

(No Model.)

P. QUARELLI.
MONKEY WRENCH.

No. 598,487.

Patented Feb. 1, 1898.

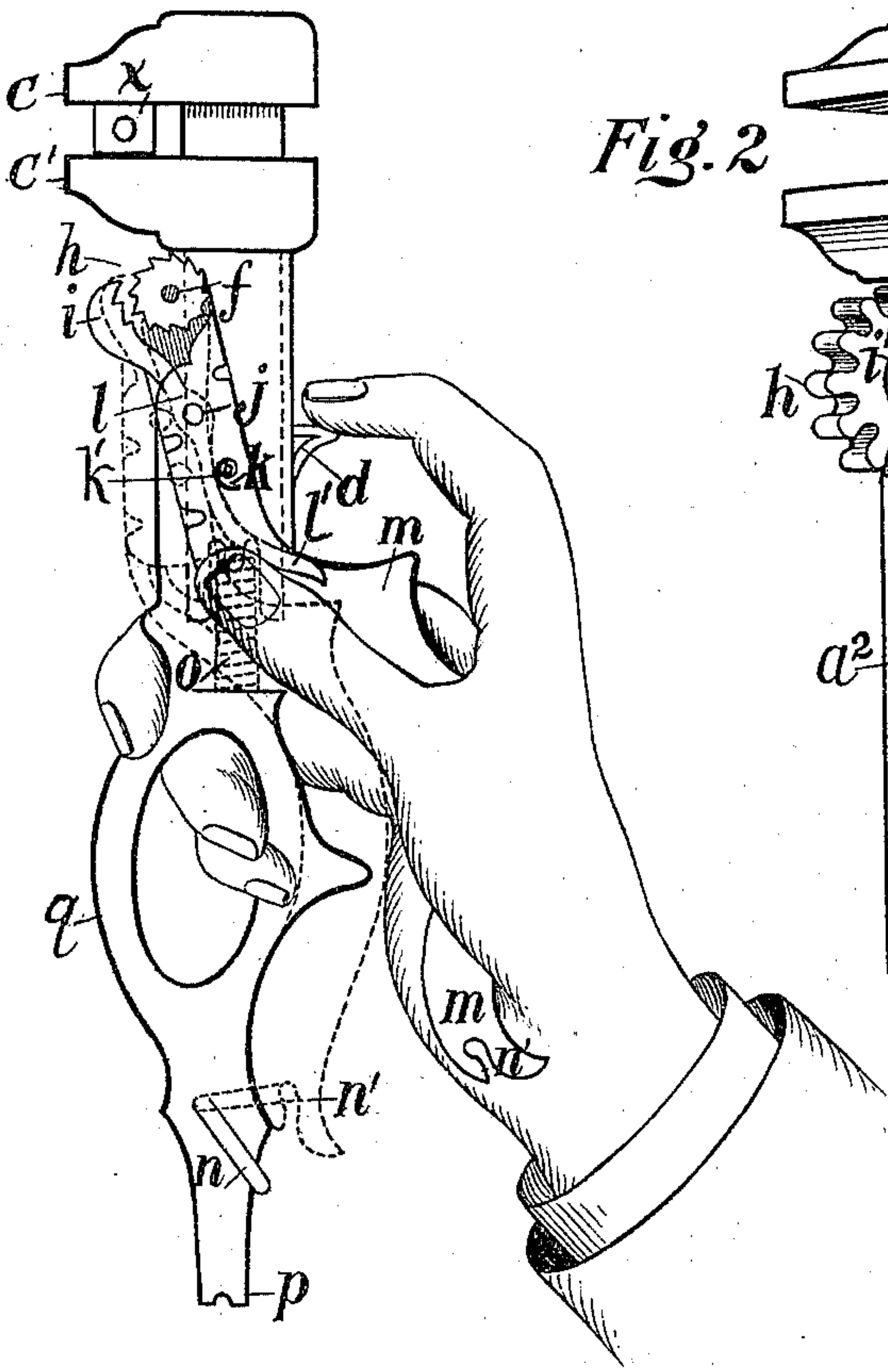


Fig. 1.

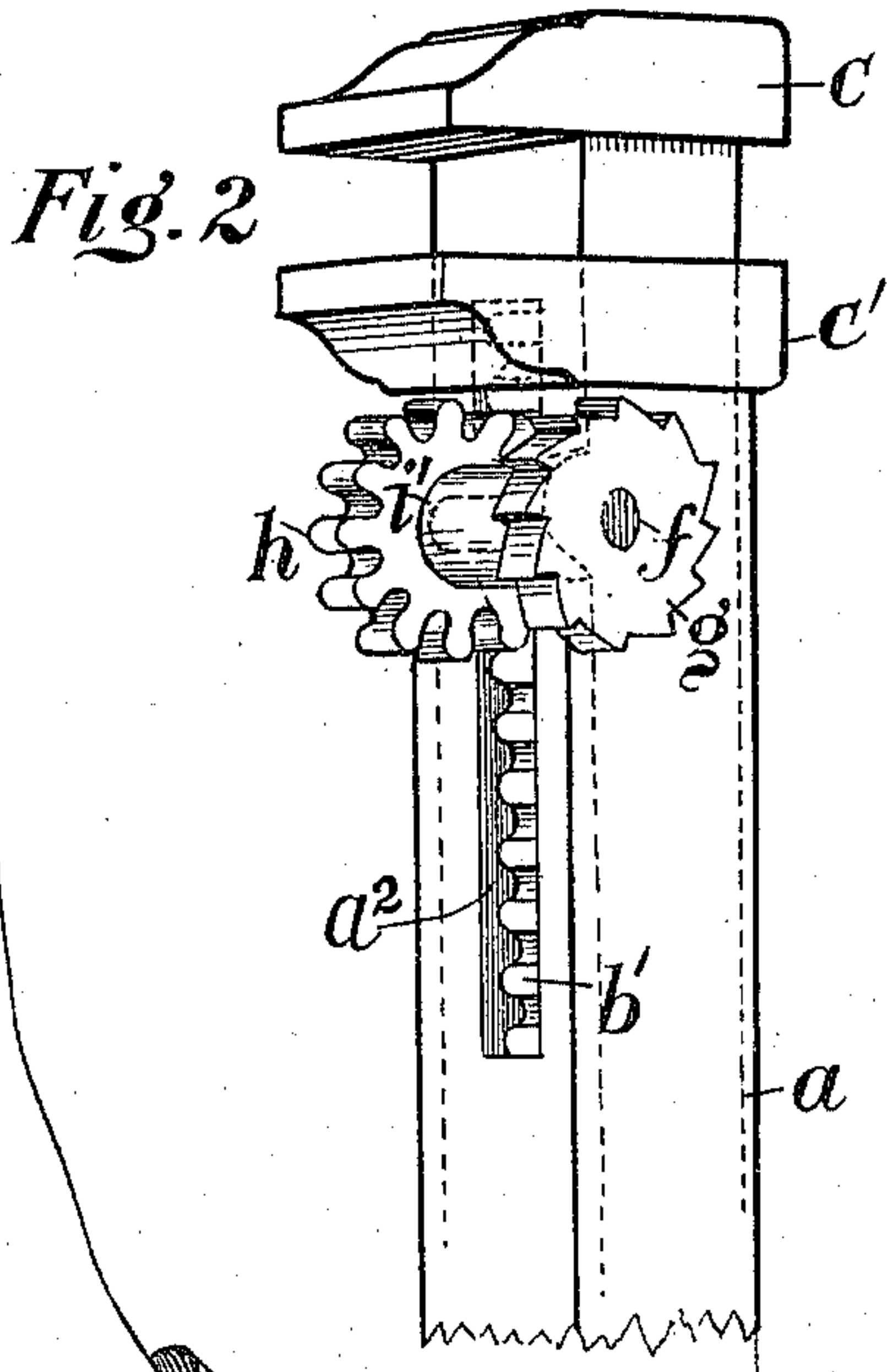


Fig. 2

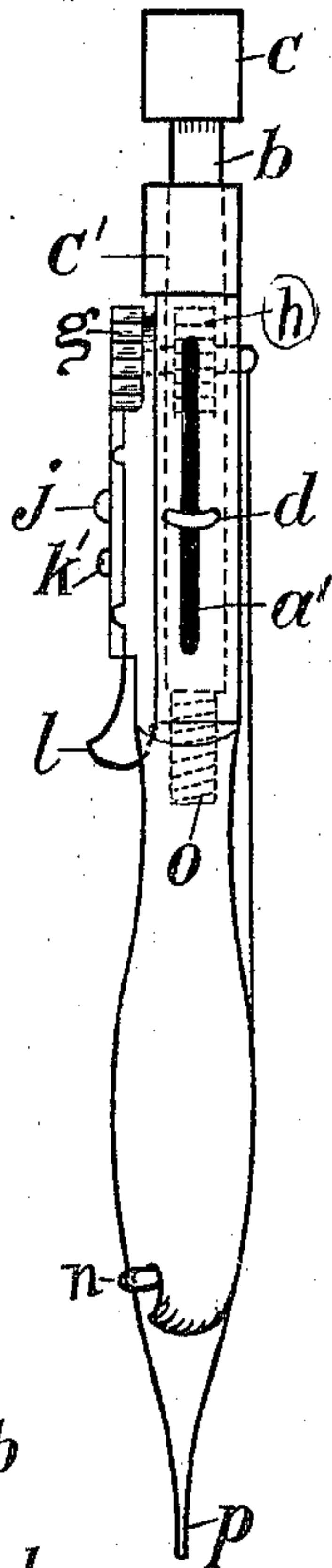


Fig. 3.

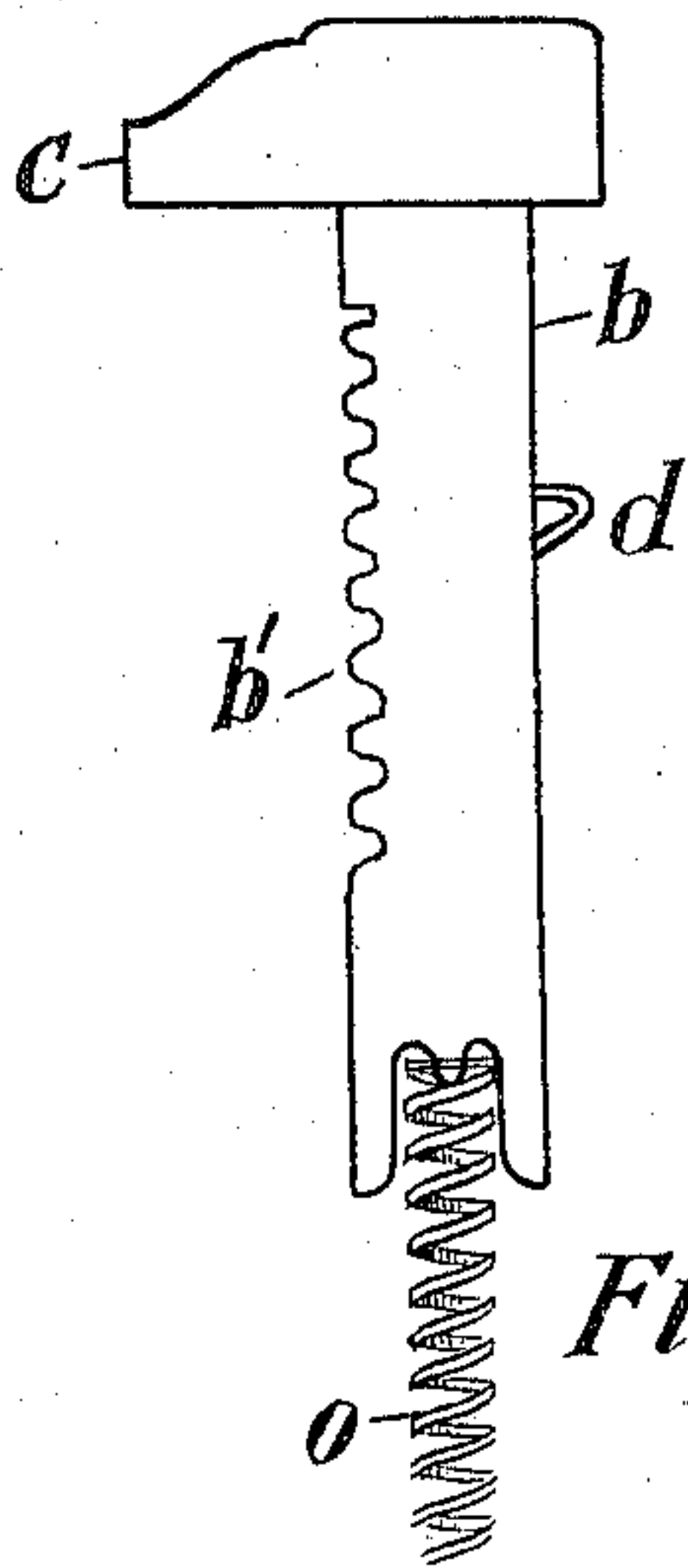


Fig. 4.

Witnesses.

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PETER QUARELLI, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
EMILIO LONGHI, OF SAME PLACE.

MONKEY-WRENCH.

SPECIFICATION forming part of Letters Patent No. 598,487, dated February 1, 1898.

Application filed December 4, 1897. Serial No. 860,776. (No model.)

To all whom it may concern:

Be it known that I, PETER QUARELLI, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Monkey-Wrenches, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof, and in
10 which—

Figure 1 shows my said invention in side elevation and the manner in which it is held and operated. Fig. 2 shows upper part of said device in perspective. Fig. 3 shows a
15 rear view of the entire device. Fig. 4 shows the sliding or movable jaw in side elevation.

Like letters of reference denote like parts.

The object of my invention is to provide a monkey-wrench wherewith a nut may be
20 firmly grasped, whereby the slipping of the jaws of the wrench over the corners of the nut may be prevented and thereby its original well-finished shape preserved intact indefinitely from injury through such a source,
25 and in addition to said desirable features there is the advantageous point inherent in the nature of the device that when force is applied to turn a nut the grasp of the jaws of the wrench thereon becomes greater in proportion to such applied force. To attain said
30 desirable ends, I construct my said new device in substantially the following manner, namely:

I make a stem *a*, preferably hollow, as here
35 shown, with slots in front and rear and provided with a fixed jaw *C'*. Said hollow stem receives the rack-toothed shank *b*, provided with a jaw *C* and having at its front edge a rack *b'*, reached through the front slot *a*² of
40 the stem *a* by a pinion *h* on a shaft *f*, carried in a lug *i'*, forming a bearing on one side of the slot *a*² for said shaft. On the outer end of said shaft *f* is a ratchet-wheel *g*, engaged by a pawl-head *i*, forming a part of the thumb-
45 lever *l*, pivoted at *j* on a hand-lever *m*, which latter is pivoted on the shaft *f* between the lug carrying the shaft *f* and the ratchet-wheel *g*. A spur *d* extends from the stem *b* through the rear slot *a'*, and said stem stands on an
50 end spring *o* in a hole in the stem *a* under the lower end of the stem *b*. Near the lower end

of the handle *a* is an oval opening *q* to form a convenient handle by allowing the two outer fingers of the hand to pass through it, and the lower end of the lever *l* has a curved
55 thumb-piece *l'*, against which the thumb presses to overcome the pressure of a spring *k* on a stud *k'*, held on the lever *m*. A hinged loop *n* engages in a notch *n'* in the lower end of the lever *m* to hold it in its closed position
60 and at the same time in a fixed position when the jaws are closed on a nut *x*. A screw-driver *p* forms the end of the handle *a*. In use the jaws are brought against the sides of a nut by holding the lower jaw *C'* firmly against the nut
65 and bringing the upper jaw *C* down upon the nut by the pressure of the forefinger upon the spur *d* and at the same time pressing the thumb against the end *l'* of the lever *l*, so as to at the same time throw the lever *m* back
70 from the opening or ring *q* on its pivotal shaft *f*, as shown in Fig. 1. When all the parts are so placed, the thumb releases the lever *l* and its pawl-head *i*. After the lever *m* is swung out from the handle the teeth of the pawl *i*
75 are allowed to engage with the ratchet-wheel *g*, after which the lever *m* is pressed toward the handle *a*. Said motion of the lever *m* turns the wheels *g h* and thus causes the head *C* to be pressed upon the nut *x* with great
80 force. When under such conditions the two levers or handles *a m* are locked together by means of the locking-ring *n*, the wrench will be held firmly on the nut when released from the hand. Said latter advantage may be still
85 further increased by so constructing the shaft *f* as to obtain a torsional yield to such applied force.

What I claim is—

1. The combination with a hollow stem with
90 fixed jaw, a shaft-lug and a shaft therein with a pinion at one end and a ratchet-wheel at the other end thereof, of a jaw-headed rack-toothed spurred and spring-lifted shank, a
95 pawl engaging said ratchet-wheel and a lever actuating said pawl, ratchet-wheel and rack, substantially as specified.

2. The combination with a jaw-headed stem with one or more longitudinal slots, a rack-
100 pinion and a ratchet-wheel on one shaft and means to hold said shaft, of a jaw-headed, rack-toothed, spurred, and spring-lifted

shank, a lever pivoted on said ratchet-wheel shaft, a pawl pivoted on said lever, and means to hold and actuate said pawl, substantially as specified.

- 5 3. The combination with a jaw-headed hollow handle-stem with front and rear slots, a rack-pinion and a ratchet-wheel on a shaft for said wheels, and means to hold said shaft, of a jaw-headed, rack-toothed, spurred and
10 spring-lifted shank, a swinging lever fulcrumed on said pinion-shaft, a pawl to engage

said ratchet-wheel, pivoted on said swinging lever, spring mechanism to engage, and hand mechanism to release, said pawl and ratchet-wheel, and means to lock said swinging lever 15 to its closed position, substantially as specified.

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Witnesses:

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