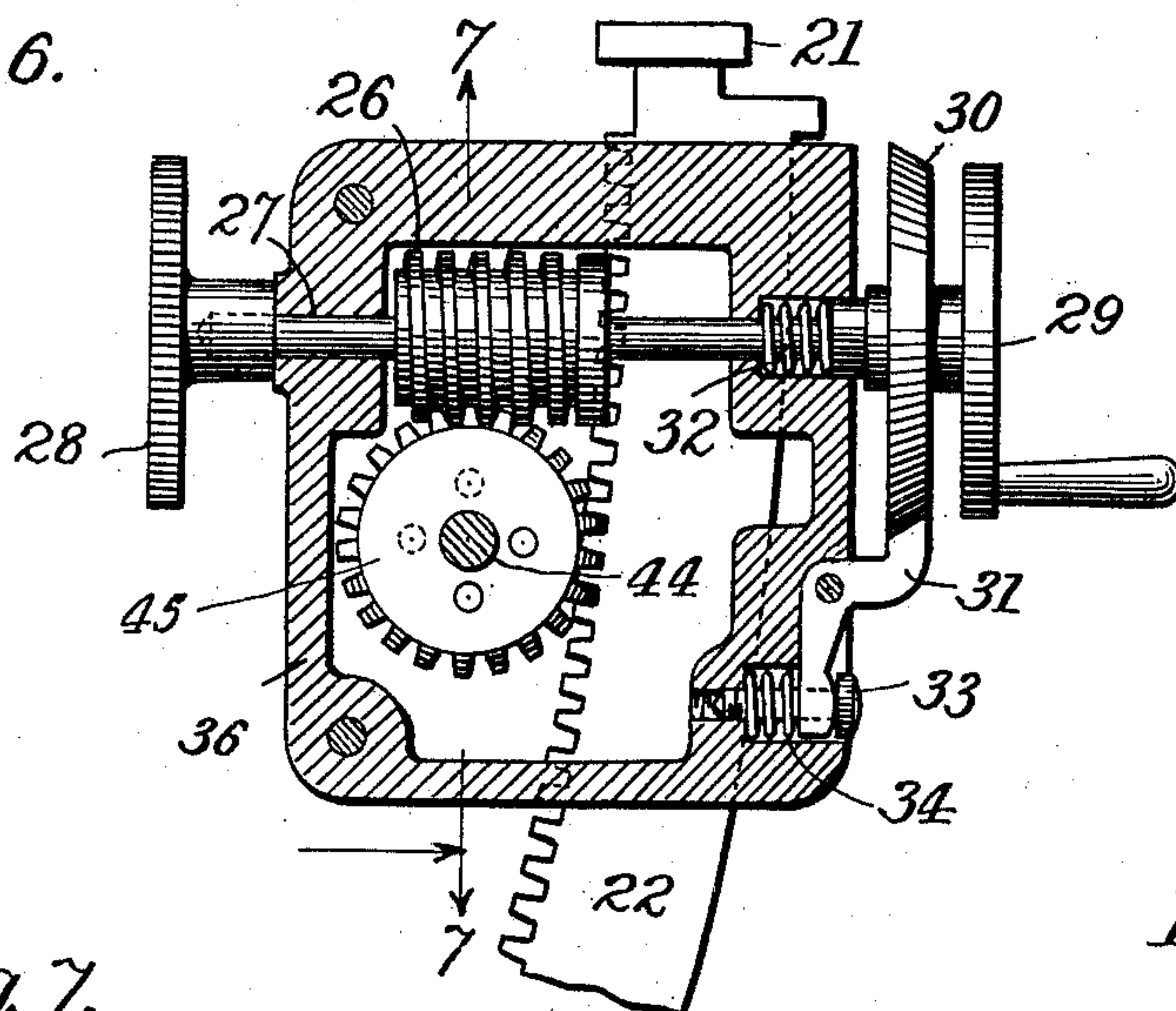
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APPLICATION FILED OCT. 30, 1903.

NO MODEL.

4 SHEETS--SHEET 3:



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NO MODEL.

4 SHEETS—SHEET 4.

Fig. 12.

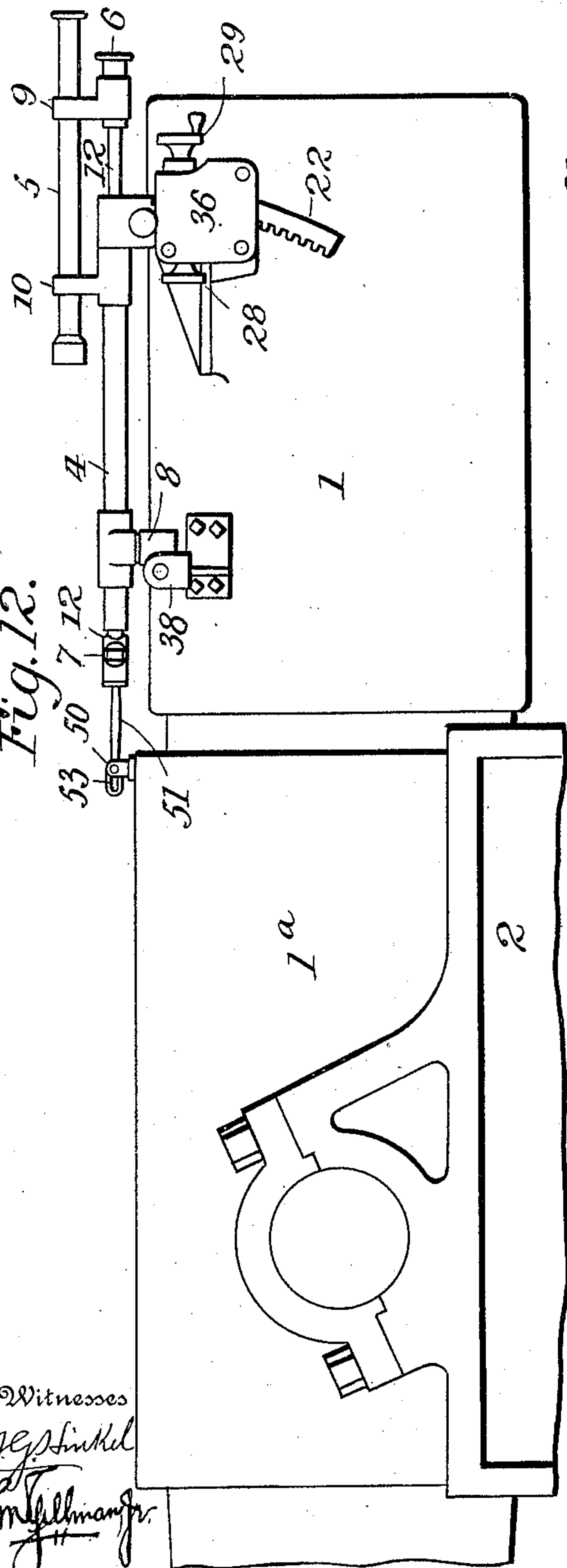


Fig. 14.

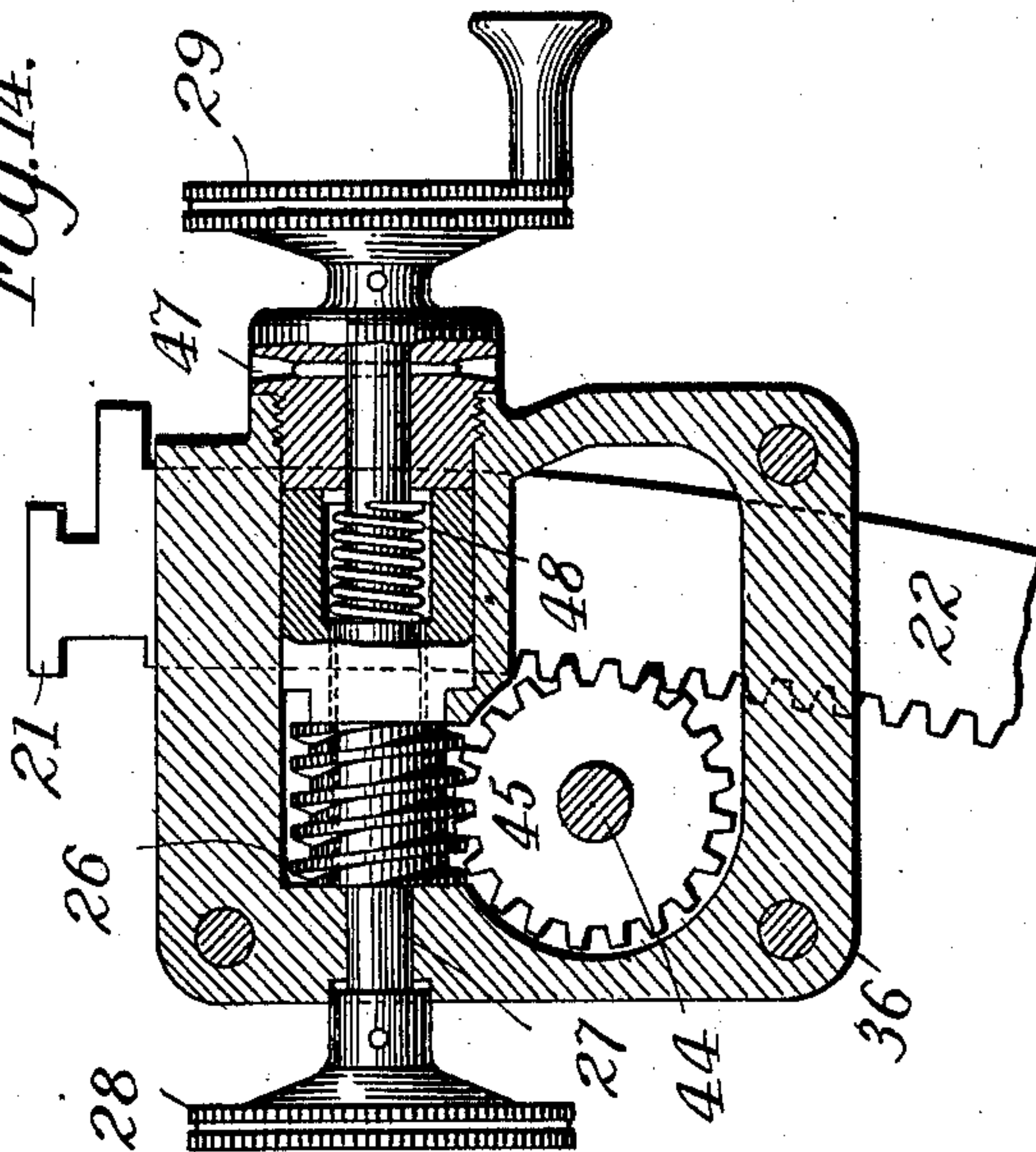
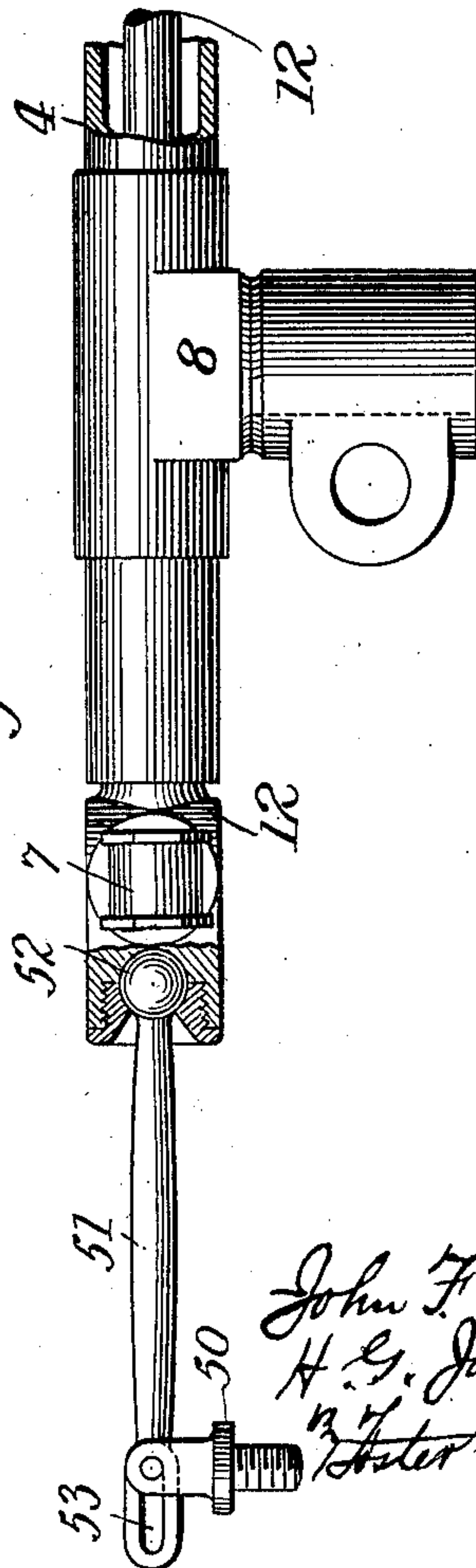


Fig. 13.



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# UNITED STATES PATENT OFFICE.

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## GUN-SIGHT.

SPECIFICATION forming part of Letters Patent No. 753,505, dated March 1, 1904.

Application filed October 30, 1903. Serial No. 179,186. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN F. MEIGS, a citizen of the United States, and HERMAN G. JAKOBSSON, a subject of the King of Sweden and Norway, both residing at South Bethlehem, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Gun-Sights, of which the following is a specification.

This invention comprises improvements in mechanism for sighting guns.

One object of the invention is to provide an elastic mounting for the telescope or other sights of the gun to prevent shock or injury to the eye of the gunner due to the recoil of the gun.

Another object of the invention is to provide for using several sights with a minimum opening in the shield of the gun.

Other objects are to improve the general construction of this class of devices.

The invention will be described in connection with the accompanying drawings, in which—

Figure 1 is a side view of a portion of a gun provided with our improvements. Fig. 2 is an enlarged plan view of the sighting device shown in Fig. 1, parts being broken away. Fig. 3 is an enlarged side view of the sighting device, partly in section. Fig. 4 is a rear view of the same. Fig. 5 is a sectional view of the eyepiece of the open sight. Fig. 6 is a section on the line 6 6 of Fig. 4. Fig. 7 is a section on the line 7 7 of Fig. 6. Figs. 8, 9, and 10 are details of the pinions used in adjusting the sights. Fig. 11 is a rear view of the shield. Fig. 12 shows the sights mounted directly upon the gun. Fig. 13 is a detail of Fig. 12; and Fig. 14 is a section similar to Fig. 6, but showing a different clamping arrangement.

Referring to the drawings, 1 indicates a gun; 1<sup>a</sup>, the tube or cradle in which it recoils; 2, the upper part of the mount, and 3 the shield.

Supported upon and movable with the gun or cradle is a tube 4, which carries the telescope 5 and the open sights 6 7. As shown in

Figs. 1 and 4, the sights are mounted on the cradle, while in Figs. 13 and 14 they are mounted directly upon the gun.

Referring to Figs. 1 to 12, inclusive, the tube 4 is connected near its forward end with the gun by a suitable universal joint 8 and bracket 38, which permits of the rear end of the tube being elevated or depressed or moved laterally with respect to the gun. The telescope 5 is removably mounted in arms 9 10 of a bracket 11. The arm 10 is free to slide upon the tube 4. The arm 9 is rigidly connected to the rear end of a rod 12, which slides in the tube 4. The forward end of this rod is provided with a head 13, which carries the forward open sight 7. Within the tube 4 and surrounding the rod 12 is a coiled spring 14, one end of which bears against a shoulder 15 on the rear end of the rod, while the other end of the spring bears against a shoulder or projection 16 on the inside of the forward end of the tube 4. The rear end of the tube 4 is screwed into a head 17, in which the enlarged rear end of the rod 12 slides. The forward telescope-supporting bracket 10 slides on the tube 4 and is normally held against the head 17 by pressure of the spring 14. It will be apparent that the tube 4 receives a shock from the gun in firing and that the telescope and open sights are permitted to have yielding forward movements relatively to the gun during the firing and that they will be returned to their normal positions by the spring 14.

The rod 12 is free to turn within the tube 4 when pushed forward against the spring for the purpose of bringing the telescope and the open sights alternately into operative position. In Fig. 4 the telescope is shown in full lines in operative position, being central with respect to the opening 18 in the shield 3, and it is shown in dotted lines rotated to the right, which brings the open sight 6 into operative position. The telescope is locked in either of these positions by means of a series of recesses 19 in the bracket 10, which cooperate with a series of ribs 20 on the tube 4. By



pushing the bracket 10 forward it is disengaged from ribs 20 and may turn, and on releasing it the spring 14 reengages it with the ribs, and the telescope is thus locked in position. The ribs and recesses are sufficiently long to permit of the cushioning action of the sights during the recoiling of the gun.

The head 17 has an undercut groove in its under side in which the upper end 21 of the elevating-rack 22 has a sliding engagement. To aline the telescope with the vertical plane of movement of the gun, the head 17 is movable laterally with respect to the rack 22, this adjustment being effected by thumb-screws 23. An index-point 24 and scale 25 are preferably used to indicate the exact positions of the sights with respect to the axis of the gun. By means of the adjusting-screws 23 the sights may be set to any desired angle to be read off the scale to correct deflection of the projectile by wind, &c.

To elevate the gun to any desired angle, the elevating-rack is raised until the sights are elevated to the proper angle. The rack is then locked in this position, and on bringing the telescope back to horizontal position by moving the gun the gun will be elevated as desired. The rack is preferably operated by means of a pinion 43, shaft 44, worm-wheel 45, and worm 26. The worm 26 is mounted on shaft 27, which is provided with a hand-wheel 28 on one end and a second wheel 29 on the other end. Integral with the second wheel is a brake-wheel 30. The brake-wheel and hand-wheel are arranged to slide on and turn with the shaft 27. The brake-wheel is normally pushed out into position to engage the brake 31 by a spring 32. The brake 31 is in the form of a lever, which is held in position between the screw 33 and the spring 34. By adjusting the screw 33 the position of the brake may be changed. When it is desired to shift the rack 22, the hand-wheel 29 is pushed in to relieve it from the friction of the brake and then turned until the rack is in the desired position. On releasing the wheel the brake-wheel 30 is forced out by the spring 32 against the brake 31, and thus locked in position. The wheel 30 is preferably provided with a roughened surface.

In Fig. 14 is shown another clamping arrangement that may be used instead of the one just mentioned. The worm 26 is mounted and keyed to shaft 27, which is provided with hand-wheels 28 and 29, and the shaft 27 is allowed a slight longitudinal movement in its bearings and also in the worm 26. 47 is a collar screwed into the bracket 36, and the adjoining faces of said collar and wheel 29 are toothed at 47, so as to engage when the shaft 27 is pushed forward by the spring 48, and thus locking the sight-gear. To operate this gear, the wheel 29 will have to be drawn out or the wheel 28 to be pushed in till the teeth

47 disengage, when the hand-wheels will turn freely. On releasing the hand-wheels the spring pushes the shaft forward and locks the gear.

The rack 22 is provided with a scale 35. The bracket 36, in which the rack-operating parts are mounted, has a sight-opening and an index 37. The indexes 24 and 37 are slightly adjustable to compensate for any errors in mounting the brackets 36 and 38 on the gun or cradle. As shown, the universal joint 8 connects the tube 4 with a bracket 38.

To prevent any lost motion between the worm-wheel 26 and the rack 22, we preferably make the worm-wheel 45 and the pinion 43 each in two parts, which parts are under a spring tension to move in opposite directions. This construction is shown in Figs. 8, 9, and 10, in which the springs 39 tend to shift the gear-teeth relatively. This construction of split gear is not new and need not be further described herein.

In the eyepiece of the open sight 6 is an adjustable disk 40, having a central sight-opening 41, which is held in position by an internal screw-collar 42. This disk 40 is adjustable in order to aline the open sights with the telescope, thus avoiding any adjustment of the mountings of the open sights or telescope.

Referring to Figs. 12 and 13, it will be seen that the supports for the sights are mounted directly upon the gun 1 instead of being fixed to the cradle or gun-mount. In such case we prefer to connect the sights with the cradle or some other relatively stationary portion of the gun-mount to prevent the sights from recoiling with the gun, and thus diminish the shock to the eye of the gunner. As shown in Figs. 12 and 13, the rod 12, to which the sights are connected, is connected at its forward end with a stud or bracket 50 upon the cradle 1<sup>a</sup> by a link 51. The link 51 and rod 12 are connected by a universal joint 52 of suitable construction, and the link 51 is connected with the bracket 50 by a pin-and-slot connection 53, which permits the rod 12 to have the traversing and elevating adjustments previously described and also to turn upon its axis. The slot also permits of a slight recoil movement of the sights. When the gun recoils, the brackets 36 and 38 go with it; but the link 51 only allows the rod 12 to recoil a short distance—say a fraction of an inch—while the remaining movement of the gun compresses spring 14. Instead of the link 51 a chain or other connection may be used, which will prevent recoil of the sights and permit of the necessary adjustments of their support.

When the sights are carried directly by the cradle or gun-mount, their relation to the gun may vary if the gun is not accurately adjusted in its cradle. For this reason it is preferable to attach the sights directly to the gun, and we have rendered this practicable by connect-



ing the sights when so mounted with a relatively stationary part of the apparatus, such as the cradle.

It will be evident that many changes in details of construction may be effected without materially departing from the spirit and scope of our invention.

Therefore, without limiting ourselves to the precise construction and arrangement of parts illustrated and described, we claim—

1. The combination with a gun, and a shield having a sight-opening, of a plurality of sighting devices suitably supported and each movable into and out of alinement with the sight-opening of the shield.

2. The combination with a gun, and a shield having a sight-opening, of a plurality of sights in fixed relation to each other, said sights being suitably supported, and each movable into and out of alinement with the sight-opening in the shield.

3. The combination with a gun, and a shield having a sight-opening, of a sight-support, a plurality of sighting devices carried by said support in fixed relation to each other, said sighting devices being movable to bring either device into alinement with the sight-opening in the shield.

4. The combination with a gun, and a shield having a sight-opening therein, of a sight-support and a plurality of sighting devices arranged to swing about said support into and out of alinement with the sight-opening in the shield, and means for locking any one of said devices in operative position.

5. The combination with a gun, and with a shield having a sight-opening therein, of a sight-support, a plurality of sights adjustably mounted on said support, and means for locking any one of said sights in alinement with the sight-opening in the shield.

6. The combination with a gun, of a sight-support, and a plurality of sights in fixed relation to each other and movably mounted upon said sight-support, whereby the sights may be brought successively to the same operative position.

7. The combination with a gun, of a sight-support, a plurality of sights mounted on and having a swinging movement about said sight-support, and means for locking the different sights in the same operative position.

8. The combination with a gun, and with a shield having a sight-opening, of an adjustable sight-support, and a plurality of sighting devices mounted on said support and each movable into and out of alinement with said sight-opening.

9. The combination with a gun, of an adjustable sight-support, and a plurality of sights in fixed relation to each other and movably mounted upon said sight-support whereby said sights may be successively brought to the same operative position.

10. The combination with a gun, of an ad-

justable sight-support, a plurality of sights mounted on and having a swinging movement about said sight-support, and means for locking the different sights in the same operative position.

11. The combination with a gun, of an adjustable sight-support, a telescope and open sight mounted upon and arranged to swing about said sight-support, and means for locking either the telescope or the open sight in operative position.

12. The combination with a gun, of a sighting device for the gun, a sight-support comprising a slidable part to which said device is connected, and a cushion for said part, said sighting device being thus adapted to yield when the gun is fired.

13. The combination with a gun, of a support for sighting devices comprising a part constructed to yield when the gun is fired, and a plurality of sighting devices connected to said yielding part and adjustable thereon.

14. The combination with a gun, of a tubular sight-support, a rod movable within said support, a spring surrounding said rod and adapted to hold it in normal position, and a sighting device connected to said rod, said parts cooperating for the purpose set forth.

15. The combination with a gun, of a tubular sight-support, a rod movable within said support, a spring surrounding said rod and adapted to hold it in normal position, and a plurality of sighting devices connected to said rod, said devices being movable to bring any one of said sighting devices to operative position.

16. The combination with a gun, of a sight-supporting tube supported at one point by a universal joint, a rack and adjusting devices for elevating said tube with respect to the gun, a sight rotatively mounted upon said tube, and a spring within the tube adapted to hold said sight in normal position and to return it to normal position when it is dislodged in firing.

17. The combination with a gun, of a sight-support comprising a tube adjustably mounted on the gun or mount, a rod extending through said tube and adapted to turn therein, and sighting devices carried by the ends of said rod.

18. The combination with a gun, of a sight-support comprising a tube adjustably mounted on the gun or mount, a rod extending through said tube, open sights supported on the ends of said rod, and a telescope rigidly connected to one end of said rod, said rod being adapted to turn within the tube to bring either of said sighting devices into operative position.

19. The combination with a gun and its mount, of a sighting device supported directly upon the gun, and a connection between said sighting device and the mount, whereby said device is prevented from recoiling.



20. The combination with a gun and its mount, of a sighting device supported directly upon the gun, means for adjusting said sighting device relative to the gun, and a connection between said device and the gun-mount, whereby said device is prevented from recoiling.

21. The combination with a gun and its mount, of a sighting device supported directly upon the gun and capable of movement longitudinally of the gun, a spring for holding said device normally in fixed relation to the gun, and a connection between said sighting device and the gun-mount, said spring permitting the sight to remain relatively stationary when the gun recoils.

22. The combination with a gun and its mount, of a sighting device, a support for said sighting device connected directly to the gun, and a connection between said support and the gun-mount whereby said support is prevented from recoiling, said connection being adapted to permit of lateral and vertical adjustment of the sights with respect to the gun.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

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HERMAN G. JAKOBSSON.

Witnesses:

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EDWIN A. MILLER.