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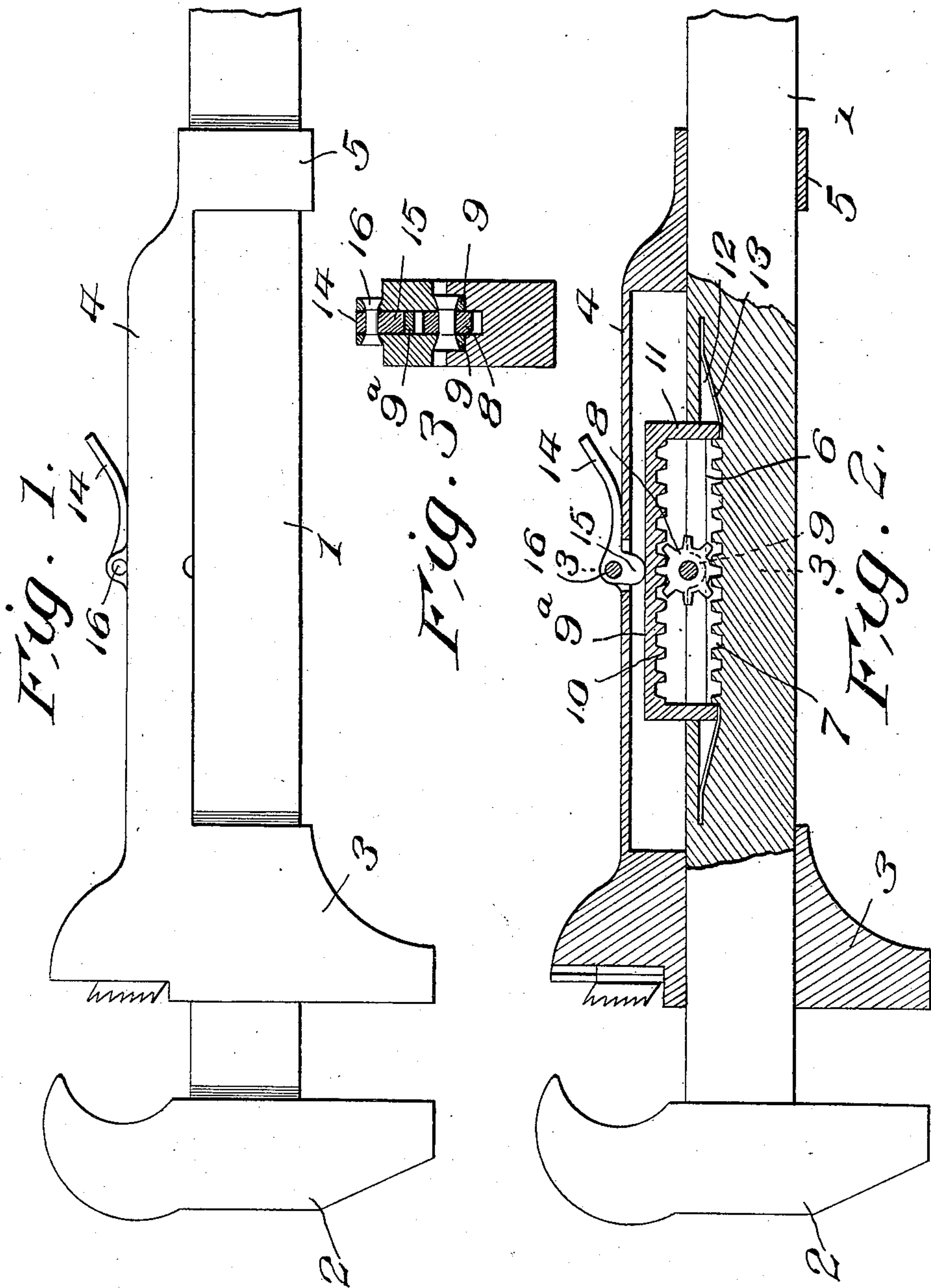
W. A. FLOWERS.

PATENTED JUNE 23, 1908.

WRENCH.

APPLICATION FILED SEPT. 6, 1907. RENEWED MAY 19, 1908.

3 SHEETS—SHEET 1.



WITNESSES:

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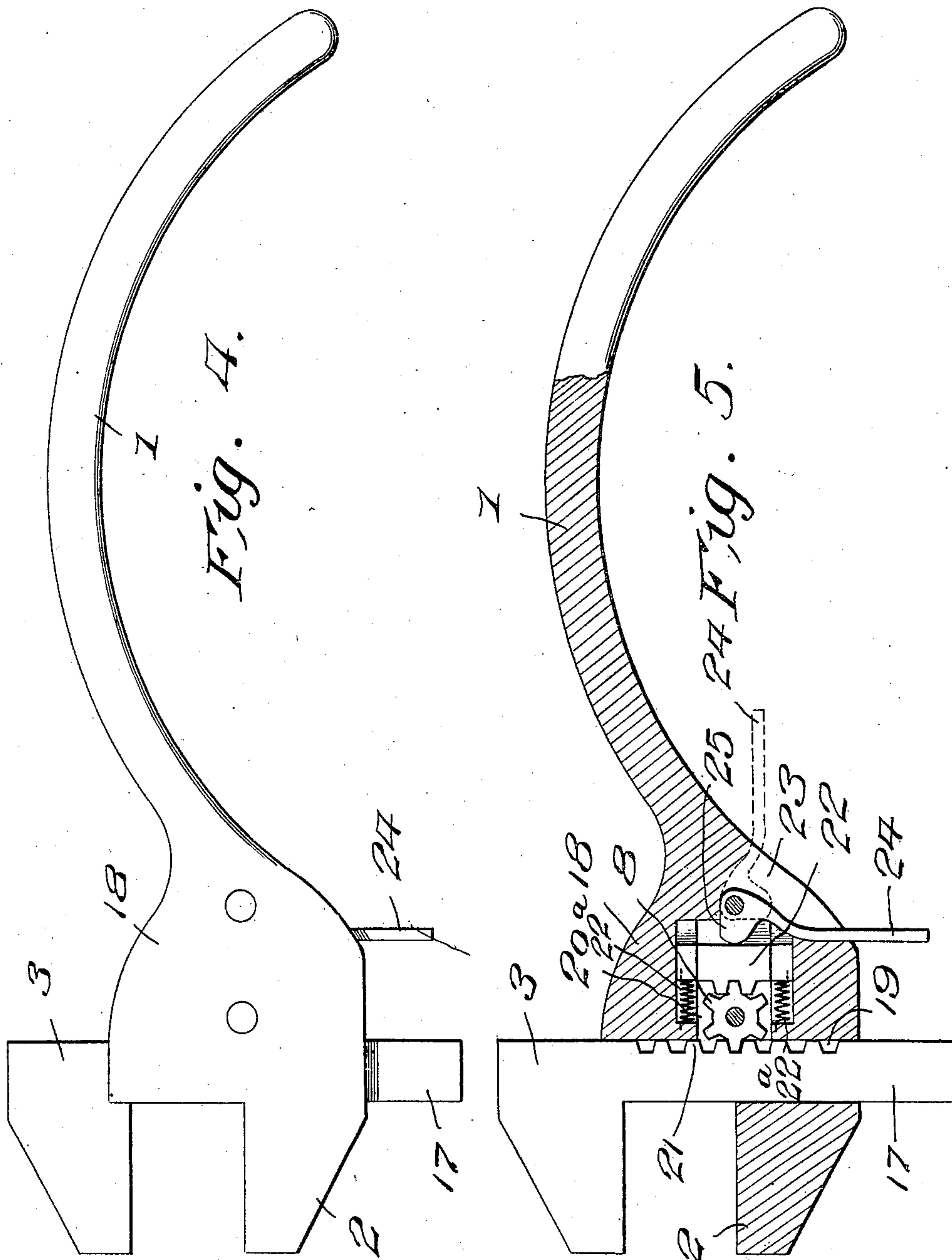
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 6.

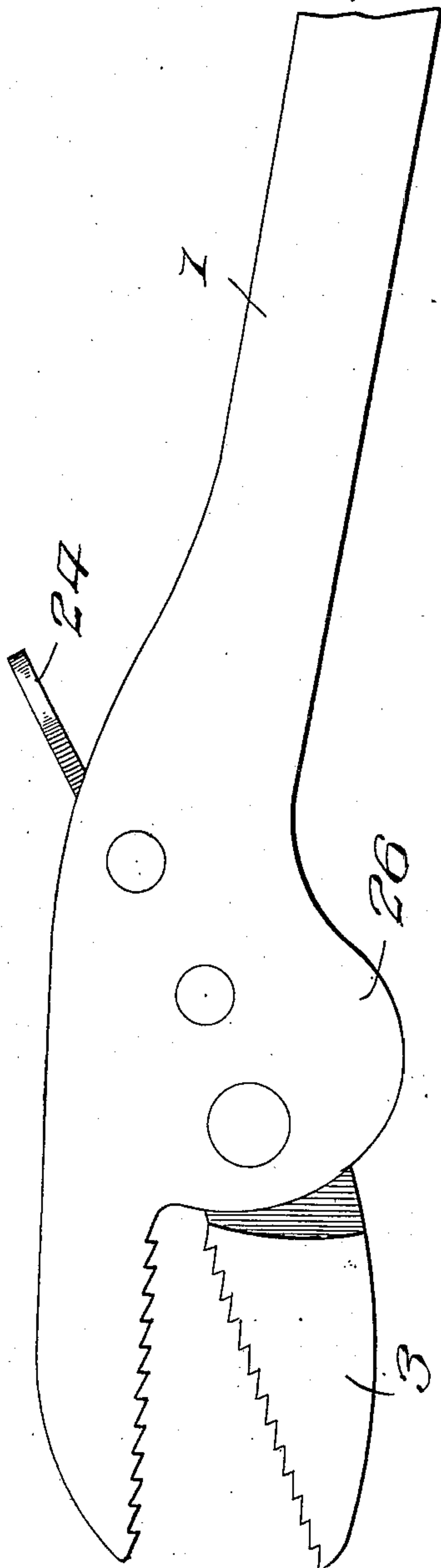
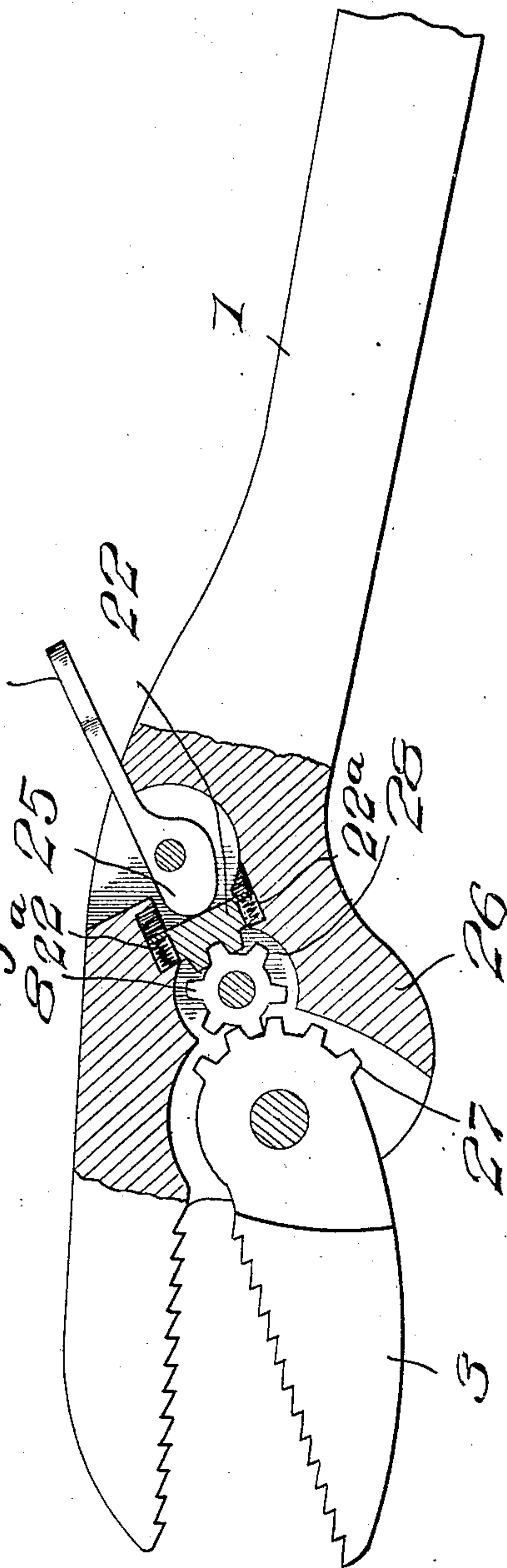


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM AUSTIN FLOWERS, OF TIFTON, GEORGIA.

WRENCH.

No. 891,683.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed September 6, 1907, Serial No. 391,629. Renewed May 19, 1908. Serial No. 433,791.

To all whom it may concern:

Be it known that I, WILLIAM AUSTIN FLOWERS, a citizen of the United States, residing at Tifton, in the county of Tift and State of Georgia, have invented certain new and useful Improvements in Wrenches; 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 new and useful improvements in wrenches and my object is to provide means for holding the movable jaw of a wrench in its adjusted position.

A further object is to provide means for releasing the holding device, whereby the jaw may be quickly adjusted and the parts secured in their adjusted positions.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a side elevation of my preferred form of wrench. Fig. 2 is a similar view showing parts of the wrench in section. Fig. 3 is a detail sectional view, as seen on line 3—3, Fig. 2. Fig. 4 is a side elevation of a slightly modified form of wrench, showing my improved adjusting mechanism secured thereto. Fig. 5 is a sectional view thereof. Fig. 6 is a side elevation of a still different form of wrench and, Fig. 7 is a sectional view thereof.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the shank of the wrench, which is provided at one end with a fixed jaw 2.

Slidably mounted upon the shank 1 is a movable jaw 3, which may be of the usual, or any preferred construction, and is provided at one edge with a housing 4, said housing being preferably integral with the movable jaw and extended along one edge of the shank 1, that face of the housing, adjacent the shank, being open and the extreme outer end thereof provided with a loop 5, which extends around the shank, so that the housing will be held firmly against the edge of the shank.

That edge of the shank 1 adjacent the housing 4 is provided with a recess 6, the floor of which is provided with a plurality of teeth 7, with which meshes a pinion 8, carried by ears 9 at the edge of the housing 4,

the pinion being so arranged that it will rest in engagement with the teeth at all times.

In order to hold the movable jaw 3 in its adjusted position, a locking plate 9^a is placed in the housing 4 and is provided on its lower face with a plurality of teeth 10, which are also adapted to mesh with the pinion 8 at a point diametrically opposite the teeth 7 and in this instance each end of the locking plate is provided with an extension 11 at right angles to the longitudinal plane of the locking plate 9^a, which are adapted to enter the recess 6 and rest upon the bottom wall of the recess, said extensions being so arranged as to form a guide for the locking plate.

At each end of the recess 6 is provided a cavity 12, in which is seated a spring 13, said springs being secured at one end in said cavities while the opposite ends thereof extend into engagement with the free ends of the extensions 11, so that when it is desired to adjust the removable jaw 3, and pressure on the locking plate is removed, the springs will direct the locking plate out of engagement with the pinion 8 and allow the movable jaw 3 to be moved towards or from the object being turned. As soon, however, as the movable jaw has been properly adjusted, a lever 14, having a cam 15 thereon, is rotated upon its pivot pin 16 and, thereby, depresses the locking plate into engagement with the pinion 8, the cammed portion 15 of the lever being such that the locking plate will be moved, positively, into engagement with the pinion when the lever 14 is lowered or swung into engagement with the wall of the housing.

In adjusting the movable jaw in this form of wrench, the lever 14 is first swung outwardly or upwardly, which will release the cam 15 from the locking plate 9^a, whereupon the springs 13 will move the plate from engagement with the pinion 8, when the movable jaw may be adjusted towards or from the fixed jaw and as soon as the movable jaw has reached its adjusted position, the lever 14 is again swung into engagement with the housing, which will result in lowering the locking plate and securing the movable jaw in its adjusted position.

In Figs. 4 and 5, of the drawings, the movable jaw 3 is provided with an auxiliary shank 17, while the fixed jaw 2 is secured to a head 18, said head having a slot 19 therein, through which extends the auxiliary shank

17. In this form of wrench, the recess 20 is placed in the head 18, in which is rotatably mounted the pinion 8, said pinion meshing with teeth 21 on the auxiliary shank 17 and the pinion held against rotation by means of an auxiliary locking plate 22, which is slidably mounted in the recess 20. The head 18 is also provided with a slot 23, which intersects one end of the recess 20 and in which is pivotally secured a cam lever 24, having on its inner end a cam 25, which is adapted to depress the auxiliary locking plate 22.

In Figs. 6 and 7 I have shown that form of wrench adapted more particularly for turning circular objects, such as pipes, or the like, and, in this instance, the movable jaw is pivotally mounted in the head 26 and the inner end of the jaw, in this instance, is provided with a plurality of teeth 27, with which the pinion 8 meshes, the head, in this instance, having a recess 28 extending entirely through the same, said recess being divided into compartments, in one of which is slidably mounted the auxiliary locking plate 22, said plate operating in the same manner as the plate shown in Figs. 4 and 5. The fixed and movable jaws, in this form of wrench, are provided with oppositely disposed teeth, which are adapted to engage the surface of the object to be turned and in operating the wrench, the cam 25 is removed from engagement with the plate 22, when the movable jaw may be swung upon its pivot point to increase or decrease the space between the two jaws and when the movable jaw has been properly set, the cam 25 is again moved into engagement with the auxiliary locking plate and the movable jaw fixed in its adjusted position.

In the construction of that form of wrenches shown in Figs. 4 to 6, inclusive, the plates 22 are moved out of engagement with the pinions 8 by means of coil springs 22^a, which are placed below projections at each end of the plates 22 and against shoulders formed in the recess to receive the plates.

It will thus be seen that I have provided a very cheaply constructed and positive means for locking the movable jaw in its adjusted position and one that can be used in connection with various kinds of wrenches.

It will further be seen that by employing this form of adjusting mechanism, the parts may be readily operated for releasing the jaw and allowing said jaw to be quickly adjusted and again secured in its adjusted position.

What I claim is:

1. In a wrench of the class described, the combination with a shank, having a recess and a fixed jaw at one end of said shank; of a movable jaw, a pinion coöperating with said movable and fixed jaw, a locking plate for said pinion, and means to direct said locking plate into engagement with the pinion,

whereby the movable jaw will be held in its adjusted position.

2. In a wrench of the class described, the combination with a shank having a recess therein, a plurality of teeth in said recess and a fixed jaw on said shank; of a movable jaw, a pinion carried by said movable jaw and adapted to mesh with the teeth in said recess, a locking plate, a plurality of teeth on said locking plate, means carried by the movable jaw to direct said locking plate into engagement with the pinion, and additional means to release the locking plate from the pinion.

3. In a wrench of the class described, the combination with a shank, having a recess and a fixed jaw; of a pinion in said recess, a movable jaw coöperating with said fixed jaw, a locking plate adapted to engage said pinion and hold the same against rotation, a cam adapted to direct said locking plate into engagement with the pinion and hold the movable jaw in a fixed position, and a lever on said cam, whereby said cam may be moved into or out of engagement with the locking plate.

4. In a wrench of the class described, the combination with a shank having a recess therein, a plurality of teeth in said recess and a fixed jaw at one end of said shank; of a movable jaw, a housing on said movable jaw, a pinion carried by said housing and adapted to engage the teeth in said recess, a locking plate having teeth adapted to engage said pinion, extensions on said locking plate, springs carried by said shank, adapted to engage said extensions and move the locking plate out of engagement with the pinion, a cam carried by said housing, and a lever fixed to said cam.

5. In a wrench of the class described, the combination with a shank having a recess therein, a cavity at each end of said recess, a plurality of teeth in said recess and a fixed jaw at one end of the shank; of a movable jaw carried by said shank, a housing on said movable jaw adapted to register with said recess, ears on said housing adapted to enter said recess, a pinion rotatably mounted between said ears and adapted to mesh with the teeth in the recess, a locking plate in said housing, teeth on said locking plate, adapted to engage said pinion, a cam carried by said housing adapted to move and hold the locking plate in engagement with the pinion, whereby the movable jaw will be held in a fixed position, and a lever to operate said cam.

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

WILLIAM AUSTIN FLOWERS.

Witnesses:

P. D. PHILLIPS,
S. A. MARTIN.