

No. 622,486.

Patented Apr. 4, 1899.

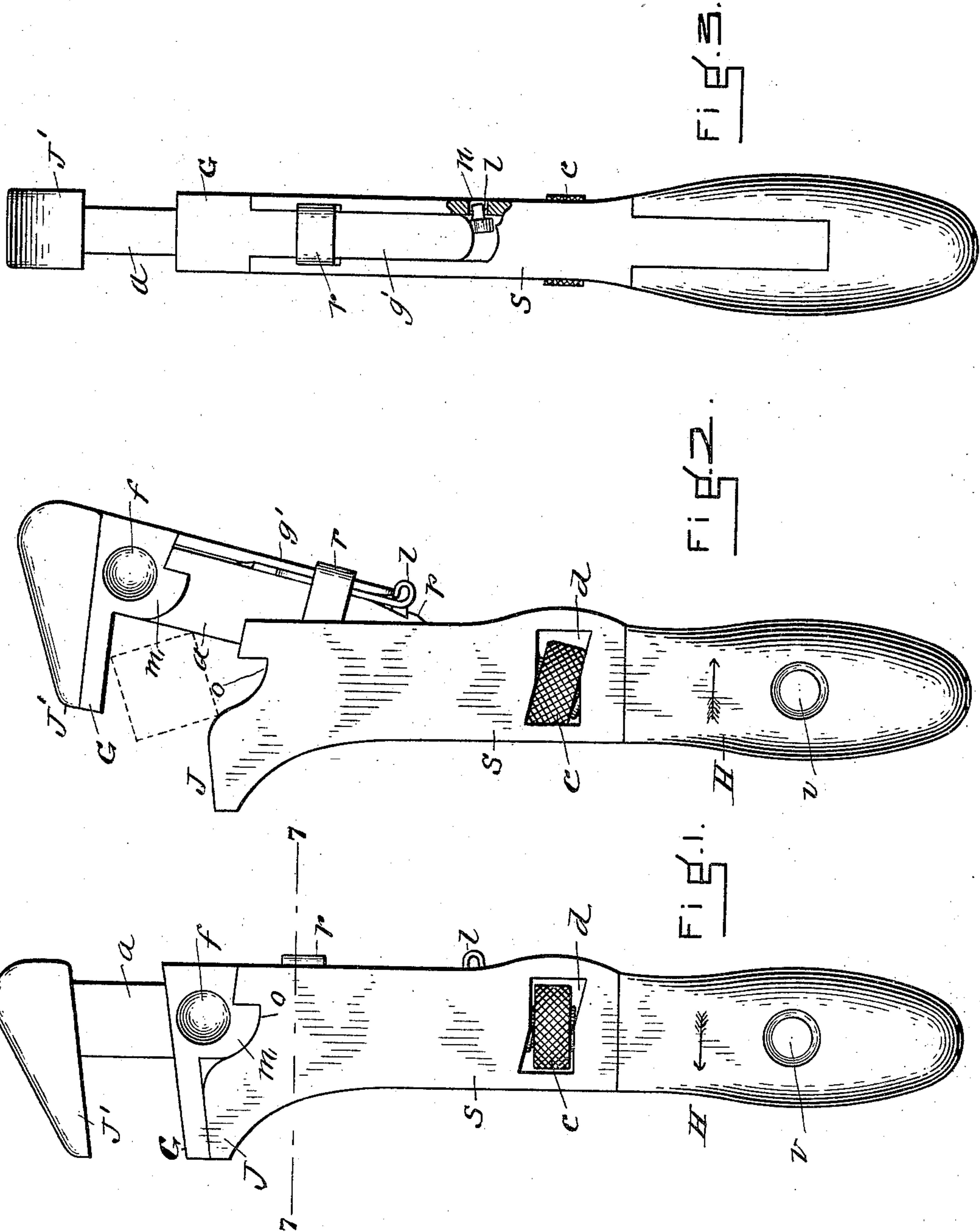
C. F. JOHNSON.

WRENCH.

(Application filed Feb. 12, 1898.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:
Reuben L. Roberts.
J. Allen Whiting.

INVENTOR:
Chester F. Johnson

No. 622,486.

Patented Apr. 4, 1899.

C. F. JOHNSON.
WRENCH.

(Application filed Feb. 12, 1898.)

(No Model.)

2 Sheets—Sheet 2.

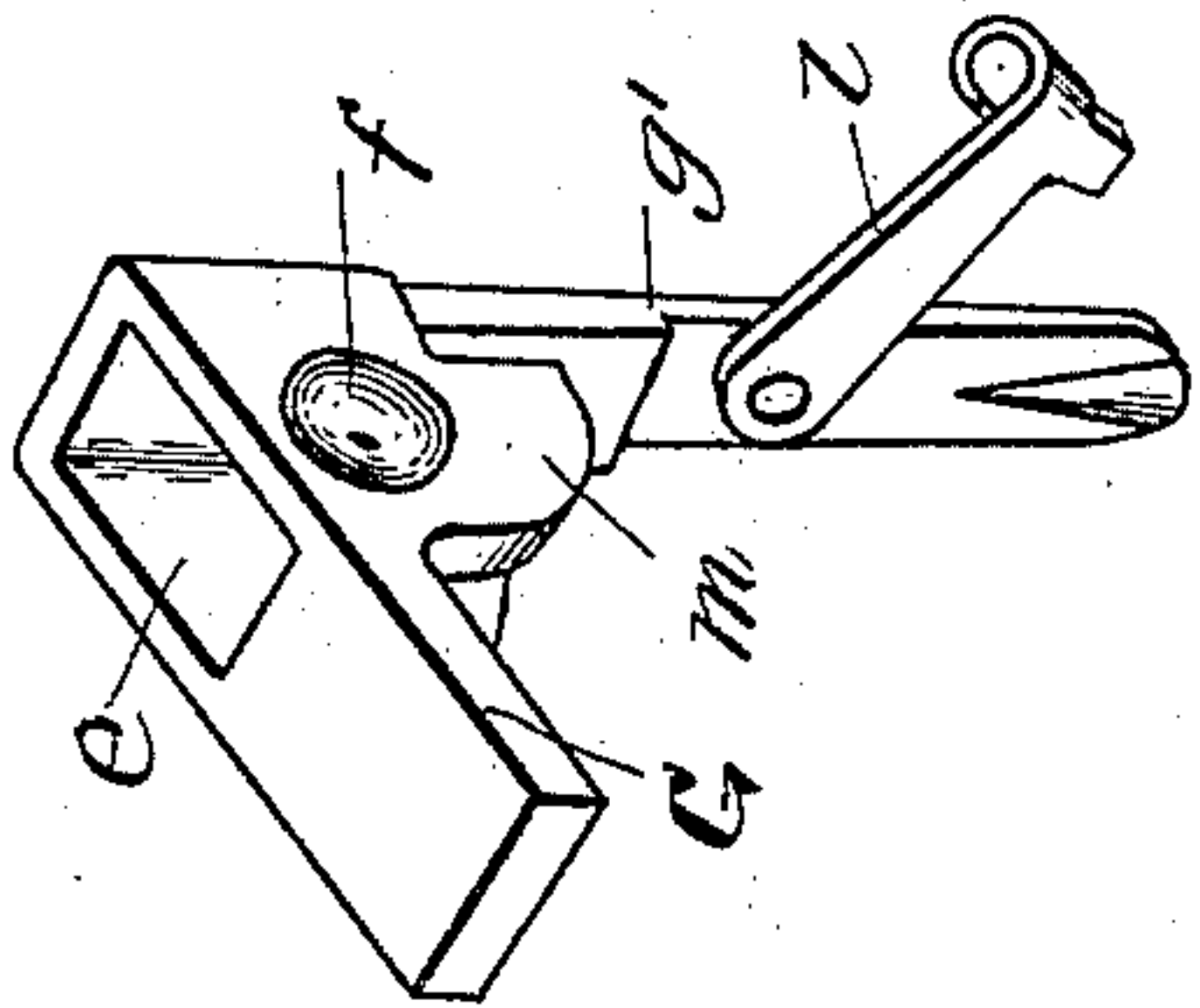


Fig. 6.

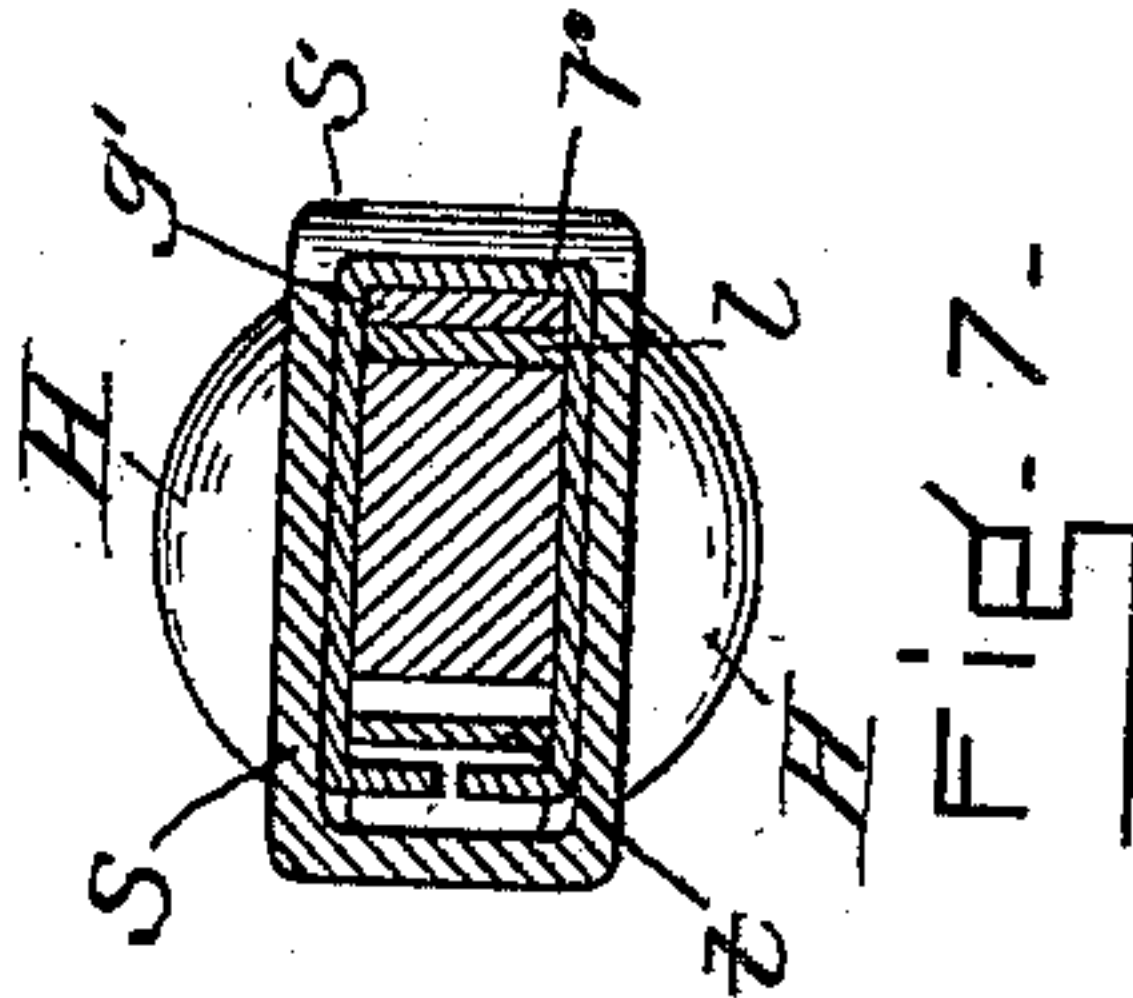


Fig. 7.

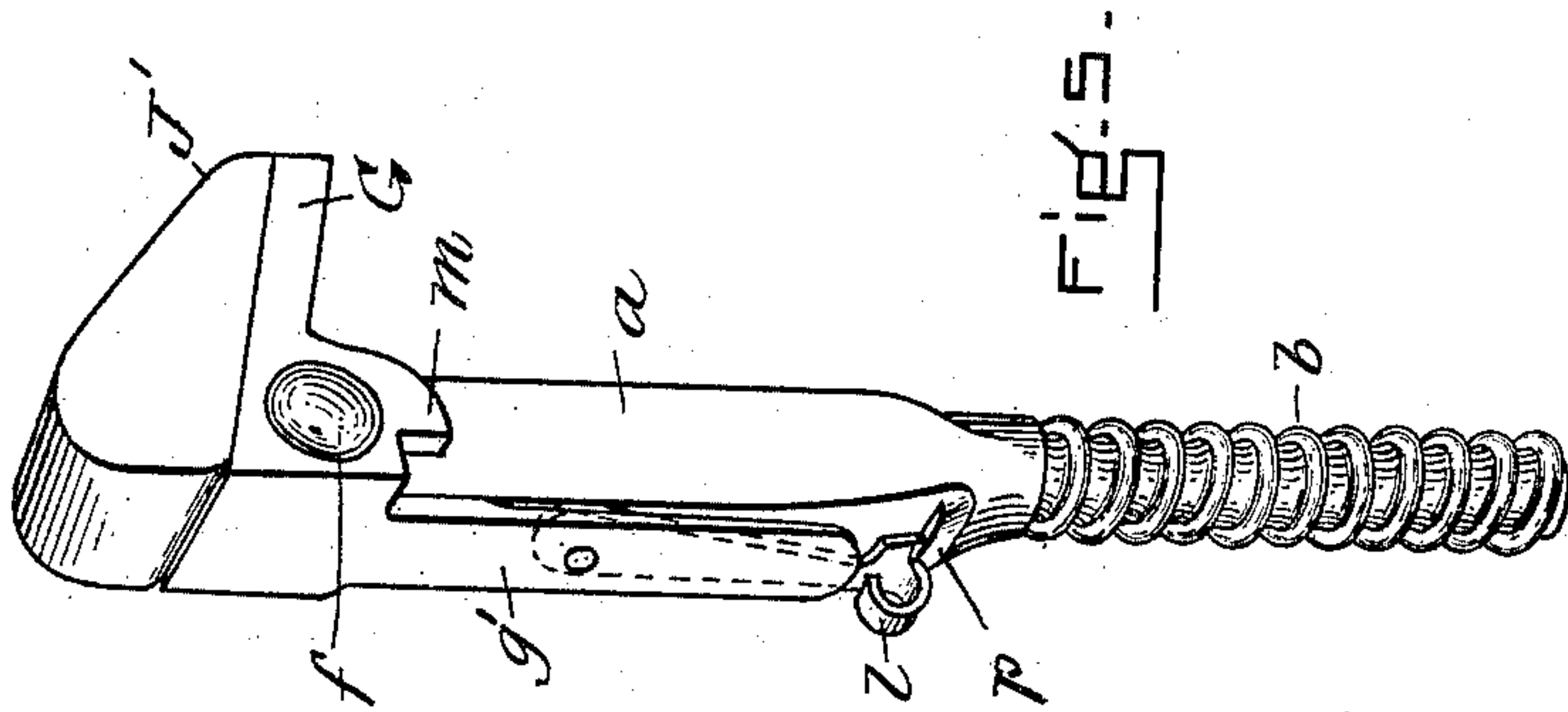


Fig. 5.

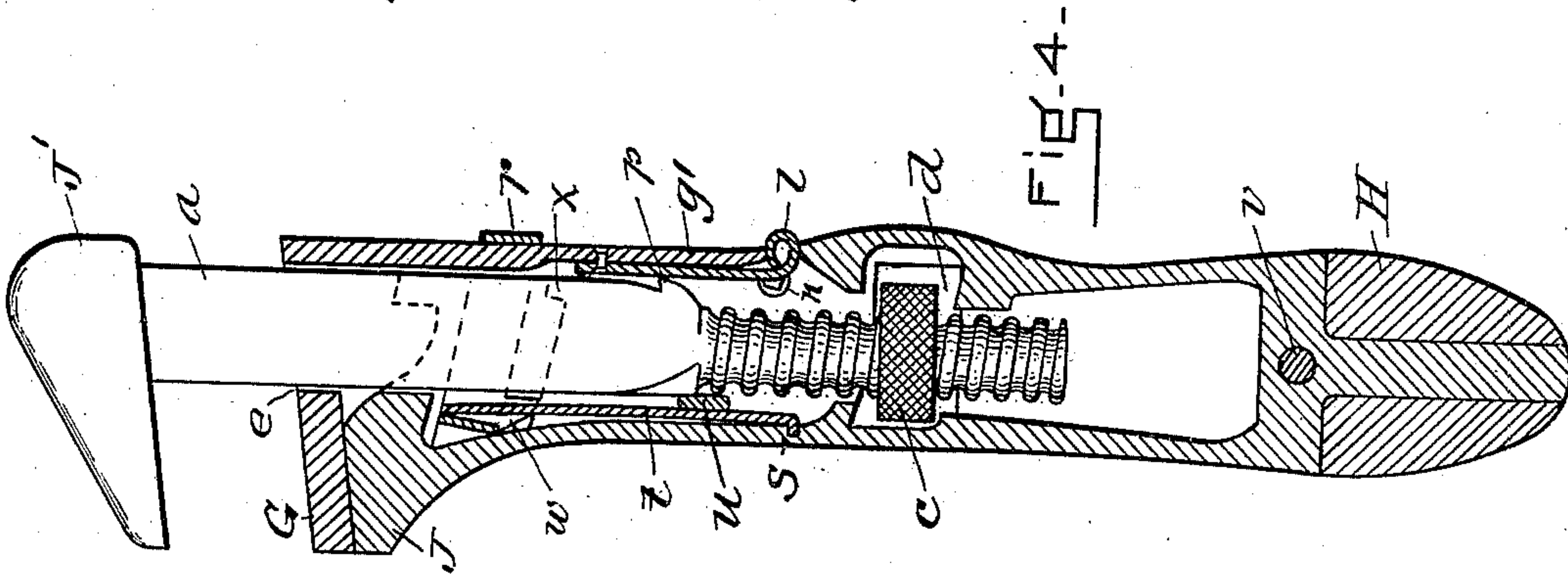


Fig. 4.

WITNESSES
Reuben L. Roberts
J. Allen Whiting

INVENTOR
Chester F. Johnson

UNITED STATES PATENT OFFICE.

CHESTER F. JOHNSON, OF FRAMINGHAM, MASSACHUSETTS, ASSIGNOR TO
THOMAS H. BLAIR, OF NORTHBOROUGH, MASSACHUSETTS.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 622,486, dated April 4, 1899.

Application filed February 12, 1898. Serial No. 670,052. (No model.)

To all whom it may concern:

Be it known that I, CHESTER F. JOHNSON, a citizen of the United States, residing at South Framingham, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Wrenches, of which the following is a specification.

The invention relates to that class of wrenches in which the jaws are adjustable in a straight line in relation to each other and also one jaw is adapted to tilt away from the other; and the invention consists in certain improvements by which the upper jaw is permitted to tilt away from the other or may be held rigid in the normal position directly over the other.

The invention will be readily understood from the description hereinafter contained in connection with the accompanying drawings, wherein—

Figure 1 is a side elevation of the improved wrench with the upper sliding jaw locked to the lower jaw in normal position. Fig. 2 is a side elevation of the wrench with the upper jaw released and tilted back away from the lower jaw. Fig. 3 is a rear elevation of the wrench with the parts in position shown in Fig. 1. Fig. 4 is a longitudinal sectional elevation of the wrench with the parts in the position shown in Fig. 1. Fig. 5 is a perspective view of the upper sliding jaw and a supplemental sliding jaw with its locking device. Fig. 6 is a perspective view of the supplemental sliding jaw with its attached parts. Fig. 7 is a cross-section of the wrench on line 7 7, Fig. 1.

Referring to the drawings by letters, S is the stock of the wrench, having the lower jaw J integral therewith.

J' is the upper movable jaw, the shank *a* of which is rectangular in shape and has a screw *b* upon its lower end, which works through a nut *c*, contained in a slot *d*, cut in the walls of the stock.

The stock S is chambered longitudinally, so as to receive the shank and screw of the jaw J', the sides of the shank *a* fitting the sides of the chamber in the stock.

G is a supplemental movable jaw formed with a socket *e*, which fits and may slide upon the shank *a*. The supplemental jaw G is pro-

vided upon its sides with depressions *f* to receive the ends of the finger and thumb and facilitate its movement on the shank *a* and at the back has an extension *g'*, which lies closely against the rear side of the shank *a* when in position thereon. Upon the inner side of the extension *g'* is a pivoted spring-latch *l*, which engages with a projection *p* upon the shank *a* when the supplemental jaw G is moved up into contact with the upper jaw J', as seen in Fig. 2, and with a hole or notch *n* in the side of the stock when moved down into contact with the lower jaw J, as best seen in Fig. 3. Upon the lower side of the supplemental jaw G are projections *m*, which fit into and engage with notches *o* in the wrench-stock or lower jaw when the supplemental jaw G is moved down into contact with the lower jaw, and thus the shank of the upper jaw is held firmly in line with the stock and is prevented from tilting back away from the lower jaw, rendering the tool similar in operation to the ordinary monkey-wrench. When the supplemental jaw is raised so as to disengage the projections *m* and notches *o*, the upper jaw and its shank, with the supplemental jaw, may be tilted back and forth upon the nut *c* as a fulcrum, and thus serve the purpose of a ratchet-wrench in its operation. The backward or outward movement of the shank is limited by a projecting piece *w* upon a collar *r*, which engages a shoulder *x* on the inner side of the stock, and a spring *t* within the chamber of the stock back of the shank *a* (see Fig. 4) returns the upper jaw to its normal position, the lower end of said spring being held by a bar *u* and the upper end of the spring engaging the inner side of the collar *r*. When the supplemental jaw is pushed against the upper jaw and there locked in position by the spring-latch *l* and the wrench is applied to a nut or bolt-head and the handle is moved to the left or in the direction indicated by the arrow in Fig. 1, the wrench-jaws will grip the nut and turn it, the tendency being to draw the upper jaw forward; but when the wrench-handle is moved to the right, or in the direction indicated by the arrow in Fig. 2, the upper jaw will be forced backward to a position shown in that figure, and with a lit-

the farther movement in that direction the jaws of the wrench will slip past the angles of the nut sufficiently to cause the jaws to again bear upon the flat faces of the nut and at the next movement of the handle to the left to grip and turn the nut again. Thus a nut or bolt may be turned in without removing the wrench therefrom in a manner equivalent to that of a ratchet-wrench.

As previously stated, to put the wrench in a condition to operate like the common monkey-wrench the supplemental jaw is moved down upon the lower jaw and there locked in position by pressing the ends of the latch *l* into the hole *n* in the side of the stock.

At *s'* the stock is reduced in thickness, so as to present flat sides and provide shoulders *y* to protect the inner end of the handle. Extending below the portion *s'* is a projecting piece *z*, which may be cylindrical in form to render it convenient to bore a hole therefor in the end of the handle *H*, which is bored and slotted to fit these parts *z* and *s'*, the handle being held in place by a rivet or screw *v*. The handle *H*, of wood or other inexpensive material, is made sufficiently short to permit the end of the metal piece *z* of the stock to project slightly beyond it in order to protect the end of the handle, which completely surrounds the piece *z*, and thus connects the two side portions of the handle, which fit upon the flat sides of the part *s'*, which is made sufficiently wide to protect the upper edges of the wood or other material, thus insuring an inexpensive yet durable handle.

I claim—

1. In a wrench the combination of a stationary lower jaw, a movable and tilting upper jaw, a stock chambered to receive the shank and adjusting-screw of the upper jaw, and permit them to tilt backward therein, a supplemental jaw, which embraces and may slide upon the shank of the upper jaw, and which is provided with an extension that lies against said shank when the supplemental jaw is in proper position thereon, a strap which encompasses the said shank and the extension of the supplemental jaw, and a spring to engage said strap and return the upper jaw to its normal position.

2. In a wrench provided with a stationary

lower jaw and a sliding upper jaw, a stock, chambered to receive the shank and adjusting-screw of the upper jaw, and permit them to tilt backward, an actuating-nut in a slot in the stock, to engage the shank-screw, and serve as a fulcrum on which it tilts, a supplemental jaw adapted to slide between the lower and upper jaws upon the shank of the latter, and means for locking said supplemental jaw in contact with either of the others.

3. In a wrench provided with a stationary lower jaw and an adjustable tilting upper jaw, a stock, chambered to receive the shank and adjusting-screw of the upper jaw, and permit them to tilt from the normal position therein, a supplemental jaw which slides upon the shank of the upper jaw, means to lock it in contact with the upper jaw, and permit it then to tilt with the upper jaw, and means to lock the supplemental jaw in contact with the lower jaw and then prevent the supplemental and upper jaws from tilting from their normal position in relation to the lower jaw.

4. In a wrench provided with a stationary lower jaw, an adjustable tilting upper jaw, and a chambered stock to receive the shank and screw of the upper jaw, a supplemental jaw adapted to slide upon the shank of the upper jaw, and which has an extension along the back of said shank, and a collar which encompasses said shank and extension, and is provided with a lip which engages a shoulder within the chamber of the stock, to limit the outward movement of the said shank, when the supplemental jaw is out of contact with the lower jaw.

5. In a wrench provided with a stationary lower jaw and a movable and tilting upper jaw; a supplemental jaw socketed upon the shank of the upper jaw and adapted to slide thereon, and devices upon said supplemental jaw to engage the wrench-stock when the supplemental jaw is in contact with the lower jaw and thereby prevent the upper jaw from tilting, but to release said upper jaw and permit it to tilt when the supplemental jaw is moved from that position.

CHESTER F. JOHNSON.

Witnesses:

THOMAS J. CUNNINGHAM,
REUBEN L. ROBERTS.