

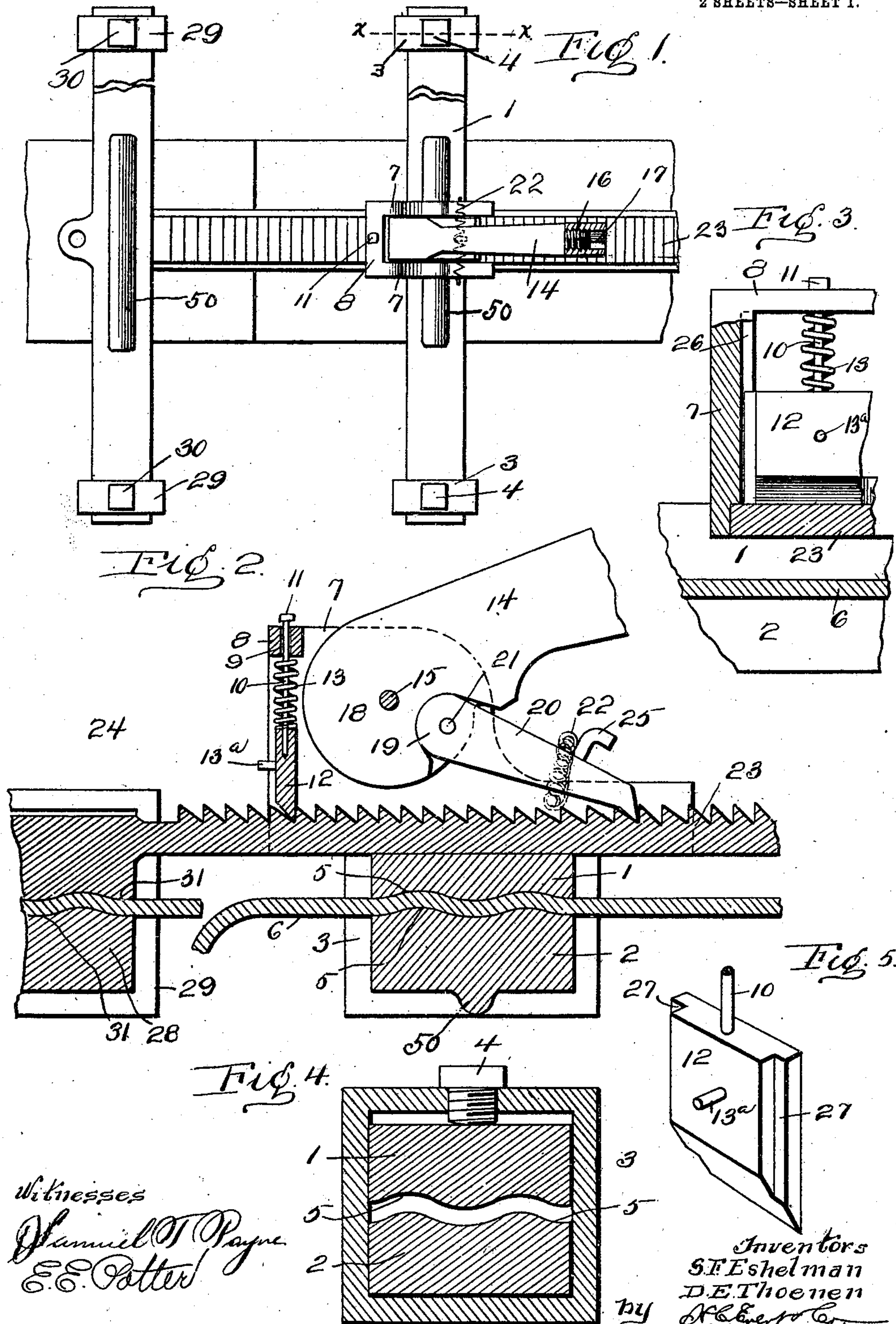
No. 846,786.

PATENTED MAR. 12, 1907.

S. F. ESHELMAN & D. E. THOENEN.
BELT STRETCHER.

APPLICATION FILED JUNE 26, 1906.

2 SHEETS—SHEET 1.



Witnesses

Samuel T. Payne
E. E. Potter

Inventors
S. F. Eshelman
D. E. Thoenen
by
H. C. Eshelman
Attorneys.

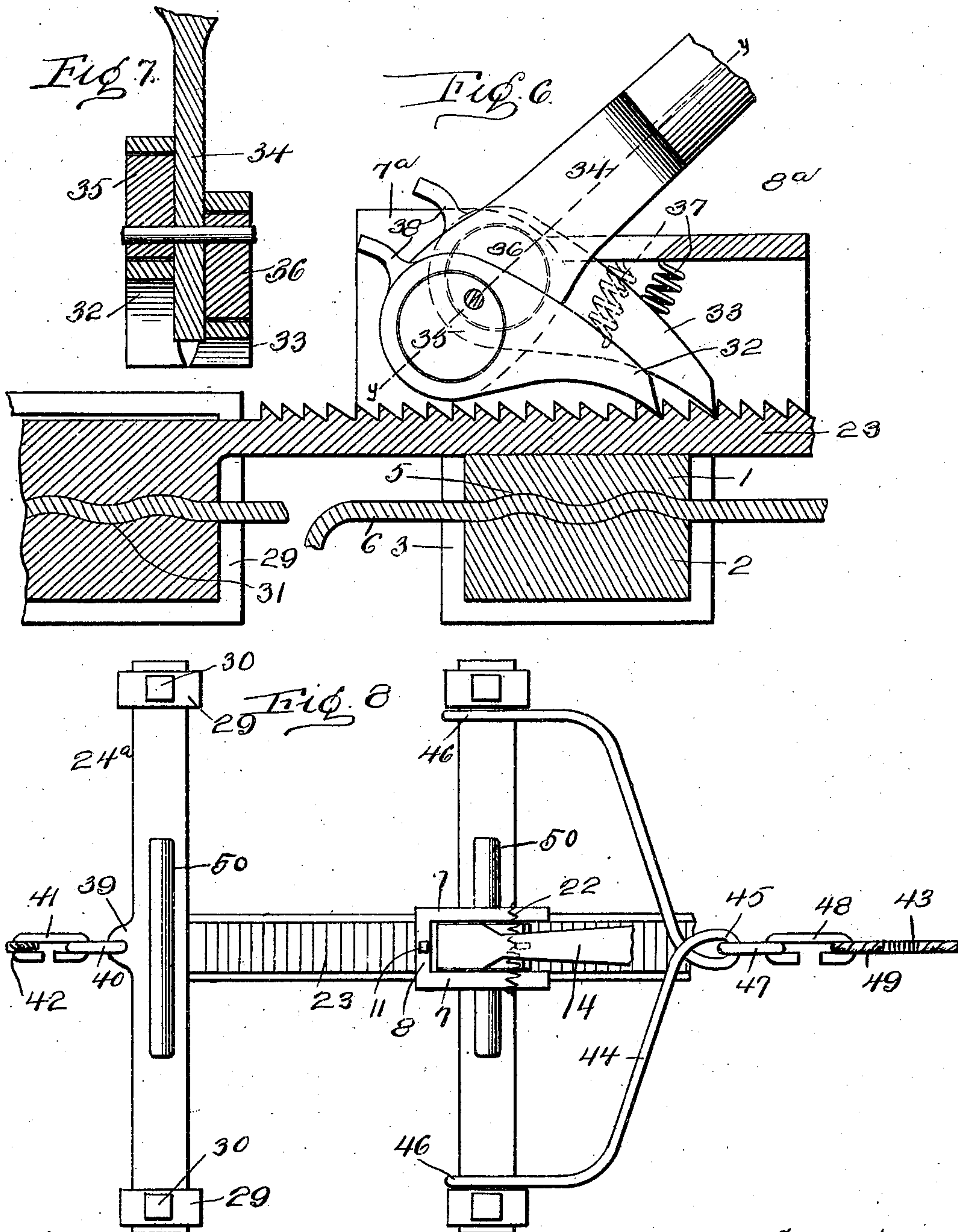
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D. E. Thoenen
H. C. Enert & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

STEPHEN F. ESHELMAN, OF SARDIS, OHIO, AND DAVID E. THOENEN, OF SISTERSVILLE, WEST VIRGINIA.

BELT-STRETCHER.

No. 846,786.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed June 26, 1906. Serial No. 323,434.

To all whom it may concern:

Be it known that we, STEPHEN F. ESHELMAN and DAVID E. THOENEN, citizens of the United States of America, residing at Sardis, in the county of Monroe and State of Ohio, and at Sistersville, in the county of Tyler and State of West Virginia, have invented certain new and useful Improvements in Belt-Stretchers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to belt and wire-rope stretchers, the object being to provide an effective device of this character adapted for stretching belts or wire cables.

The invention comprises improved means for securing the ends of the belt or cable in combination with pawl-and-ratchet mechanism for drawing the securing devices toward each other.

The construction of the improvement will be fully described hereinafter in connection with the accompanying drawings, which form a part of this specification, and its novel features will be defined in the appended claims.

In the drawings, Figure 1 is a top plan view of a stretcher embodying the invention. Fig. 2 is a central vertical section of the same. Fig. 3 is a detail view, partly in transverse section and partly in elevation. Fig. 4 is a vertical section, on an enlarged scale, on the line *x x* of Fig. 1. Fig. 5 is a detail perspective view of a locking-dog forming an element of the device. Fig. 6 is a vertical section of a modified construction of the stretcher. Fig. 7 is a section on the line *y y* of Fig. 6, and Fig. 8 is a top plan view of another modification adapted for stretching cables.

Referring to the first five figures of the drawing, the reference-numerals 1 and 2 designate two coacting clamping-bars, the ends of which are connected by removable and adjustable rectangular frames 3, each of which is formed in its upper side with an opening to receive a set-screw 4, said screws impinging upon the upper side of the upper clamping-bar 1, as shown in Fig. 4.

The opposing faces 5 of the clamping-bars are corrugated to adapt them to firmly bite upon the belt 6, as illustrated in Fig. 2.

Projecting upward from the upper bar 1 is a housing comprising parallel side plates 7, connected at the upper portions of their rear

ends by a cross-bar 8, formed with a central opening 9 for the passage of a rod 10. The upper end of this rod is provided with a head 11 and its lower end is secured to a plate 12, beveled at its lower end and serving as an automatic locking-dog, as will be hereinafter further explained, a coil-spring 13 surrounding the rod 10, with one end bearing upon the upper edge of the dog 12 and the other end against the under side of the cross-bar 8 of the housing. The dog 12 is adapted to be raised by the head 11 of the rod or by means of a pin 13^a projecting from the rear face of the dog.

The numeral 14 designates a lever fulcrumed between the side plates of the housing upon a pin 15 and provided with a threaded socket 16 to receive the threaded end 17 of a handle. The rounded head 18 of the lever is recessed at its front side to receive the enlarged upper end 19 of a pawl 20, pivotally secured within the recess of the lever by means of a pin 21.

A coil-spring 22, secured at its opposite ends to the side plates of the housing, spans the pawl 20 and holds the latter normally in engagement with a rack 23, formed integral with a clamping-bar 24 and extending between the side plates of the housing. The pawl 20 is provided with an upwardly-projecting hooked arm 25, by means of which it may be raised out of engagement with the rack.

The side plates 7 of the housing are formed adjacent to their rear ends with vertical guides 26 and the dog 12 is formed at each side edge with a vertical recess 27 to fit the guides 26. Thus the dog is guided in its movement and supported in proper operative relation to the rack 23.

The clamping-bar 24 coacts with another bar 28, said bars being secured at their ends by rectangular frames 29 similar to the frames 3, connecting the bars 1 and 2, and each provided with a set-screw 30. These bars 24 and 28 also have their opposing faces corrugated to grip the belt, as shown.

The operation of the mechanism constructed as thus described is as follows: One end of the belt 6 is clamped between the bars 1 and 2, and its opposite end is clamped between the bars 24 and 28. By means of the lever 14 (and its handle, not shown) the pawl 20 is caused to successively engage the teeth

of the rack-bar 23, thus pulling the frames 24 and 28 and the frames 1 and 2 toward each other to stretch the belt, which, as will be readily understood, extends around a suitable support. The dog 12 automatically engages one tooth of the rack to hold the latter when the pawl is disengaged to pass to the next adjacent tooth and, as has been already explained, both the pawl 20 and the dog 12 may be disengaged from the rack when necessary by the arm 25 and pin 13^a, respectively.

In Figs. 6 and 7 we have shown a modification in which instead of the pawl 20 and locking-dog 12 we employ two independent pawls 32 and 33, loosely mounted on opposite sides of a lever 34 upon oppositely-disposed eccentrics 35 and 36. In this construction the housing-plates 7^a are connected at their front ends by a cross-bar 8^a. Each of the pawls 32 and 33 is provided with a coil-spring 37 and a projecting finger-piece 38, the functions of which are obvious, and the relative disposition of the eccentrics is such that while one of the pawls is engaged in and pushes the rack the other moves forward, and vice versa. When both pawls are in the rack, it is locked.

The construction shown in Fig. 8 is designed for stretching cables, and in this embodiment of the invention the upper clamping-bar 24^a is provided with a perforated lug 39 for the attachment of a link 40, which carries a split link 41, adapted to engage an eye 42 at one end of a wire cable 43.

A bail 44, provided with a central loop 45 and end loops 46, is secured to the bars 1 and 2, the end loops 46 passing around the ends of said bars. The central loop 45 carries a link 47 and a split link 48 for the attachment of the eye 49 on the opposite end of the cable 43.

The housing and operating-lever shown in this modification are similar to the same elements in Fig. 1, and the operation of the mechanism is the same as has been described in connection with the construction shown in Fig. 1.

We preferably provide the clamping-bars with longitudinally-disposed reinforcing-ribs 50 on their upper and lower surfaces, but these are of course not essential and we would have it understood that the invention includes all such modifications and variations in the details of construction as may be resorted to without departing from the terms and scope of the claims.

What we claim, and desire to secure by Letters Patent, is—

1. In a belt and cable stretcher, the combination with clamping-bars, of a housing projecting from one of said bars, a rack extending from another of said bars, means for securing the ends of a belt or cable to said bars, a lever fulcrumed within said housing, and a

pawl pivotally secured to said lever and adapted to engage the teeth of said rack, and a vertically-disposed spring-pressed dog carried by the housing for locking the rack when the pawl is released.

2. In a belt-stretcher, the combination with a pair of clamping-bars, of adjustable frames for securing the ends of said bars together, a housing carried by the upper face of the upper bar midway the length of said bar, a lever fulcrumed within said housing, a pawl pivotally secured to said lever, a spring secured to the housing and spanning the pawl, a second pair of clamping-bars, means for securing said bars together, a rack projecting from the upper bar of said second pair, said rack extending through said housing and adapted to be engaged by said pawl, and means for locking said rack when the pawl is disengaged therefrom.

3. In a belt-stretcher, the combination with a pair of clamping-bars, of adjustable frames for securing the ends of said bars together, a housing carried by the upper bar, a lever fulcrumed within said housing, a pawl pivotally secured to said lever, a second pair of clamping-bars, means for securing said bars together, a rack projecting from the upper bar of said second pair said rack extending through said housing and adapted to be engaged by said pawl, and means for locking said rack when the pawl is disengaged therefrom, comprising a vertically-disposed spring-pressed dog supported within said housing.

4. In a belt-stretcher, the combination with a pair of clamping-bars having their opposing faces corrugated, means for securing the ends of said bars together, a housing projecting from the upper face of the upper bar midway the length thereof, a lever fulcrumed within said housing, a pawl pivoted to said lever, a second pair of clamping-bars having corrugated opposing faces, means for securing the ends of said second pair of clamping-bars together, and a rack integral with the upper one of said second-named pair of clamping-bars and extending within said housing.

5. In a belt-stretcher, the combination with two pairs of clamping-bars, of adjustable frames for connecting the ends of said bars, a housing projecting from the upper face of the upper bar of one pair, a rack integral with and projecting from the upper bar of the other pair and extending through said housing, a lever fulcrumed within the housing, a spring-controlled pawl pivotally secured to said lever within the housing and an automatic spring-pressed locking-dog, supported within the housing.

6. In a belt or cable stretcher, the combination with two pairs of clamping-bars, of adjustable frames for connecting the ends of said bars, a housing projecting from the upper face of the upper bar of one pair midway

the length of said bar, a rack integral with
and projecting from the upper bar of the
other pair, and extending through the hous-
ing, a lever fulcrumed within the housing, a
5 pawl pivoted to said lever within the housing
and engaging said rack and means for secur-
ing the ends of the belt or cable to said pairs
of bars.

In testimony whereof we affix our signa-
tures in the presence of two witnesses.

STEPHEN F. ESHELMAN.
DAVID E. THOENEN.

Witnesses:

E. E. POTTER,
C. KLOSTERMANN.