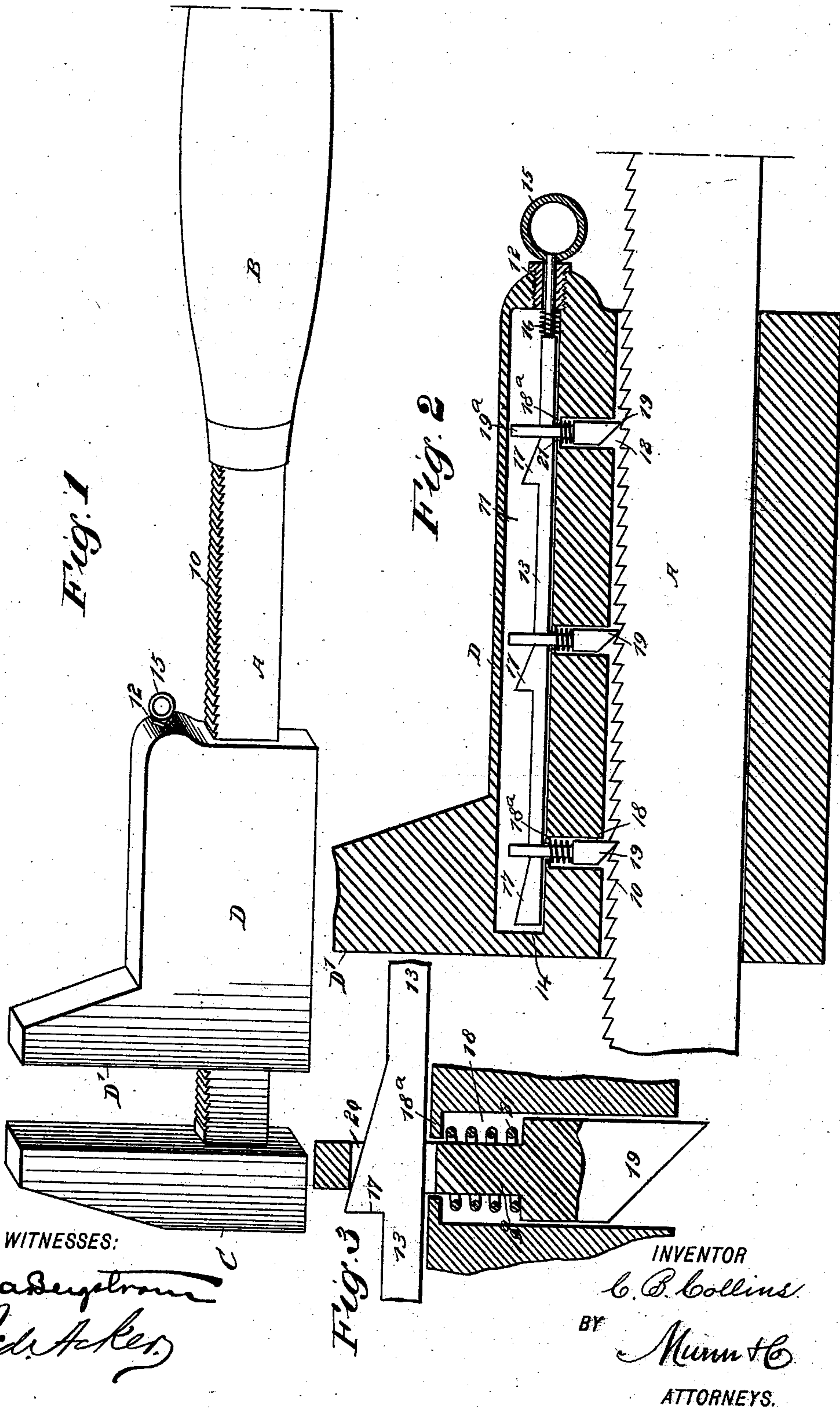


(No Model.)

C. B. COLLINS.  
WRENCH.

No. 548,962.

Patented Oct. 29, 1895.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CLARKSON B. COLLINS, OF MILLER'S FERRY, ALABAMA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 548,962, dated October 29, 1895.

Application filed April 6, 1895. Serial No. 544,754. (No model.)

*To all whom it may concern:*

Be it known that I, CLARKSON B. COLLINS, of Miller's Ferry, in the county of Wilcox and State of Alabama, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

My invention relates to an improvement in wrenches; and it has for its object to provide a wrench of exceedingly simple and durable construction and capable of expeditious and exceedingly fine adjustment, and means for locking the movable jaw in whatever position it may be placed with reference to the fixed jaw.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the wrench. Fig. 2 is a section through the movable jaw and a partial side elevation of the shank to which the fixed jaw is attached; and Fig. 3 is a detail view of one of the locking-dogs, shown in section, and the slide adapted to manipulate the said dogs.

In carrying out the invention the shank A of the wrench is provided with a suitable handle B at one end, and with a jaw C, which is secured at its opposite end. The said shank is further provided upon what may be termed its "inner face" with ratchet-teeth 10, the said teeth having an upward inclination or an inclination in direction of the fixed jaw. A sleeve D is held to slide on the said shank A, and the sleeve has attached to it or formed integral therewith the movable or adjustable jaw D' of the wrench. The said sleeve is provided with a longitudinal chamber 11 at or near its inner face, and at the bottom of the said chamber, or the end nearest the handle of the wrench, a bushing 12 is secured in any suitable or approved manner, and when the bushing is removed a slide 13 may be introduced into the chamber 11 through its lower end. The lower end of the slide is preferably made circular and is reduced in diameter, and is passed through the bushing 12, after

which the latter is placed in position in the sleeve. The outer extremity of the slide is provided with an eye or hook 15, and a spring 16 encircles its inside portion, having bearing against a shoulder on the slide 13 and the inner end of the said bushing, as shown in Fig. 2, the tension of the spring being in an inward direction.

The slide is provided with a series of inclined planes or wedge projections 17 upon its outer longitudinal edge, as is shown in Figs. 2 and 3, and the sleeve is further provided with a number of channels or openings 18, corresponding in number to the number of inclined planes or wedge projections 17 of the slide, and these openings 18 in the sleeve communicate with the chamber 11 and that portion of the sleeve through which the shank of the wrench passes.

A dog 19 is located in each opening 18 of the sleeve, and the head of each dog is beveled in a direction opposite to the inclination of the teeth 10 on the shank of the wrench, and each dog is further provided with a shank-section 19<sup>a</sup>, having an opening 20 made therein, through which the slide 13 passes, and a spring 21 is made to encircle the shank of each dog, having bearing upon the body of the dog and against the shoulder 18<sup>a</sup> at the inner end of channel 18.

When the slide is in its normal position, as shown in Fig. 2, the springs of the dogs will force them against and maintain them in contact with the teeth 10 on the shank of the wrench; but when the slide is pulled back toward the handle by pulling upon the head thereof against the tension of the spring 16, the wedge extensions of the slide 17 or the inclined planes will be forced into the openings 20 of the dogs, and will simultaneously lift them out of engagement with the teeth on the shank of the wrench, and the sleeve may be moved freely forwardly or rearwardly on the said shank. The same pull brings the sleeve D back to the handle or opens the wrench.

The moment the slide is released its spring will restore it to its normal position and the dogs will return to an engagement with the teeth 10, and one of the dogs will be in locking engagement with a tooth, while the remaining dogs will be slightly removed from locking position, so that in the adjustment of the sliding



jaw the adjustment may be made as close as practically a third of the length of a tooth, since in sliding the jaw D' to a position desired the dog that was in locking position will ride  
 5 up upon a tooth adjacent to that with which it was in locking engagement, while immediately one of the other dogs will drop down to a locking contact with a tooth, and another dog will closely approximate such position.

10 It will be understood that the dogs 19 may be provided with two or more teeth, instead of the single one shown.

Having thus described my invention, I claim as new and desire to secure by Letters  
 15 Patent—

1. In a wrench, a toothed body or shank, a sleeve having free movement on the body of the shank, spring-controlled dogs carried by the sleeve and adapted for engagement with  
 20 the said teeth, and a slide adapted to operate on the said dogs, substantially as shown and described.

2. In a wrench, the combination, with a shank, its fixed jaw, teeth located on the said  
 25 shank, and a sleeved sliding jaw adapted to travel on the said shank, of spring-controlled dogs carried by the sleeve and adapted for engagement with the teeth of the shank, and a slide having a series of inclined planes, and  
 30 means for carrying the said inclined planes to a withdrawing engagement with the said dogs, substantially as and for the purpose specified.

3. A wrench, the same consisting of a shank  
 35 provided with teeth, a fixed jaw, an adjustable jaw, a dog or series of dogs carried by the

adjustable jaw and normally engaging with the said teeth, and a slide held normally out of operative engagement with the said dog or  
 40 dogs and adapted when moved in one direction to engage directly therewith and carry the said dog or dogs out of engagement with the said teeth, substantially as shown and described.

4. A wrench, the same comprising a shank, 45 a fixed jaw, a movable jaw, a series of spring-controlled dogs, teeth located on the shank and normally engaged by the said dogs, and a slide located in the adjustable jaw, having wedge extensions adapted to enter openings 50 in the said dogs, whereby the latter may be carried out of engagement with the said teeth, as and for the purpose specified.

5. In a wrench, the combination, with a shank, a jaw fixed thereon, a sliding jaw, a 55 sleeve forming a portion of the sliding jaw, and ratchet teeth located on the said shank, of a series of dogs carried by the said sleeve, springs normally holding said dogs in engagement with the said teeth, one of the dogs 60 only being in locking engagement with the teeth, a spring-controlled slide likewise located in said sleeve, and wedge extensions formed on said slide, adapted to enter openings in the said dogs and carry the latter out 65 from engagement with the teeth of the shank, as and for the purpose specified.

CLARKSON B. COLLINS.

Witnesses:

ALBION L. MORGAN,  
 FRED H. SAVAGE.