

J. W. BROWN.

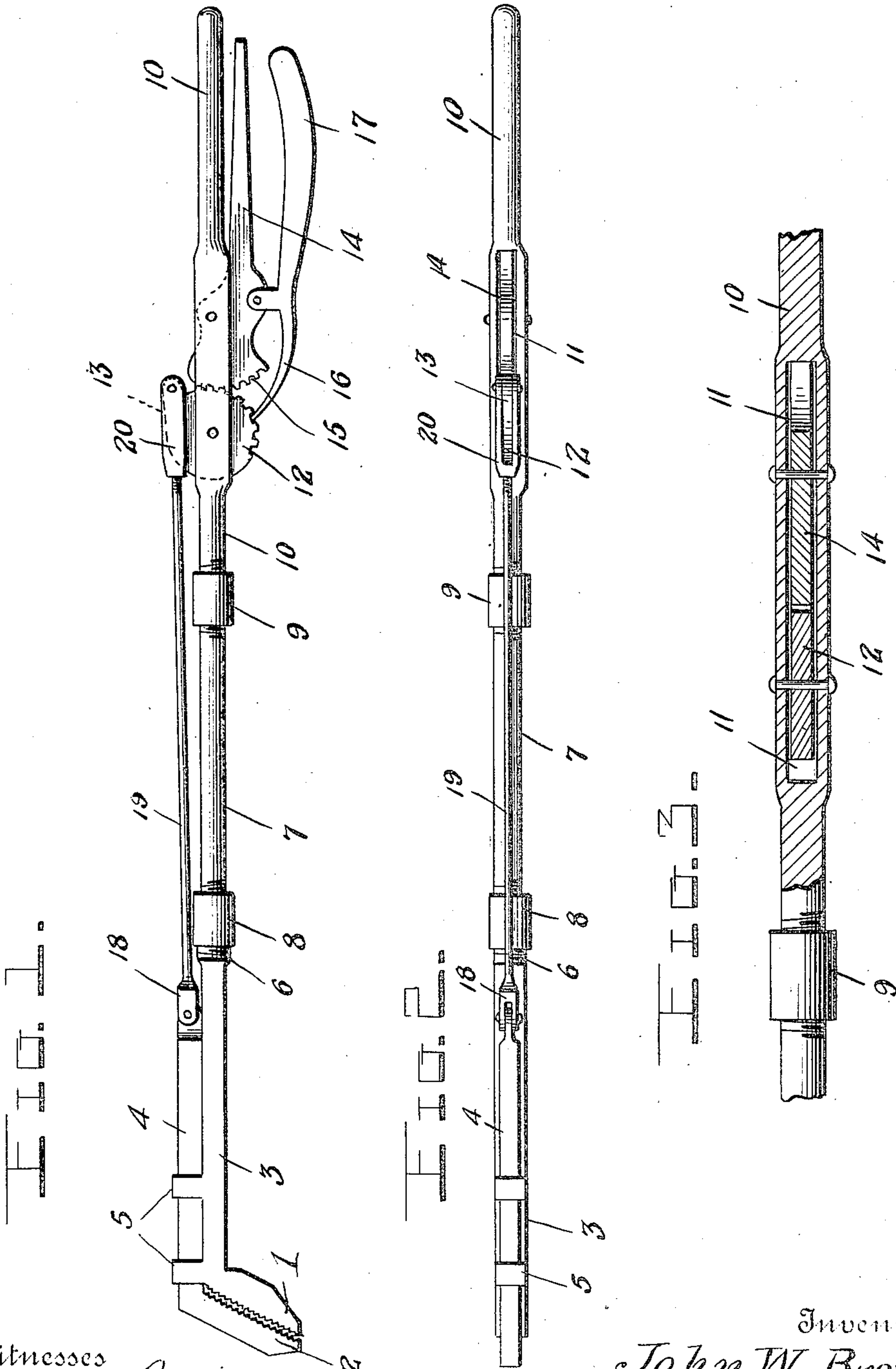
TIRE LIFTER.

APPLICATION FILED MAY 17, 1909.

960,070.

Patented May 31, 1910.

2 SHEETS—SHEET 1.



Witnesses

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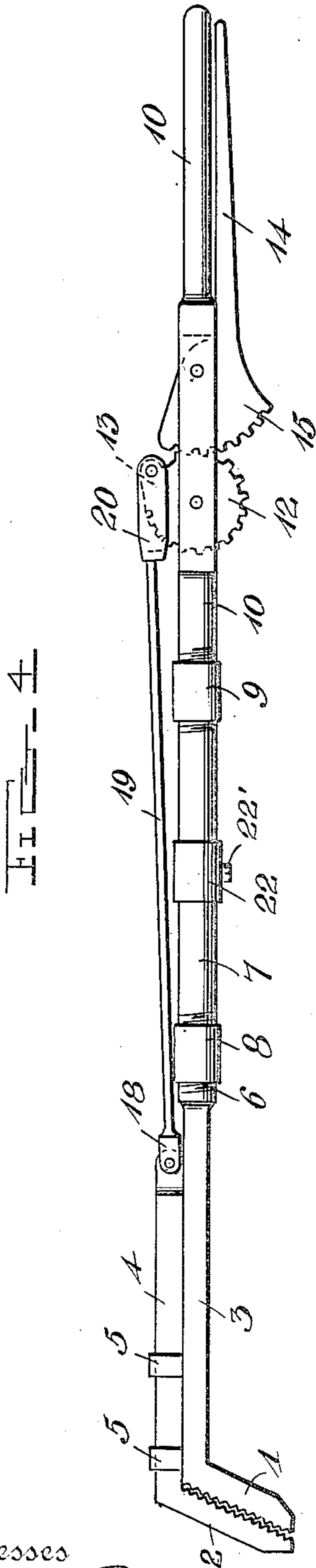


FIG. 4

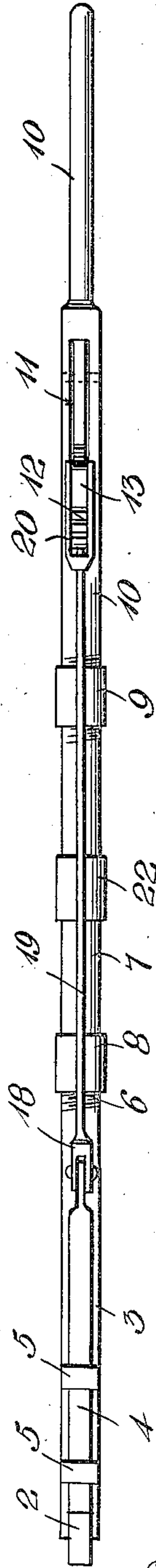
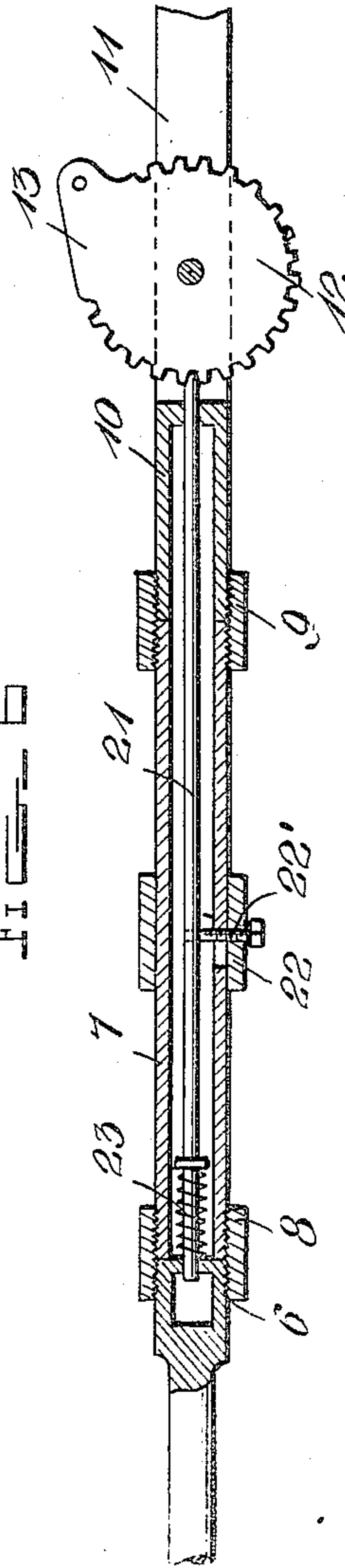


FIG. 5



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UNITED STATES PATENT OFFICE.

JOHN WESLEY BROWN, OF ARROYO GRANDE, CALIFORNIA.

TIRE-LIFTER.

960,070.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed May 17, 1909. Serial No. 496,387.

To all whom it may concern:

Be it known that I, JOHN WESLEY BROWN, a citizen of the United States, residing at Arroyo Grande, in the county of San Luis Obispo and State of California, have invented certain new and useful Improvements in Tire-Lifters; and I do 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 tire lifters.

One object of the invention is to provide a novel device of this character which may be used to remove any sized tire from a wheel.

Further objects of the invention will appear as the specific description is read in connection with the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a side elevation of the device; Fig. 2 is a top plan view; Fig. 3 is a fragmentary horizontal sectional view on an enlarged scale showing the position of the gear and rack within the shank; Fig. 4 is a side elevation of a modification; Fig. 5 is a top plan view thereof; and Fig. 6 is a fragmentary longitudinal sectional view.

Referring more especially to the drawings, 1 and 2 represent the jaws of the clamp elements, which are formed transversely of and integral with the shanks, 3 and 4, respectively. As these jaws are mounted for relative movement and should be always in alinement, I provide right-angular clips 5, which are secured to the shank 3 and form a channel way for the shank 4. The shank 3 is threaded at the end opposite from its jaw connection, as at 6, and is connected to an extension tube 7 by a coupling 8. A similar coupling 9 couples the extension tube 7 with the handle 10. This handle is slotted at 11, and journaled therein is a segmental gear wheel 12, having a tangentially projecting arm 13, to be hereinafter described. At the upper end of the slot I provide a handle 14, with a segmental rack 15, adapted to engage the teeth of the gear wheel 12 so as to control the action of the arm, and pivoted to this lever 14 is a hand operated locking pawl 16, adapted to engage the teeth of the gear wheel 12, and to have its handle 17 lying in close proximity to the handle 14, so that both may be operated practically simultaneously.

The shank 4 of the jaw 2 is reduced at its

inner end to enter the bifurcated head 18 of a connecting link 19. This connecting link 19 is threaded at its opposite end to enter and hold in the harp-shaped member 20, which straddles and is pivoted to the arm 13.

In operation, the pawl 16 is released from the gear 12 and the lever 14 moved outwardly from the handle 10 so as to open the jaws 2 by sliding the shank 4 upon the shank 3. When the lever 14 is forced in toward the handle 10, the segmental rack 15 operates upon the gear 12 to cause a rearward movement of the arm 13, and consequently a retraction of the jaw 2 through the connecting link and the shank 4. When the required tension has been obtained the pawl 16 is engaged with the teeth of the gear 12, and the pressure exerted by the gear upon the pawl will act to further press the lever 14 toward the handle.

In the modification shown in Fig. 4, I have dispensed with the pawl, 16, pivoted to the lever, 14, and have inserted a sliding pin, 21, within the tube, 7, and have connected it with a sleeve, 22, surrounding the tube and having an inwardly projecting stud 22' engaging the pin so that the pin may be retracted against the tension of a spiral spring, 23. This pin passes into the bifurcated portion, 11, adjacent the gear, 12, which is toothed upon its forward face so as to receive the pin and lock the parts in clamped position.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a device of the class described, a pair of relatively movable jaws, a shank connected to one of said jaws, a gear pivoted to said shank and having connection with the other of said jaws, means for operating said gear, and means pivoted to said operating means for engagement with the gear for locking the same.

2. In a device of the class described, a pair of relatively movable jaws, a shank connected to one of said jaws, a gear pivoted to said shank and having connection with the other of said jaws, means for operating said gear, and a pawl pivoted to said operating means for engagement with the teeth of the gear.

3. In a device of the class described, a pair of relatively movable jaws, a shank connected to one of said jaws, a gear pivoted to said shank and having connection with

the other of said jaws, a lever pivoted to said shank, a segmental rack carried by the lever forward of the pivotal point of said lever and adapted to engage the
5 teeth of said gear, and a pawl pivoted upon said lever and adapted to engage the teeth of said gear.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN WESLEY BROWN.

Witnesses:

CHARLES ROBERT MAYHALL,
NATHAN C. ZERFING.