

G. JOHNSON.

WRENCH.

APPLICATION FILED APR. 9, 1909.

951,398.

Patented Mar. 8, 1910.

Fig. 1.

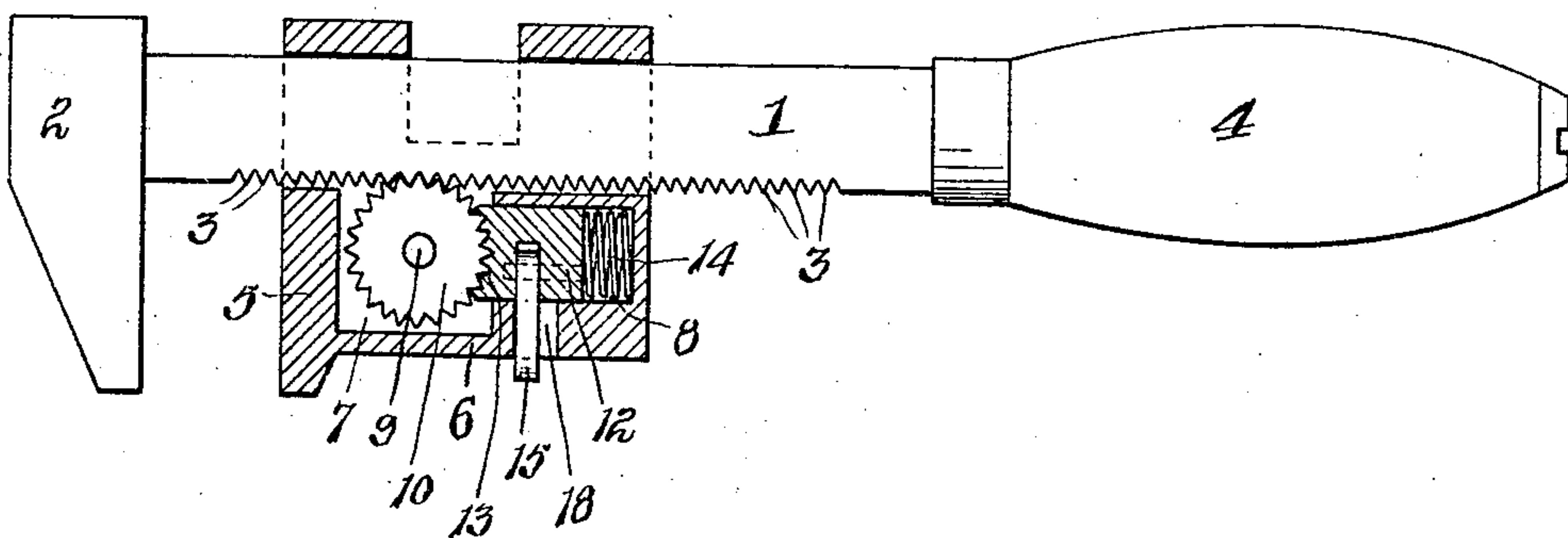


Fig. 2.

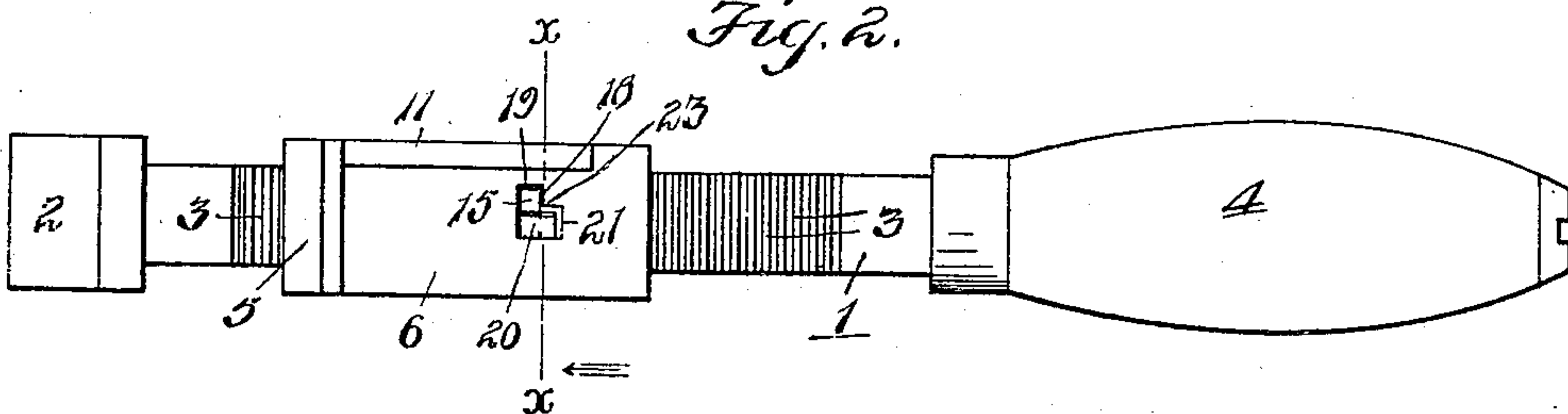


Fig. 3.

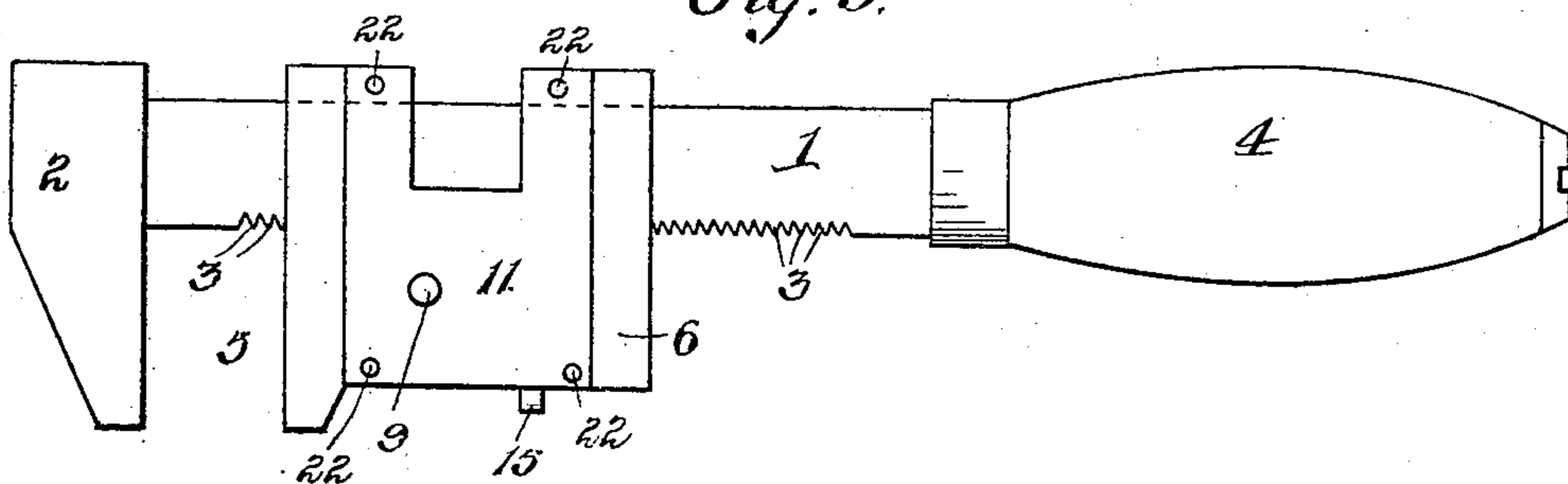
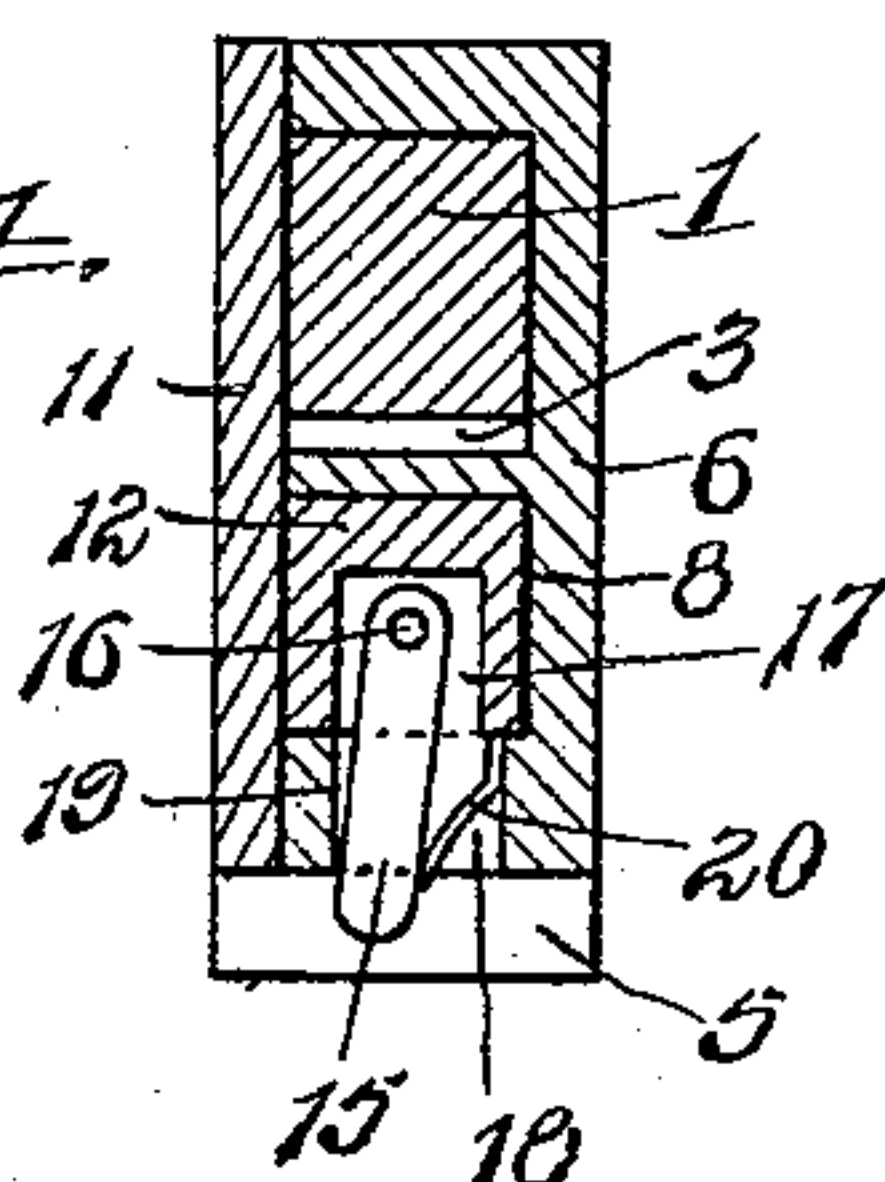


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GUSTAF JOHNSON, OF CHICAGO, ILLINOIS.

WRENCH.

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To all whom it may concern:

Be it known that I, GUSTAF JOHNSON, a subject of the King of Sweden, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wrenches, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in wrenches, and has for its object to provide a wrench in which the movable jaw may be easily, rapidly and accurately adjusted to the desired position; furthermore, to provide a wrench which will be simple in construction, strong, durable and comparatively cheap in manufacture.

With these and other objects in view, my invention consists in certain novel features of construction, arrangement, and combination of parts as will be more fully hereinafter described and finally pointed out in the claim hereto appended.

Referring to the accompanying drawings wherein like characters of reference denote similar parts throughout the several views:— Figure 1, is a side elevation of my improved wrench, showing the movable jaw in section. Fig. 2, is a front elevation thereof. Fig. 3, is a side elevation of the wrench. Fig. 4, is a transverse vertical sectional view taken on line X—X of Fig. 2, through the movable jaw.

Referring to the accompanying drawings, the reference character 1 designates the shank, which is provided at its outer end with an integral jaw 2, and at its opposite end with a suitable handle 3. The front face of the wrench-shank 1 is provided with a suitable number of V-shaped rack teeth 4, as clearly shown in Figs. 1, 2 and 3.

Mounted to reciprocate on the wrench-shank 1 is a movable jaw 5 formed integral with a casing 6, having a chamber or recess 7, and a chamber or recess 8, which latter chamber or recess communicates with the first mentioned chamber 7. Rotatably mounted in the chamber or recess 7 by means of the journals 9 is a pinion 10, which pinion meshes with the V-shaped rack teeth 3, as clearly shown in Fig. 1. One of the journals 9 of the pinion 10 is mounted in the wall of the casing 6, while the opposite journal is adapted to be mounted in the removable cover plate 11.

Slidably mounted in the chamber or recess 8 is a spring-pressed pawl 12, one end of which is provided with the V-shaped teeth 13 adapted to mesh with the V-shaped teeth of the pinion 10. The arrangement between the pinion 10 and the pawl 12 is such that the movable jaw 5 may be freely moved inwardly toward or outwardly away from the stationary jaw 2, but capable of being locked against either inward or outward movement. The spring-pressed pawl 12 is fitted to slide longitudinally, and is held yieldingly in engagement with the pinion 10 by means of the spring 14, carried in the chamber or recess 8. The spring-pressed pawl 12 is provided with means for permitting the pawl to be positively withdrawn from engagement with the pinion 10 when so desired for permitting the free inward or outward movement of the movable jaw 5. The means which I have shown in the drawings comprises a locking member 15 pivotally connected at its inner end by means of the pin 16 with the pawl 12. The pawl is provided with a recess 17 adapted to receive the inner end of the locking member 15, as clearly shown in Fig. 4. The free end of the locking member 15 is adapted to pass through the right-angular slotted opening 18, as clearly shown in Figs. 2 and 4, and the same is held in engagement with the end 19 of the slotted opening 18 by means of the spring 20, which may be either secured to the casing 6 or to the locking member 15 as desired.

To release or disengage the pawl 12 from engagement with the pinion 10, for adjusting the movable jaw 5, the operator pulls the locking member 15 out of engagement with the face 19 and pulls the same and pawl rearwardly until the locking member strikes the end face or surface 21, which then allows the jaw 5 to be moved in either direction. As soon as the finger is released from the locking member 15, the spring 14 will force the pawl 12 forwardly until it engages the pinion 10 again, and the spring 20 will throw or push the locking member 15 into an inclined position so as to engage the end face 19 again. When the locking member is in this position it will be readily seen that it is impossible for the pawl 12 to move as the side surface or face of the locking member engages the shoulder or corner 22 formed by the right-angular slotted opening in the casing 6.

To repair any of the parts should it be necessary, or to have access to the pawl and pinion for any cause, it is simply necessary to remove the cover plate 11, which may be
5 done by removal of the fastening devices or screws 22.

From the foregoing it will be readily seen that the construction is simple and that the adjustment of the movable jaw may be most
10 easily and rapidly made.

What I claim is:

In a wrench of the class described the combination with a shank provided with V-shaped rack teeth on its front face, of a
15 rigid jaw formed at one end of said shank, a handle carried at the opposite end of said shank, a movable jaw having a casing integral therewith adapted to be slidably mounted on said toothed shank, a chamber
20 formed in said casing, a pinion rotatably mounted in said chamber, a second chamber

formed in said casing and communicating with said first mentioned chamber, a pawl slidably mounted in said chamber and adapted to engage said pinion, a spring engaging one end of said pawl, a locking member pivotally connected at one end with said pawl, said locking member being adapted to have its free end pass through a slotted opening in the front face of the aforesaid
25 casing, and a resilient member adapted to normally hold said locking member in an inclined position for locking the pawl and pinion from movement.

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

GUSTAF JOHNSON.

Witnesses:

FREDK. J. LARSON,
H. BACKSTROM.