

No. 618,636.

Patented Jan. 31, 1899.

G. B. BASSETT.  
REGISTERING DEVICE.

(Application filed Mar. 3, 1897.)

(No Model.)

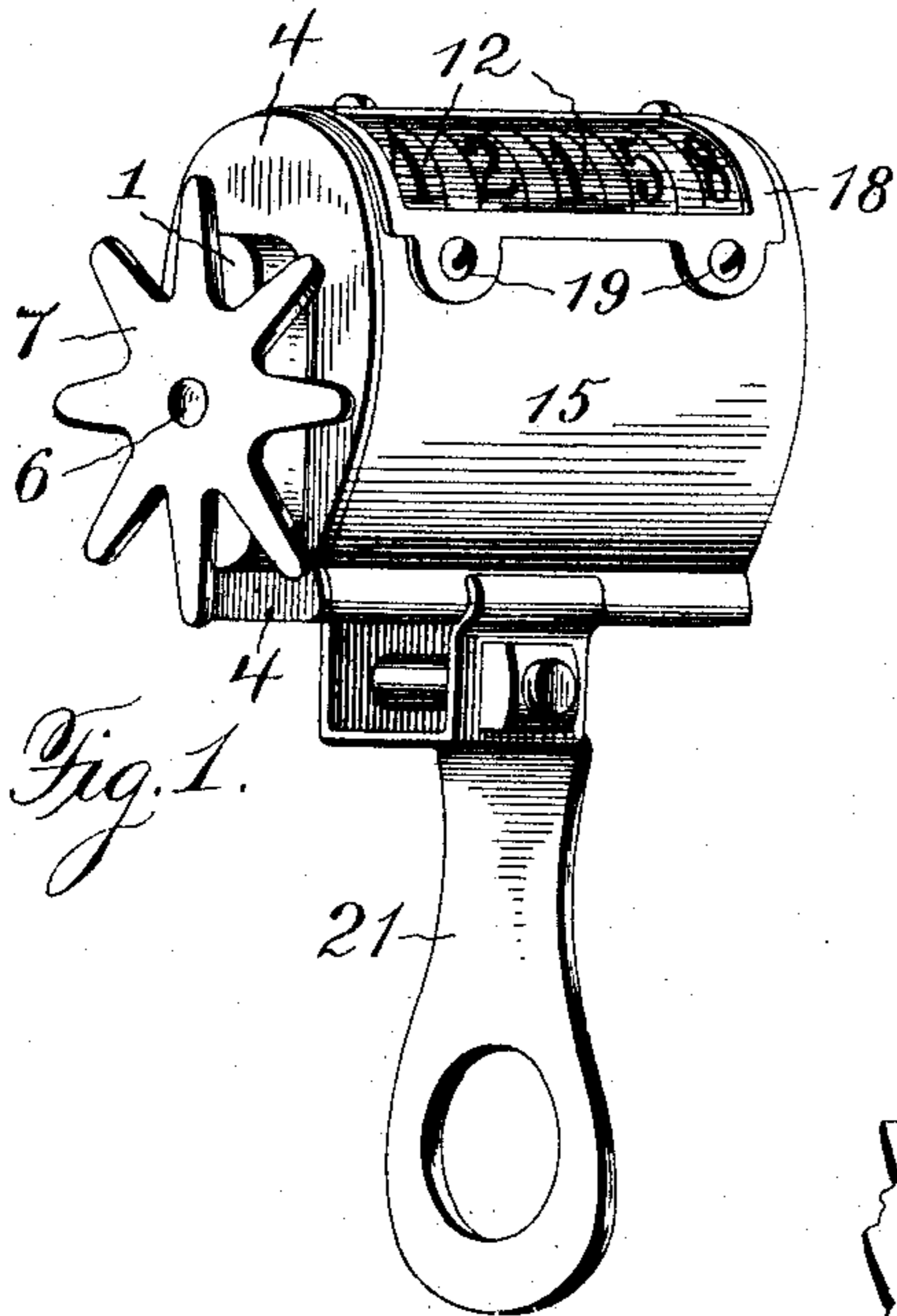


Fig. 1.

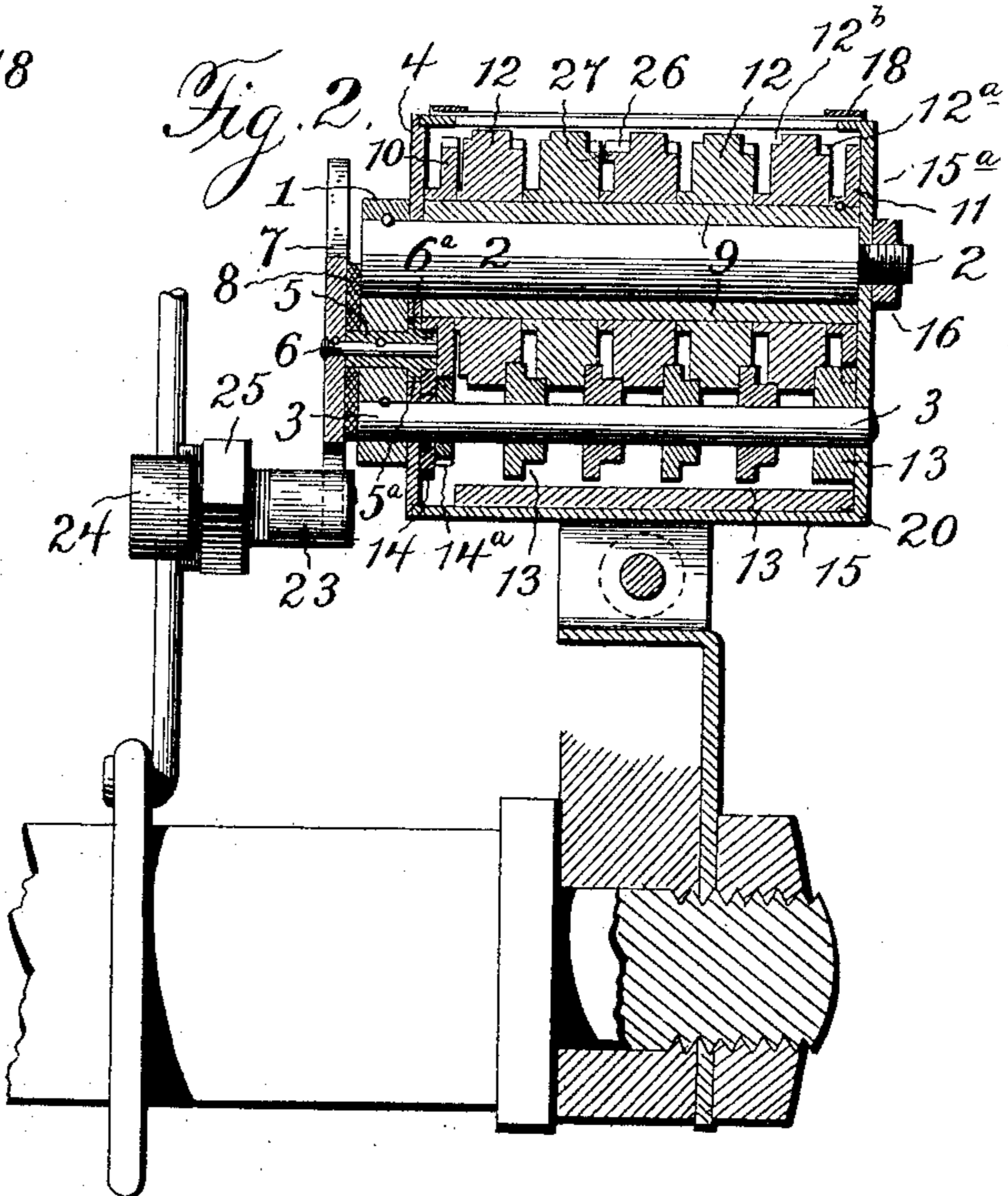


Fig. 2.

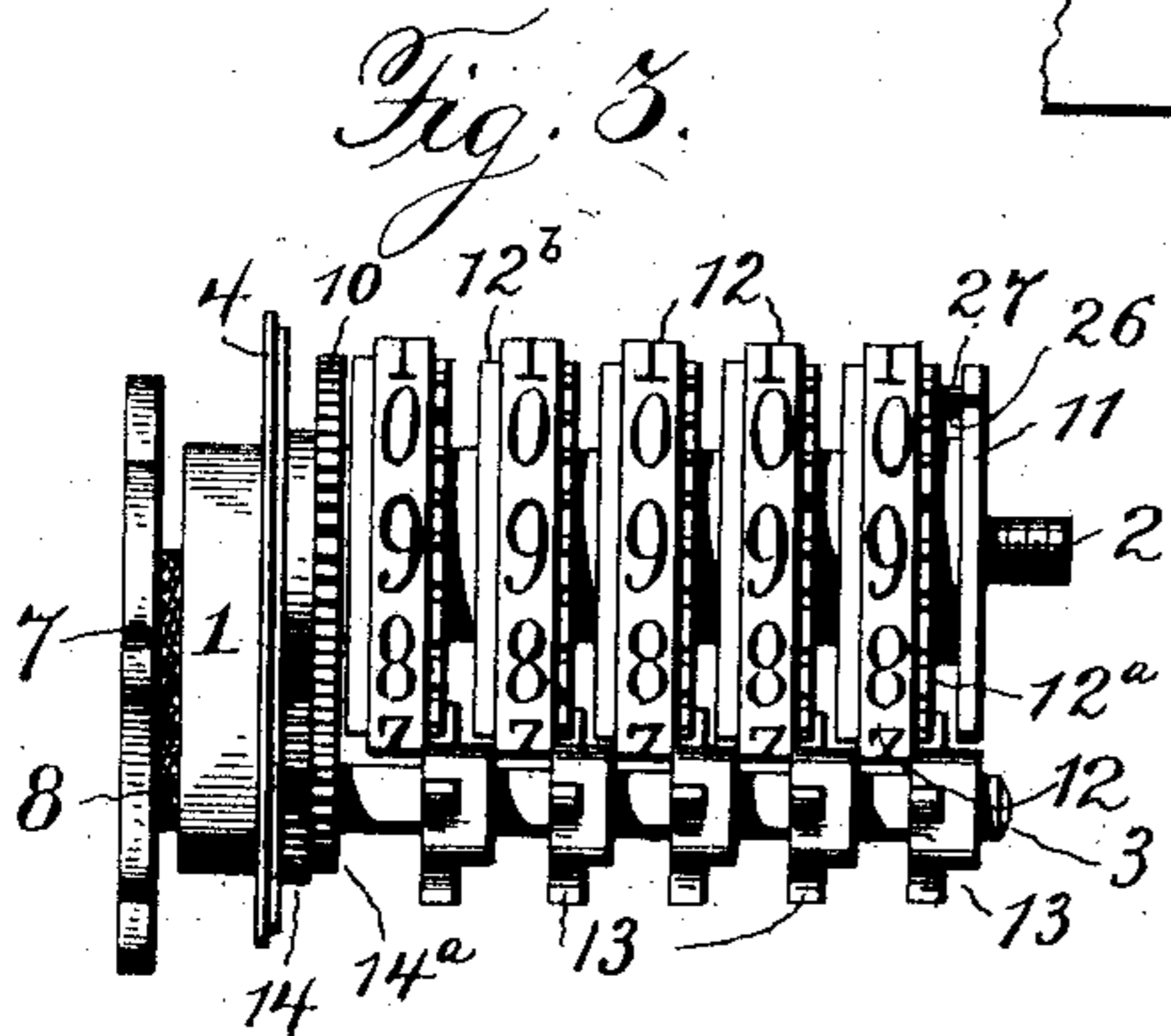


Fig. 3.

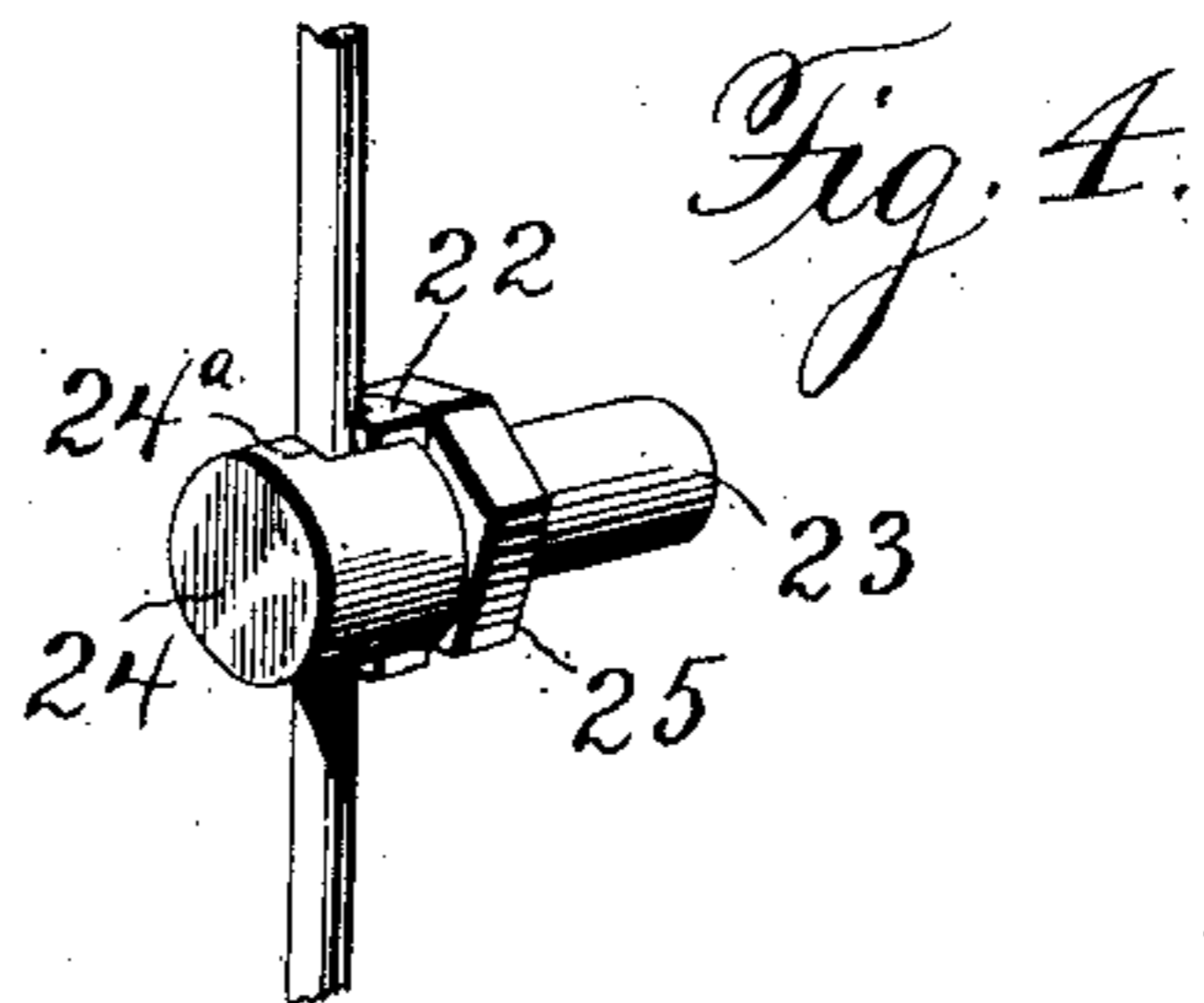


Fig. 4.

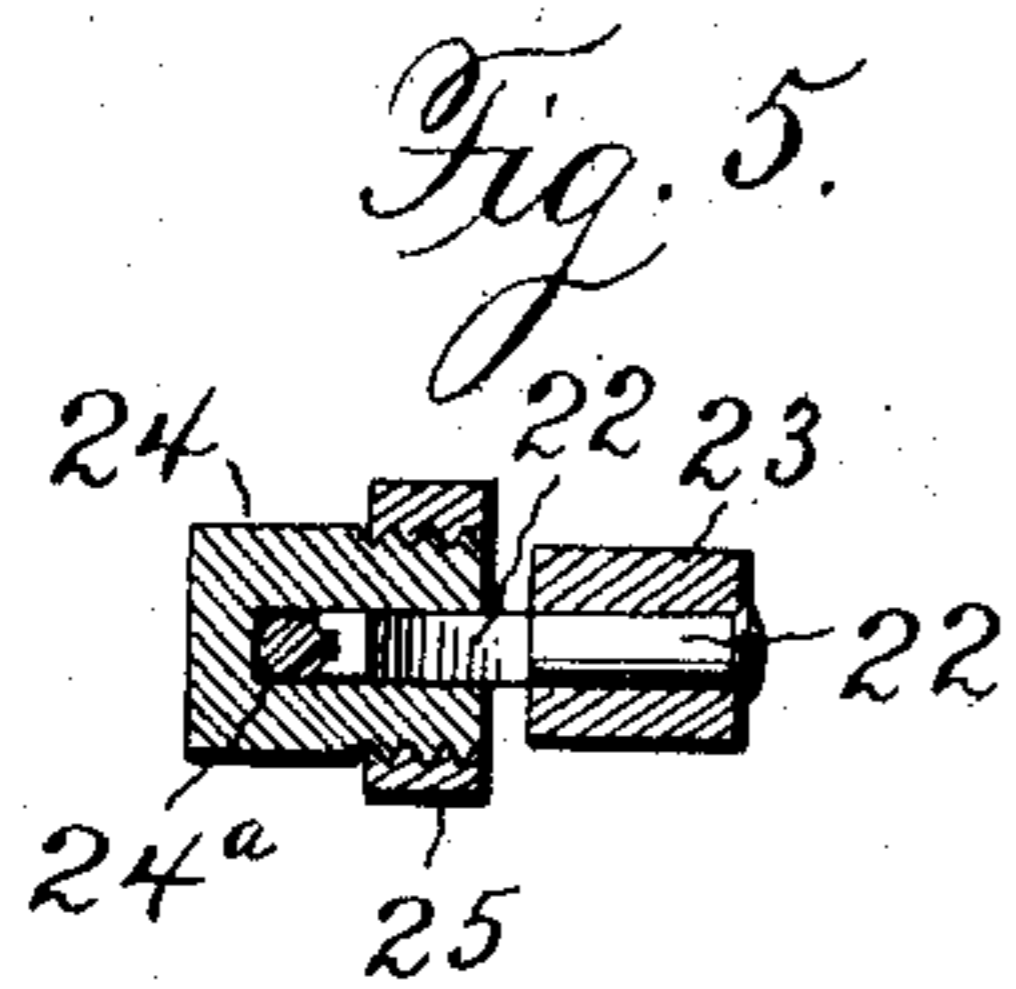


Fig. 5.

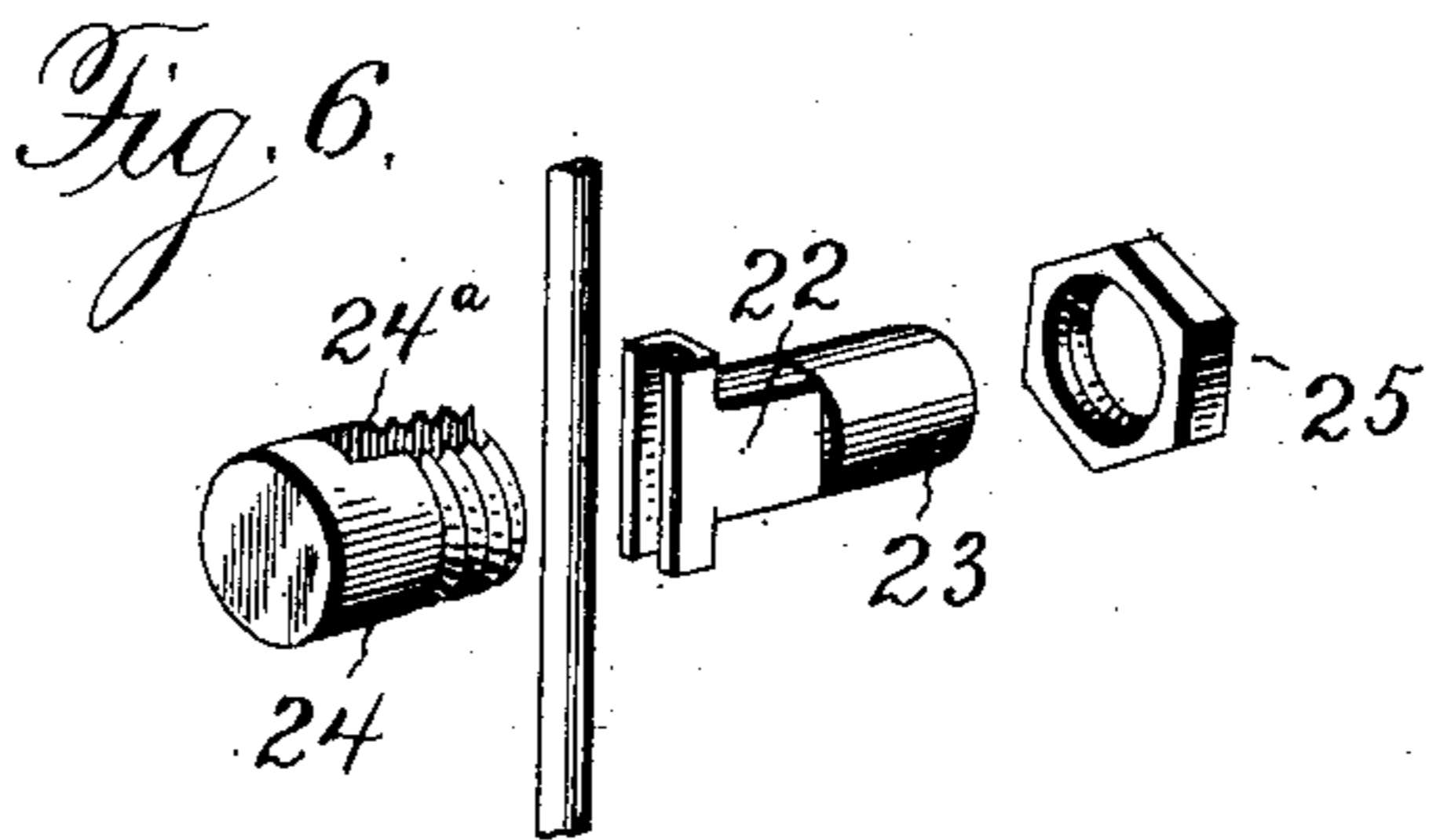


Fig. 6.

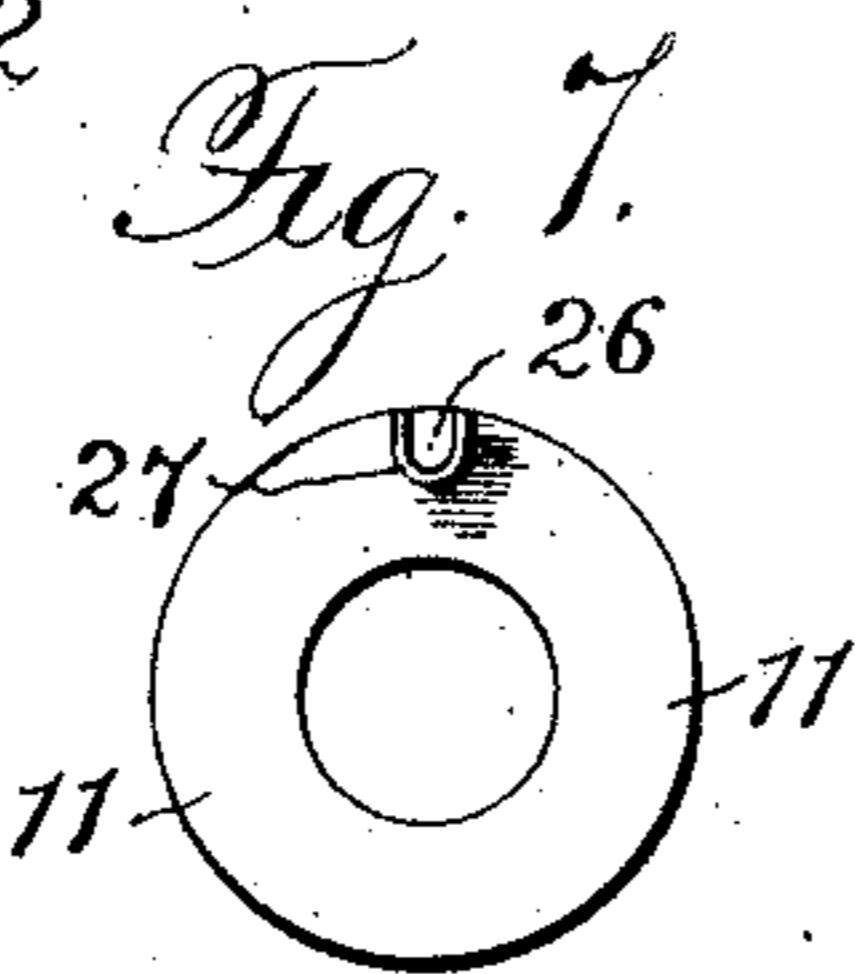


Fig. 7.

Witnesses  
Jas. Hutchinson.  
G. F. Downey.

Inventor  
G. B. Bassett  
By H. A. Seymour  
Attorney

# UNITED STATES PATENT OFFICE.

GEORGE B. BASSETT, OF BUFFALO, NEW YORK.

## REGISTERING DEVICE.

SPECIFICATION forming part of Letters Patent No. 618,636, dated January 31, 1899.

Application filed March 3, 1897. Serial No. 625,845. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE B. BASSETT, a resident of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Registering Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in registering or counting apparatus, and is designed more particularly for cyclometers to be used on bicycles.

The object of the invention is to provide a device of the character named of few parts that can be readily and quickly assembled.

A further object is to provide a device that will be simple and durable in construction, with the parts so arranged that the operative mechanism can be removed for inspection or repair without necessarily removing the casing from the machine.

A further object is to provide a registering or counting apparatus that may be set to any desired reading and easily and readily changed from correctly registering the distance traveled by one size wheel to correctly registering the distance traveled by another size wheel.

With these ends in view my invention consists in the parts and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of my cyclometer. Fig. 2 is a view in section of my cyclometer, showing it mounted on the axle of a bicycle and also showing the kicker secured to a spoke of the wheel. Fig. 3 is a view of the block 1 and pins 2 and 3 with pinion and star-wheel in position. Fig. 4 is a view in perspective of the kicker, showing it attached to a section of a spoke. Fig. 5 is a view in section of same, and Fig. 6 is a view of the parts unassembled. Fig. 7 is a view of a notched disk.

1 represents a block to which are permanently secured the parallel pins 2 and 3 and the head-plate 4. Passing through the block and mounted therein is the sleeve 5, in which latter is permanently fastened pinion-staff 6, carrying star-wheel 7 at its outer end and

pinion 6<sup>a</sup> at its inner end. Surrounding sleeve 5 and between block 1 and the star-wheel 7 is a felt washer or cushion 8, which is designed to hold the shoulder 5<sup>a</sup> on the inner end of sleeve 5 in contact with the block 1, in which it rotates.

Removably mounted on pin 2 is the hollow shaft 9, at one end of which is permanently fastened the gear-wheel 10 and at the other end is permanently fastened the notched disk 11, and between the wheel 10 and disk 11 are loosely mounted the figure-rollers 12, each carrying a gear 12<sup>a</sup> and a notched disk 12<sup>b</sup>, the gear and disk being either integral with the roller or constructed independently thereof and rigidly attached thereto, so as to rotate with the roller. With this construction it will be seen that the sleeve 9, with the parts thereon, can be removed from the pin 2 without disarranging any of the parts, as all the several movable parts on the hollow shaft are confined between the fixed disk 11 and the wheel 10.

Loosely mounted on the pin 3 are the mutilated pinions 13 and the double change-gear 14 and 14<sup>a</sup>. The pinions 13 have each alternate tooth partly cut away, as shown, and when the figure-rollers are at rest a mutilated tooth of each pinion 13 engages a tooth of its respective gear 12<sup>a</sup>, while the whole teeth immediately adjacent the mutilated teeth so engaged rest against the peripheries of the disks 11 and 12<sup>b</sup> and hold the pinions against rotary movement.

The registering mechanism is removably mounted on the pins 2 and 3 and is covered by the removable casing 15, which latter is secured in position by the nut 16. One end of this casing is open to receive the head-plate 4, which conforms in shape to the shape of the casing in cross-section and which is shouldered to receive and sustain the open end of the casing, while the outer end of the latter is closed by a fixed head 15<sup>a</sup>, having two holes therein for the passage of the pins 2 and 3.

The pin 2 is shouldered at a point near its free end, and hence when the case 15 is placed in position it is secured by the nut 16, firmly clamping the head 15<sup>a</sup> against the shoulder on the pin 2.

In a slot in the outer case 15 is fitted the

sight-glass, held in place by escutcheon 18, which is secured by screws 19, whereby the sight-glass may be readily replaced if broken. The lower edge of the case is bent outwardly to form two beveled projections adapted to be engaged by the clamp 21, and within the space formed by bending the case outwardly is the stiffening-plate 20, which is designed to prevent the case 15 from being distorted in shape by any undue pressure to which it might be subjected by the clamp 21.

It is understood that each disk 11 and 12<sup>b</sup> is provided with a single notch 26 and with an inwardly-projecting flange 27, and as this notch approaches its pinion 13 the flange 27 first strikes a mutilated tooth of pinion 13, which tooth, as before stated, rests normally in engagement with the gear 12<sup>a</sup> of one of the rollers and carries said tooth rearwardly, thus bringing the following whole tooth into the notch 26 and between the teeth of gear 12<sup>a</sup> immediately opposite the slot, thus continuing the revolution of the figure-roller until the whole tooth has passed from the notch and the next mutilated tooth engaged the next tooth of the gear 12<sup>a</sup>. This brings the two whole teeth (in front and in rear of the mutilated tooth, which now engages the gear 12<sup>a</sup>) against the peripheries of the disks 11 or 12<sup>b</sup>, as the case may be, and prevents accidental movement of either the figure-rollers or pinions 13.

The kicker consists of the T-piece 22, one end of which carries the friction-roller 23, while the other end thereof is provided with a groove preferably angular in cross-section, so as to more securely engage and clamp the spoke. This piece 22 fits within a slot 24<sup>a</sup> in the U-clamp 24, the slotted end of the latter being screw-threaded for the clamping-nut 25. The clamp 24 is first placed against a spoke of the wheel, the latter passing through the slot in the U-clamp, after which the T-piece is entered in said slot. By now passing the nut 25 over the roller 23 and onto the screw-threads of the clamp 24 the clamp and part 22 are drawn together, thus firmly locking the kicker to the spoke in a position to engage and rotate the star-wheel 7.

The clamp 21, carrying the cyclometer, is secured to the axle of a bicycle between the fork and the nut in the usual way, after which the cyclometer-case containing the mechanism is adjusted laterally in the clamp until the star-wheel is properly located, so as to come in contact with the friction-roller of the kicker and be rotated one point at each revolution of the bicycle-wheel.

The teeth on the end of pinion-staff 6 mesh with the gear 14 of the double change-gear, while gear 14<sup>a</sup> of the double change-gear meshes with gear-wheel 10, fast on the hollow shaft 9, thus rotating the latter and notched disk 11. When the notch and adjacent flange in disk 11 reaches its mutilated pinion, the latter will be moved, as previously explained, two teeth, while the figure-roller actuated

thereby will be moved a distance sufficient to bring the next numeral of the series directly under the sight-glass. When the mutilated pinion immediately at the left of the first right-hand figure-roller comes into contact with the flange and notch in the disk 12<sup>b</sup>, carried by the first figure-roller, it will rotate a distance equal to two teeth, and hence rotate the second figure-roller a distance sufficient to expose the next numeral of its series and so on throughout the entire set of rollers.

Theoretically the cyclometer may contain any number of figure-rollers; but in actual practice I prefer to use four or five. The figures on the first roller or the roller on the right are preferably printed in red and indicate tenths of a mile, while the figures on the other rollers represent units, tens, hundreds, thousands, &c. Where four rollers are used, the cyclometer would indicate up to nine hundred and ninety-nine and nine-tenths miles and then all rollers would turn to zero. Where five rollers are used, the cyclometer would indicate the miles and tenths thereof up to nine thousand nine hundred and ninety-nine and nine-tenths and then all would go to zero.

In order to set the cyclometer to any given figure, it is simply necessary to remove the casing and slide the hollow shaft 9 and its accompanying rollers off pin 2. At the same time the mutilated pinions 13 will be withdrawn from the pin 3. The figure-rollers can then be turned to indicate the figures desired and the whole slid back on pin 2, care being taken to replace mutilated pinions on the pin 3 as the hollow sleeve is passed onto its pin, after which the outer casing can be replaced and secured by the nut 16.

I have found in practice that without changing the diameter or number of teeth in pinion 6<sup>a</sup> and gear 10 the number of teeth in double change-gear 14 and 14<sup>a</sup> can be increased or decreased one or two in extent without affecting the proper working of the cyclometer, so that by simply substituting change-gears with a suitable number of teeth no other change is necessary in the mechanism of the cyclometer to make it indicate correctly for any of the regular makes of bicycles.

My invention has many advantages which are obvious to one skilled in the art. One is, the figure-rollers resting on the hollow shaft act as a break to the star-wheel and prevent the kicker from knocking the star-wheel more than one point at a time. To accomplish this in other cyclometers, it has been customary and necessary to use spring devices or spring-ratchets of some kind which quickly get out of order. Again, by mounting the figure-rollers on the constantly-revolving hollow shaft the figure-rollers which indicate the high numbers and might not under ordinary conditions turn in a year or more are prevented from sticking to their bearings.

It is evident that numerous slight changes might be made in the general form and ar-

5 rangement of the several parts herein shown and described without departing from the spirit and scope of my invention, and hence I would have it understood that I do not limit myself to the precise details herein shown and described; but,

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

10 1. In a registering device, the combination with a head-plate and pins rigid with respect to said plate, of a hollow shaft mounted on one of said pins, figure-rollers loosely mounted on said hollow shaft, a gear-wheel and a disk  
15 fast to said hollow shaft, means for transmitting motion to said gear-wheel and mutilated pinions on the other pin for transmitting motion from the disk fast on the hollow shaft to the figure-rollers, substantially as set forth.

20 2. In a registering device the combination with a casing open at one end and closed at the other and means for securing the casing in position, of a head for closing the open end of the casing, a shaft carried by said head  
25 and carrying registering mechanism, the said shaft passing through the closed end of the casing, and means engaging said shaft outside the casing for locking the casing and head together.

30 3. In a registering device the combination with a head-plate and two parallel pins rigid with the head-plate, of a hollow shaft mounted on one of said pins, a gear-wheel and disk rigidly secured to said hollow shaft, figure-  
35 rollers loosely mounted on said hollow shaft intermediate said disk and gear-wheel, means for imparting motion to the gear-wheel and means on the other pin for transmitting motion from the disk fast on the hollow shaft to  
40 the figure-rollers.

4. In a registering device, the combination with a head-plate and two parallel pins fixed with relation to said head-plate, of a hollow  
45 shaft mounted on one of said pins, a gear-wheel and a notched disk secured to the hollow shaft, a series of figure-rollers mounted on the hollow shaft intermediate the gear-wheel and the disk, a gear-wheel and a  
50 notched disk rigid with each figure-roller and mutilated pinions mounted on the other pin and each adapted to transmit motion from a disk to the gear on the adjacent figure-roller, substantially as set forth.

5. In a registering device, the combination  
55 with a head-plate and parallel pins fixed with relation to said head-plate, of registering mechanism mounted on the pins, and a casing adapted to cover said registering mechanism and secured in position by a clamping-  
60 nut screwed onto one of said pins.

6. In a registering device, the combination with a head-plate and parallel pins fixed with relation to said head-plate, of a hollow shaft mounted on one of said pins, a gear-wheel

and a disk rigidly secured to said hollow shaft, 65 figure-rollers loosely mounted on said hollow shaft intermediate the gear-wheel and disk, devices mounted on the other pin for transmitting motion from the disk to the several figure-rollers, a star-wheel carried by the head-  
70 plate and intermediate devices between the star-wheel and hollow shaft for rotating the latter.

7. In a registering device, the combination with a casing and parallel pins therein, of a  
75 hollow shaft on one of said pins, a gear-wheel and a disk fast on said hollow shaft, figure-rollers intermediate said disk and gear-wheel, means on the other pin for transmitting motion from the disk to the several figure-rollers, a star-wheel secured on a shaft mounted  
80 in one end of said casing, a pinion on the inner end of said shaft and a change-gear meshing with the pinion on the star-wheel shaft and with the gear-wheel fixed on the hollow  
85 shaft.

8. In a registering device, the combination with a casing and parallel pins therein, of a hollow shaft on one of said pins, a gear-wheel and disk fixed to said hollow shaft, figure-  
90 rollers intermediate said disk and gear-wheel, devices on the other pin for transmitting motion from the disk to the several figure-rollers, a star-wheel shaft mounted in the head-plate, a cushion interposed between said plate  
95 and star-wheel and gearing connecting the star-wheel shaft and the gear-wheel fixed to the hollow shaft.

9. In a registering device, the combination with a metallic casing bent at its bottom to  
100 form an internal recess and an external projection, of a stiffening-plate located within said recess, a clamp engaging the external projection and registering mechanism within said casing, substantially as set forth. 105

10. A kicker for a cyclometer comprising a split clamp a T-shaped block carrying a friction-roller and a clamping-nut.

11. A kicker for a cyclometer comprising a split clamp a T-shaped block and a clamping-  
110 ing-nut.

12. A kicker for a cyclometer comprising a split clamp a clamping-nut and a T-shaped  
115 block with a grooved top having sharp edges adapted to grip the spoke of a bicycle-wheel.

13. In a registering device, the combination with a shaft having a toothed wheel on one end and a star-wheel on the other end, of a sleeve tightly mounted on said shaft and having a shoulder adjoining the teeth of said pin-  
120 ion as and for the purpose described.

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

GEORGE B. BASSETT.

Witnesses:

FLORENCE A. KLINGNER,  
HENRY HARRINGTON.