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B. T. FRITTS.

BELT CLAMPING TOOL.

APPLICATION FILED FEB. 19, 1907.

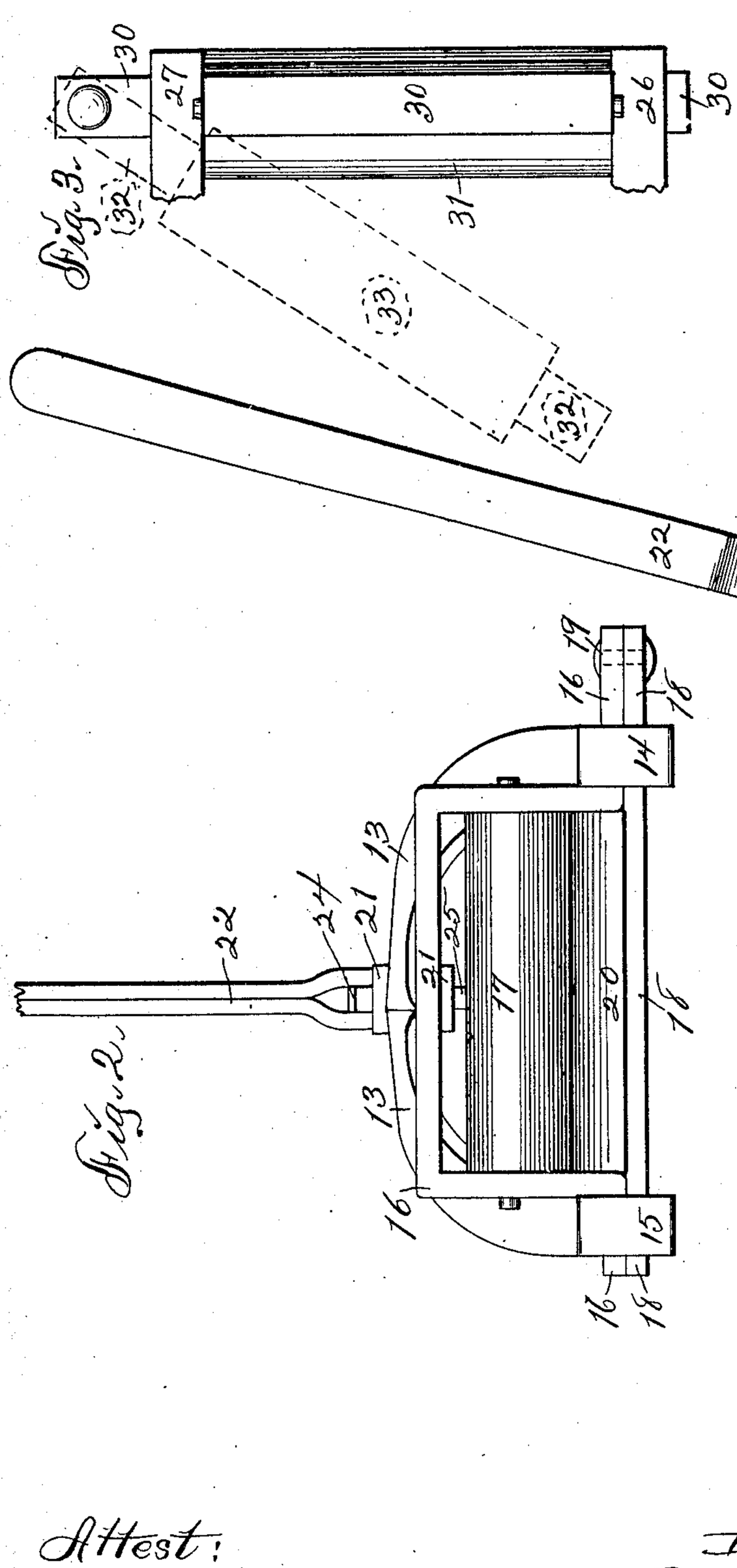

Fig. 2.

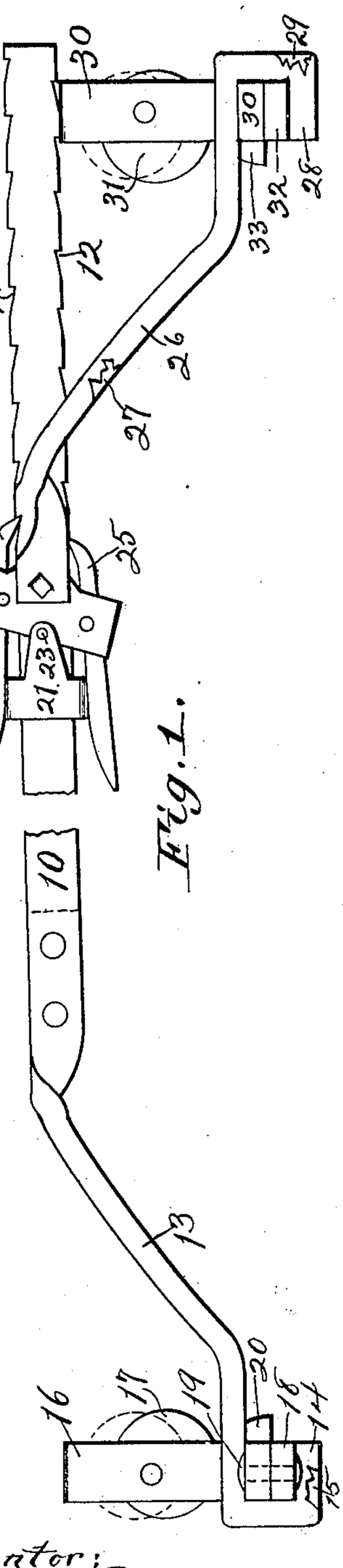

Fig. 1.

Attest:

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UNITED STATES PATENT OFFICE.

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BELT-CLAMPING TOOL.

No. 871,062. Specification of Letters Patent. Patented Nov. 12, 1907.

Application filed February 19, 1907. Serial No. 358,190.

To all whom it may concern:

Be it known that I, BENJAMINE T. FRITTS, a citizen of the United States of America, and a resident of Des Moines, Polk county, Iowa, have invented a new and useful Belt-Clamping Tool, of which the following is a specification.

The object of this invention is to provide improved means for drawing together the ends of a belt for the purpose of connecting said ends by belt fastening.

A further object of this invention is to provide improved means for detachably connecting or engaging a belt with a tool adapted to draw ends of said belt together.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claims and illustrated by the accompanying drawing, in which—

Figure 1 is a side elevation of the complete device. Fig. 2 is an end elevation of the complete device. Fig. 3 is a plan of one end portion of the device, the dotted lines indicating a position assumed by a part of the device at times.

In the construction of the device as shown, the numeral 10 designates a bar formed with ratchets 11, 12 on its upper and lower margins. A yoke 13 is formed on and extends obliquely from one end portion of the bar 10 and hooks 14, 15 are formed on and beneath the extremities of the arms of said yoke. An arch 16 is fixed to and rises from the yoke 13 and end portions of said arch extend through the hooks 14, 15. A roller 17 is mounted eccentrically within the arch 16 and is journaled to said arch. A clamp bar 18 is pivoted at one end on a pin 19 extending through one end portion of the arch 16, and said bar extends across said arch below the roller 17 and enters the hook 15 beneath the opposite extremity of the arch. A clamping jaw 20, semi-cylindrical in form, is mounted on and fixed to the clamp bar 18 and is adapted to enter the arch 16 below the roller 17. The convex face of the clamping jaw 20 is uppermost and is adapted to contact with the roller 17 or with a belt, not shown, interposed between said jaw and roller. A collar 21 is mounted loosely on the ratchet bar 10 and a forked lever 22 straddles said ratchet bar and is fulcrumed on said collar by pins 23. A pawl 24 extends through and is pivoted in the fork of the lever 22. One end portion of the pawl 24 is adapted to engage the ratchets 11 and the opposite end portion of said pawl extends across and in contact with the collar 21. A pawl 25 extends through and is pivoted to the extremity of the fork of the lever 25 beneath the bar 10. One end portion of the pawl 22 is adapted to engage the ratchets 12 of the bar 10 and the opposite end portion of said pawl extends across and contacts at times with the lower face of the collar 21. Yoke arms 26, 27 are fulcrumed to and extend obliquely from the lever 22, said yoke arms diverging relative to each other and also relative to the yoke 13.

The point of pivoting of the yoke arms 26, 27 to the lever 22 is between the pivotal points of the pawls 24, 25. Hooks 28, 29 are formed on and beneath the lower end portions of the yoke arms 26, 27. An arch 30 is fixed to and rises from the extremities of the yoke arms 26, 27, and end portions of said arch extend through the hooks 28, 29. A roller 31 is mounted eccentrically in and journaled to the arch 30. A clamping bar 32 is pivoted at one end on a pin extending through one end portion of the arch 30 and extends across said arch and within the opposite hook adjacent the opposite end portion of the arch. A clamping jaw 33 is mounted on and fixed to the clamp bar 32. The jaw 33 is semi-cylindrical in form and has its convex face uppermost and in position to contact at times with the roller 31 or with an object between said jaw and roller. Either of the clamp bars 18, 32 may be swung inward relative to the hooks, articulating on their pivotal points, as shown by dotted lines in Fig. 3.

In practical use the parts are positioned as shown in Fig. 1, the clamp bars 18, 32 and jaws 20, 33 are swung inward from the supporting hooks, and portions of a belt (having its bight over pulleys) are interposed between the jaws 20, 33 and the rollers 17, 31, said rollers are raised slightly to permit the clamp bars to be closed into the hooks beneath them and are then dropped into contact with the upper faces of the belt ends. The belt ends are then drawn toward each other by hand so far as is convenient, and, thereafter, the lever 22 is oscillated in such manner that the pawls 24, 25 engage the ratchets 11, 12 and move the lever, the collar 21 and the yoke arms 26, 27 and devices thereon longitudinally of the bar toward the yoke 13, and the clamping members on said yoke arms and yoke grip the loose end portions of the belt and move the same toward each other. By this means great strain may be brought to bear on the belt that will stretch it around the pulleys to the desired degree of tightness preliminary to determining the length of the belt and lacing or otherwise fastening the ends thereof together. When the belt has been drawn taut and the ends thereof connected, the tool is removed from the belt by swinging the clamp arms 18, 32 and jaws 20, 33 thereon inward out of the hooks, whereupon the belt may be slipped edgewise out of the clamp or the tool be removed sidewise away from the belt. Or the clamp arms may be swung around away from the belt and the tool be removed by upward movement.

It is to be understood that this tool may be employed in any desired plane or position, dependent only on the trend of the belt.

The tool may be adjusted for use again by depressing the rear ends of the pawls 24, 25 to the collar 21, thus disengaging them from the ratchets, and then moving the lever and attached devices longitudinally of the bar to desired initial position.

It will be observed that in the oscillation of the lever 22 the pawls 24, 25 automatically engage the collar 21, owing to the difference in the pivotal points of the pawls and lever and the curvature of the contacting faces of said pawls adjacent the collar.

I claim as my invention.—

1. In a device of the class described, a bar, an arch on said bar, a roller eccentrically journaled in said arch, a transverse bar pivoted on said arch and a jaw on said transverse bar in opposition to said roller.

2. In a device of the class described, an arch, a roller eccentrically journaled in said arch, a bar pivoted on said arch and a jaw on said bar in opposition to said roller.

3. In a device of the class described, a bar, a yoke on said bar, an arch on said yoke, a roller eccentrically journaled in said arch, a bar pivoted at one end on said arch and extending transversely thereof, a jaw on the latter bar in opposition to said roller, a lever on the first bar, a clamp on the lever, and ratchet and pawl connections between said bar and lever.

4. In a device of the class described, a bar, a yoke thereon, an arch carried by said yoke, a roller eccentrically journaled in said arch, a bar pivoted on said arch, a jaw mounted on said bar, a lever on the first bar and a clamp carried by said lever.

5. In a device of the class described a yoke bar, a clamp in the yoke of said bar, a lever on said yoke bar, yoke arms on said lever, an arch on said yoke arms, a roller journaled eccentrically in said arch, a bar pivoted in said arch, a jaw on said bar in opposition to said roller, and ratchet and pawl connections between said yoke bar and lever.

6. In a device of the class described, a yoke bar formed with hooks on the extremities of its arms, an arch in and fixed to said hooks, a roller journaled eccentrically in said arch, a bar pivoted at one end on one end of said arch and extending through said hooks, and a jaw on said bar in opposition to said roller.

7. In a device of the class described, a ratchet bar, a collar loosely mounted thereon, a forked lever straddling said bar and fulcrumed to said collar, pawls pivoted in said lever on opposite sides of the bar, said pawls extending across said collar, clamping means on said bar and clamping means carried by said lever.

Signed by me at Des Moines, Iowa, this seventh day of January, 1907.

BENJAMINE T. FRITTS.

Witnesses:
S. C. SWEET,
ALFRED ANDERSON.