

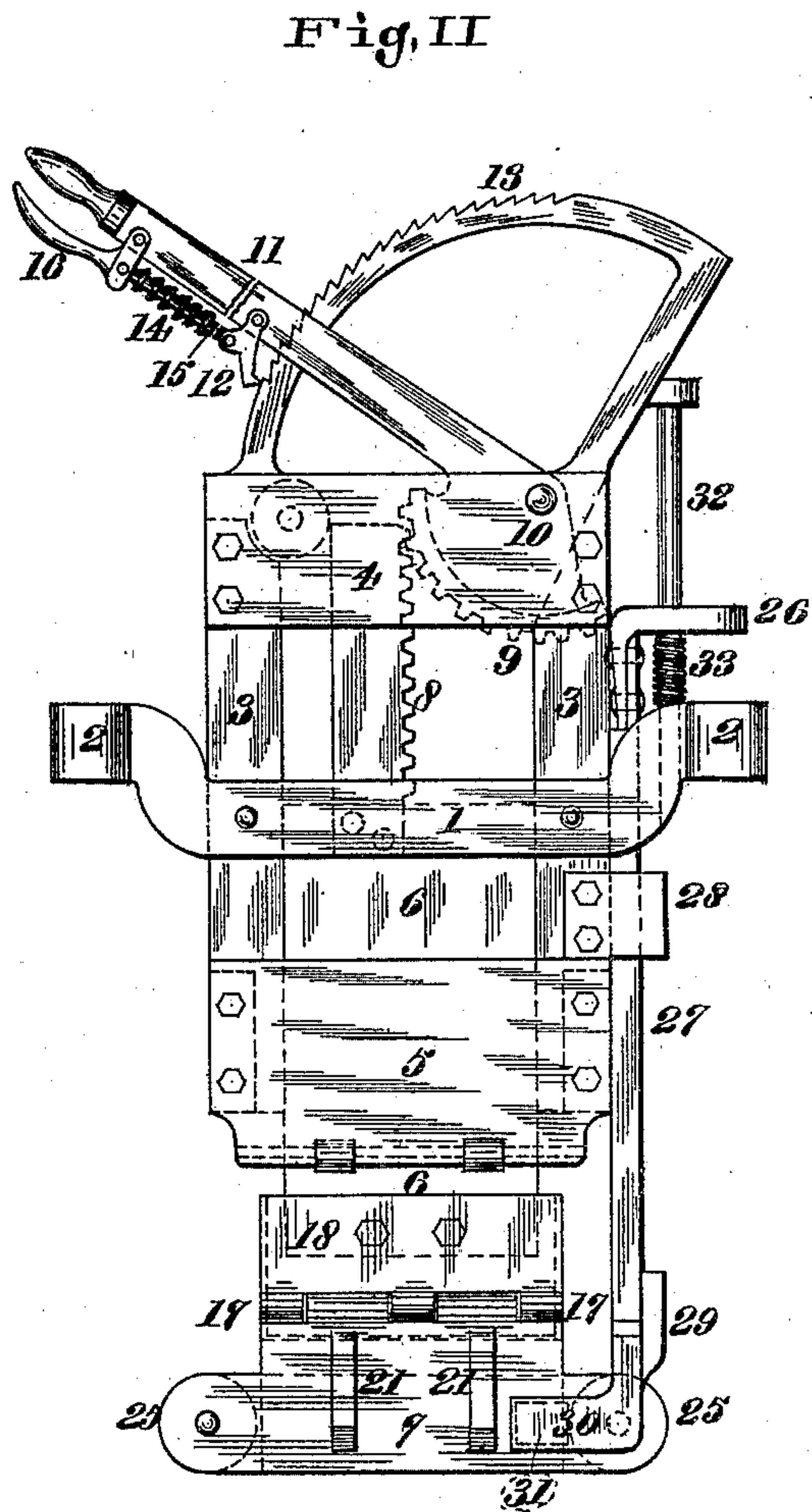
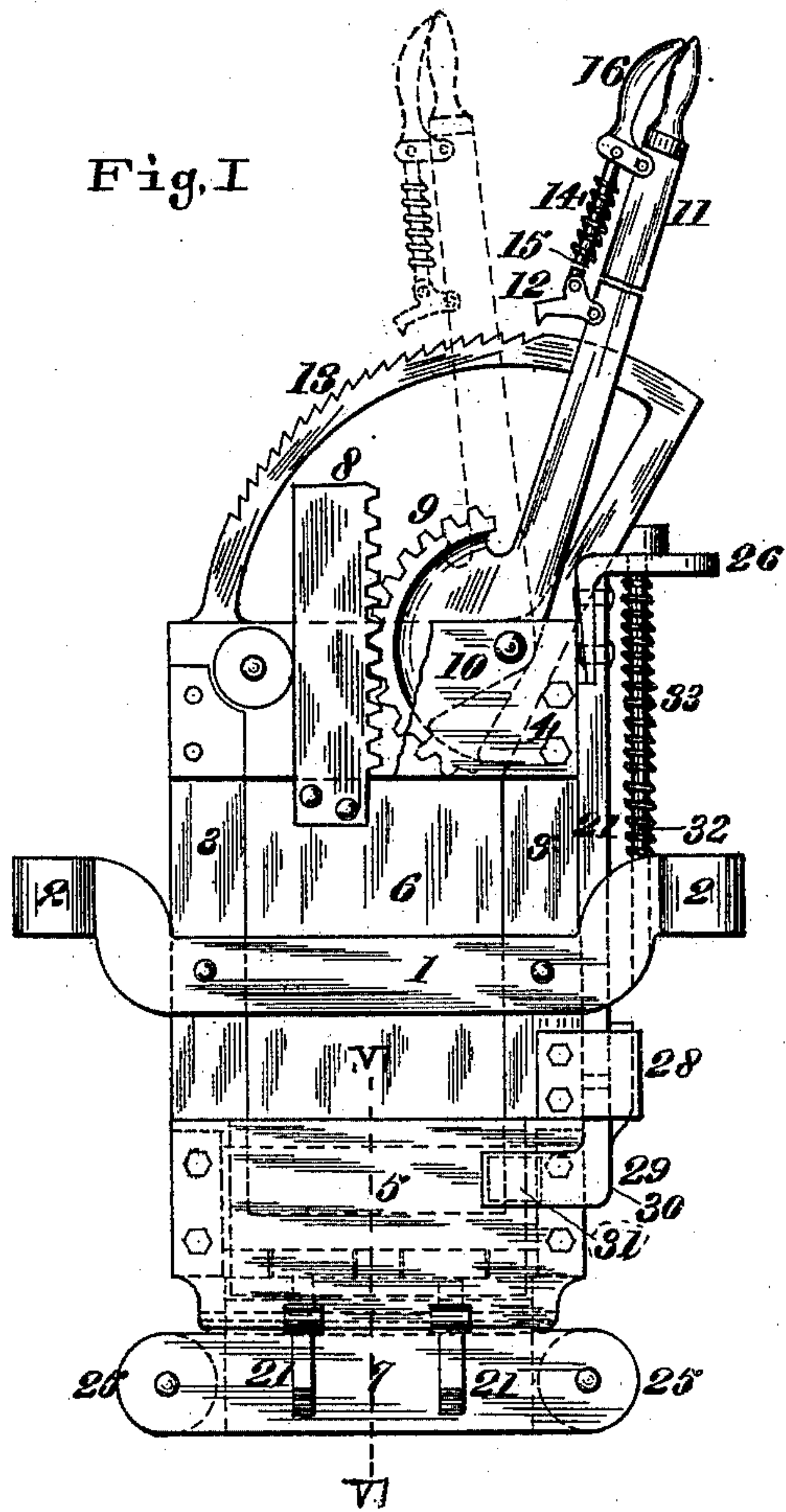
(No Model.)

2 Sheets—Sheet 1.

L. KANNENSTINE.
CABLE GRIP.

No. 464,878.

Patented Dec. 8, 1891.



ATTEST

Walter E. Allen.
Arthur Knight

INVENTOR

Louis Kannenstine.

By Knight Bros.
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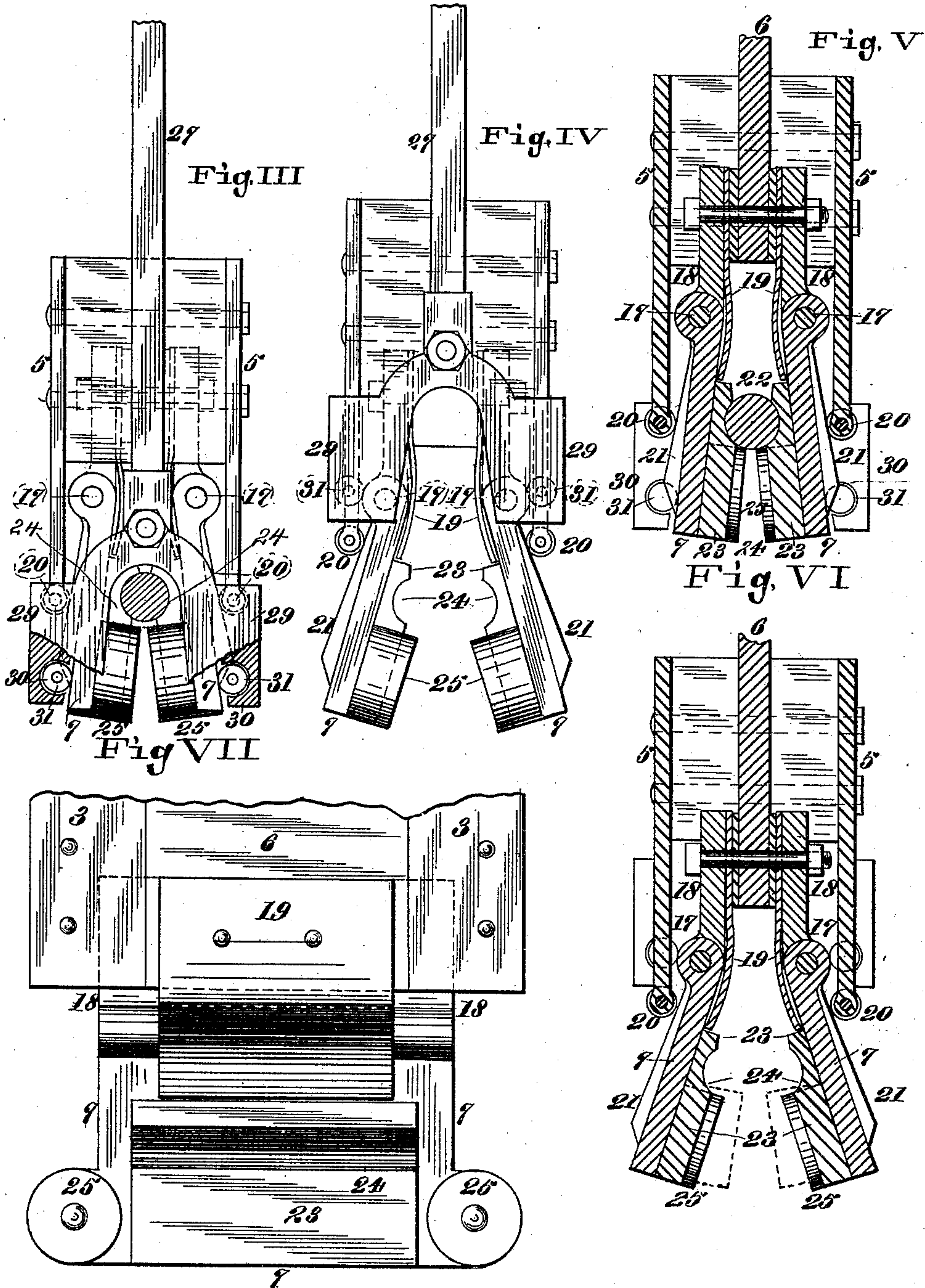
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UNITED STATES PATENT OFFICE.

LOUIS KANNENSTINE, OF ST. LOUIS, MISSOURI, ASSIGNOR OF TWELVE
TWENTY-FIFTHS TO ARTHUR R. THICKITT AND WILLIAM PELKUS,
BOTH OF SAME PLACE.

CABLE-GRIP.

SPECIFICATION forming part of Letters Patent No. 464,878, dated December 8, 1891.

Application filed July 29, 1891. Serial No. 401,070. (No model.)

To all whom it may concern:

Be it known that I, LOUIS KANNENSTINE, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Cable-Grips, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This belongs to that class of grips adapted to release the cable and to take it up again and to give support to the cable when it is running free.

The novel features are set forth in the claims.

Figure I is a side elevation of the grip in position for engagement of the cable. Fig. II is a similar view in position for taking up the cable. Fig. III is an end elevation of the lower portion of the grip with the parts as seen in Fig. I, portions being broken out. Fig. IV is an end elevation of the lower portion of the grip with the parts shown in the same position as in Fig. II. Fig. V is an enlarged vertical transverse section taken at VI VI, Fig. I, showing the jaws in gripping position. Fig. VI is a similar section, except that the jaws are shown in depressed position. Fig. VII is an enlarged detail elevation giving an inside view of one of the grip-jaws and contiguous parts.

1 is the horizontal supporting-bar, having lugs 2 to receive bolts by which it is attached to the frame of the grip-car.

3 are upright bars fixed to the supporting-bar and connected by plates 4 and 5, fastened to them upon each side, the plates 4 forming side guides to the vertically-movable plate 6, that carries the grip-jaws 7, and the plates 5 forming guides for the jaws and means for forcing them together as the plate 6 is drawn upward. The plate 6 has at its upper end a vertical cog-rack 8, that engages a cog-quadrant 9, pivoted to the plates 4 at 10. Upon the quadrant is a hand-lever 11, carrying the usual dog 12, that engages a curved ratchet 13 (as usual) to hold the lever 11 and suspension-plate 6 in any desired position. This dog is forced down by a spring 14 and lifted to disengage it from the ratchet by a rod 15 with a small hand-lever 16. The device for

holding the hand-lever is well known and no novelty is claimed in the same.

The grip-jaws 7 are counterparts of each other. They are connected at the upper edges by hinges 17 to brackets 18, that are bolted to the sides of the suspension-plate 6. The jaws are forced outward by springs 19 and are pressed inward as they are drawn upward by the pressure of their outer sides against the inner sides of the plates 5. It is preferred to provide anti-friction rollers 20, that have bearing in the plates 5, and whose peripheries bear against the jaws or against inclines 21 thereon. By moving the lever 11 from the position shown in dotted lines in Fig. I to that shown in full lines in the same figure the jaws 7 are forced inward and grip the cable 22. (See Fig. V.)

23 are the removable grip-plates having grooves 24 to receive the cable.

25 are wheels or rollers upon which the cable is ordinarily supported when it is running free. These wheels turn on arbors fixed to the jaws.

The grip-jaws have several positions: first, when gripping the cable, which position is shown in Figs. I, III, and V; second, when the jaws are slightly opened from the position seen in Fig. I by moving the lever 11 from position shown in full lines to position shown by dotted lines, so as to free the cable and to allow it to run upon the sustaining-wheels 25; third, when the jaws are spread sufficiently to allow the cable to drop between the wheels 25; fourth, the position shown in Figs. II, IV, and VI, when the jaws are in position to take up the cable, and, fifth, when the jaws are closed upon the cable, which is done by means of a treadle whose lower end is forked and embraces the jaws, so as to force them together and carry the wheels 25 beneath the cable. This position of the wheels is indicated by dotted lines in Fig. VI. The means for forcing the jaws inward when they are in their lower position will be now described.

26 is the foot-piece of a treadle at the upper end of a vertically-sliding rod 27, working in guide 28. The lower end 29 of the rod is forked and has two inward projections 30, that embrace the jaws 7 when forced down-

ward and by pressure against the outer sides of the jaws force them inward. It is preferred that the pressure of the projections 30 upon the jaws should be by means of anti-friction wheels 31. The treadle works on a fixed guide-rod 32, secured at the ends to the frame and passing through a hole in the tread-piece. This guide-rod is surrounded by a spiral spring 33, whose upper end bears against the under side of the foot-piece and whose lower end bears against the bar 1. The purpose of the spring is to raise the treadle and sustain it in its normal position, as seen in Fig. I. The treadle is shown in its lower position in Fig. II.

Fig. II indicates the position of the parts when the cable has just been taken up, but the jaws have not been elevated into working position. In order to do this, the lever 11 is moved from the position shown in Fig. II to the position shown by dotted lines in Fig. I, which will lift the cable, but not grip it. The treadle will be elevated with the jaws 7. As soon as the lever has reached the position shown by dotted lines, Fig. I, the foot may be removed from the treadle, as it will no longer be needed to hold in the jaws 7. The cable may now be gripped by moving the lever to the position shown by full lines in Fig. I.

I claim as my invention—

1. The combination, in a cable-grip, of the grip-jaws hinged to a vertically-movable plate 6, means for imparting such movement to the plate, plates 5, acting to press the jaws inward upon the cable on the elevation of the plate 6, and springs 19, acting to force the jaws outward, substantially as set forth.

2. The combination, in a cable-grip, of the jaws 7, hinged to the vertically-movable plate 6, and a treadle-bar 27, having projections 30 embracing the jaws, substantially as and for the purpose set forth.

3. The combination, in a cable-grip, of the vertically-movable suspension-plate 6, grip-

jaws 7, hinged thereto, the bars 5, adapted to press in the jaws as they ascend, and the treadle-bar having projections 30 embracing the jaws and adapted to press them together at any desired elevation of the jaws, substantially as set forth.

4. The combination, in a cable-grip, of the hinged jaws 7, a vertically-moving treadle having projections 30 embracing said jaws, a spring 33, acting to lift the treadle, and a foot-rest 26, all substantially as and for the purpose set forth.

5. The combination, in a cable-grip, of a vertically-movable suspension-plate 6, carrying hinged jaws and adapted to drop the lower parts of the jaws below the working position of the cable, and a treadle having projections 30 embracing the jaws and adapted to close the jaws when in their lower position, substantially as set forth.

6. The combination, in a cable-grip, of the suspension-plate 6, means for imparting vertical motion to the plate, grip-jaws hinged to the lower part of the suspension-plate, springs 19, pressing the jaws outward, cam-plates 5, pressing the jaws inward on their ascent and carrying anti-friction rollers 20, inclines 21 on the jaws, adapted to bear against the rollers 20, and wheels 25 at the lower parts of the jaws, adapted to sustain the cable, all substantially as set forth.

7. The combination, in a cable-grip, of the suspension-plate 6, having vertical movement, means for imparting such movement, jaws 7, hinged to the plate and having inclines 21 and wheels 25, the cam-plates 5, carrying rollers 21, adapted to bear on the inclines, and a vertically-movable treadle with projections 30, adapted to embrace the jaws and provided with a foot-rest and a lifting-spring, substantially as set forth.

LOUIS KANNENSTINE.

Witnesses:

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E. S. KNIGHT.