

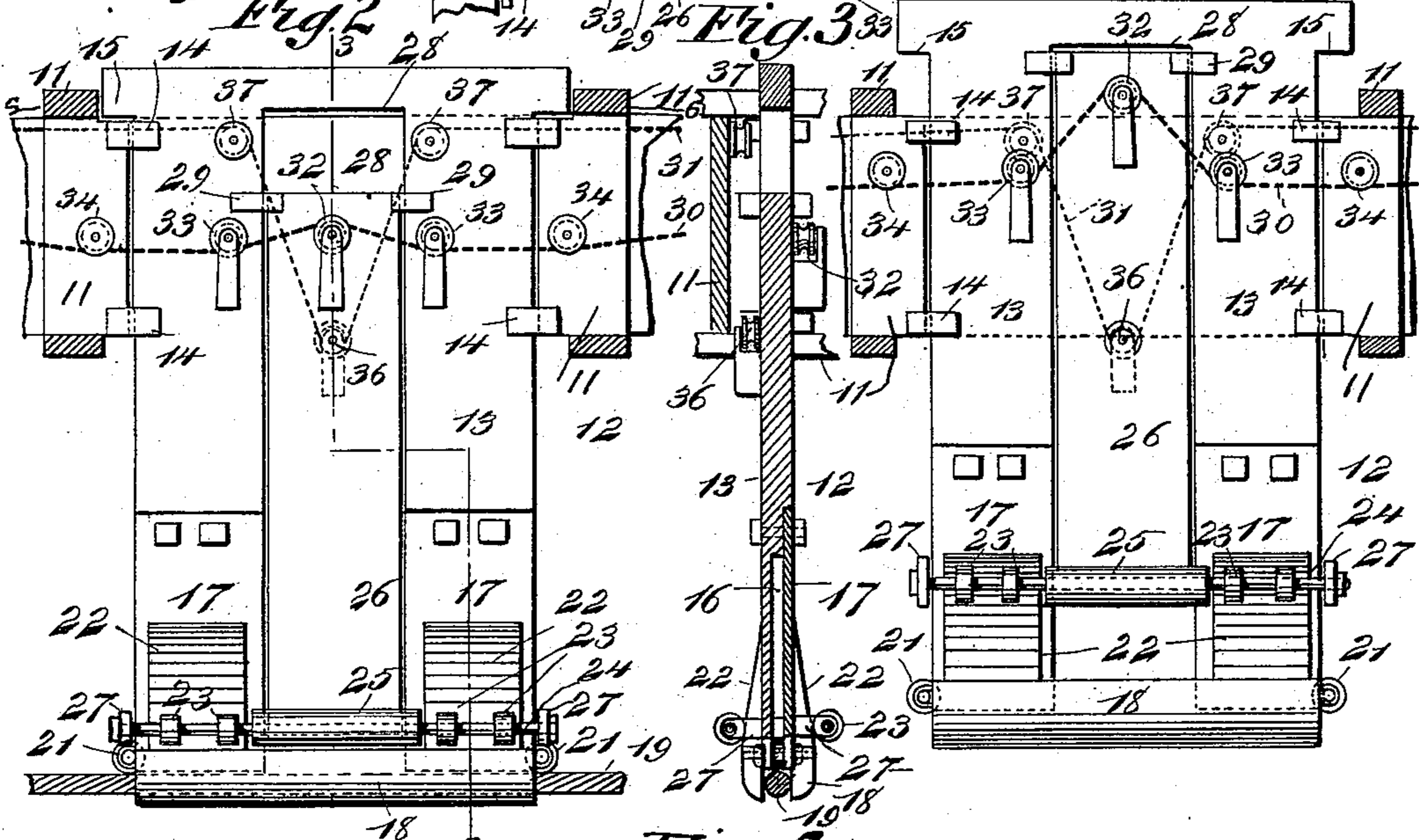
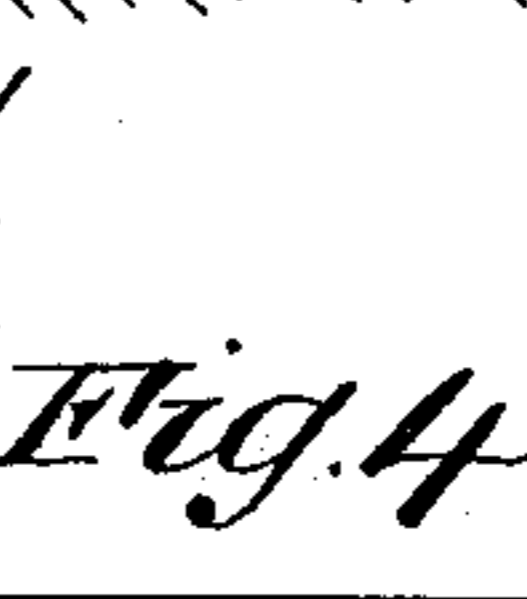
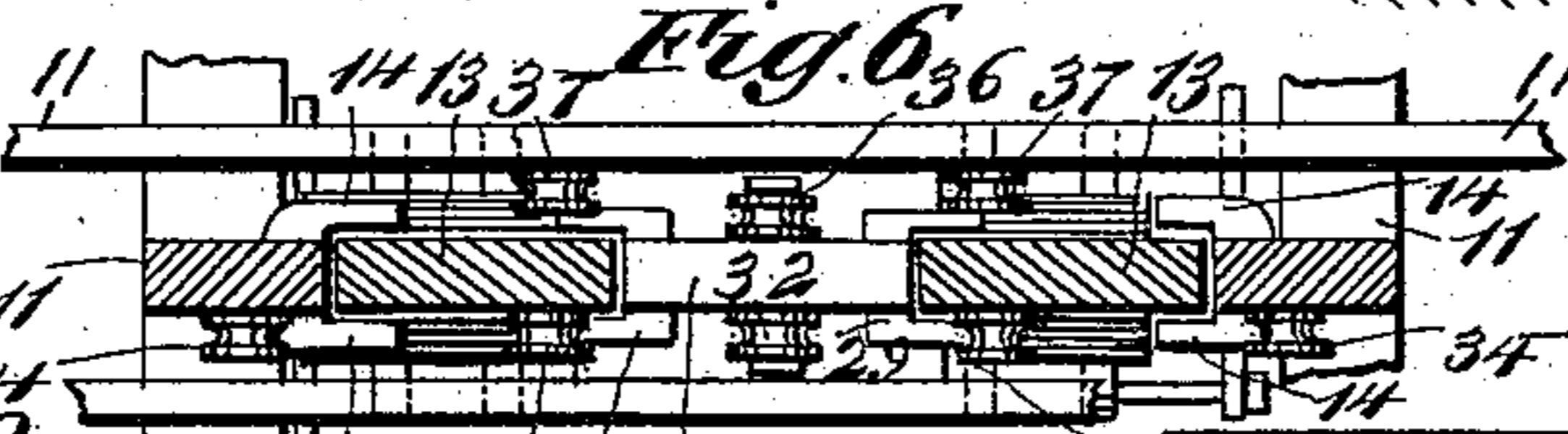
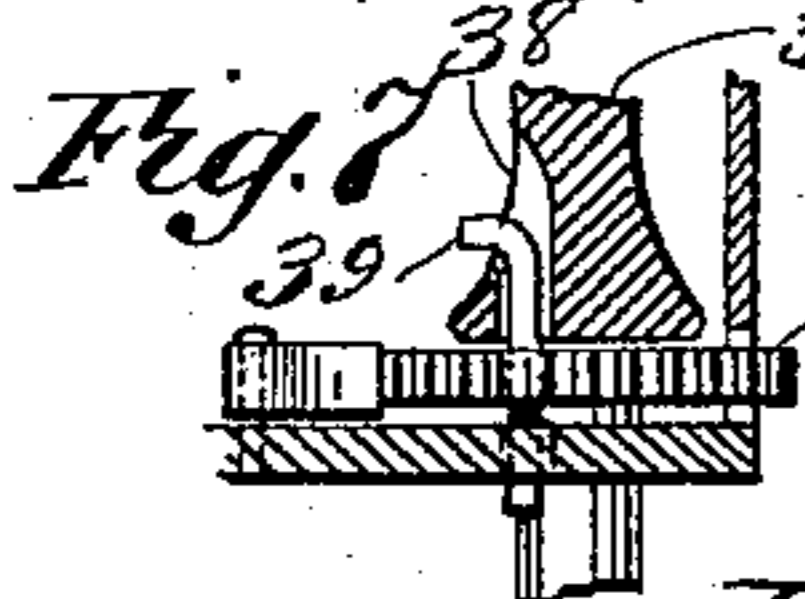
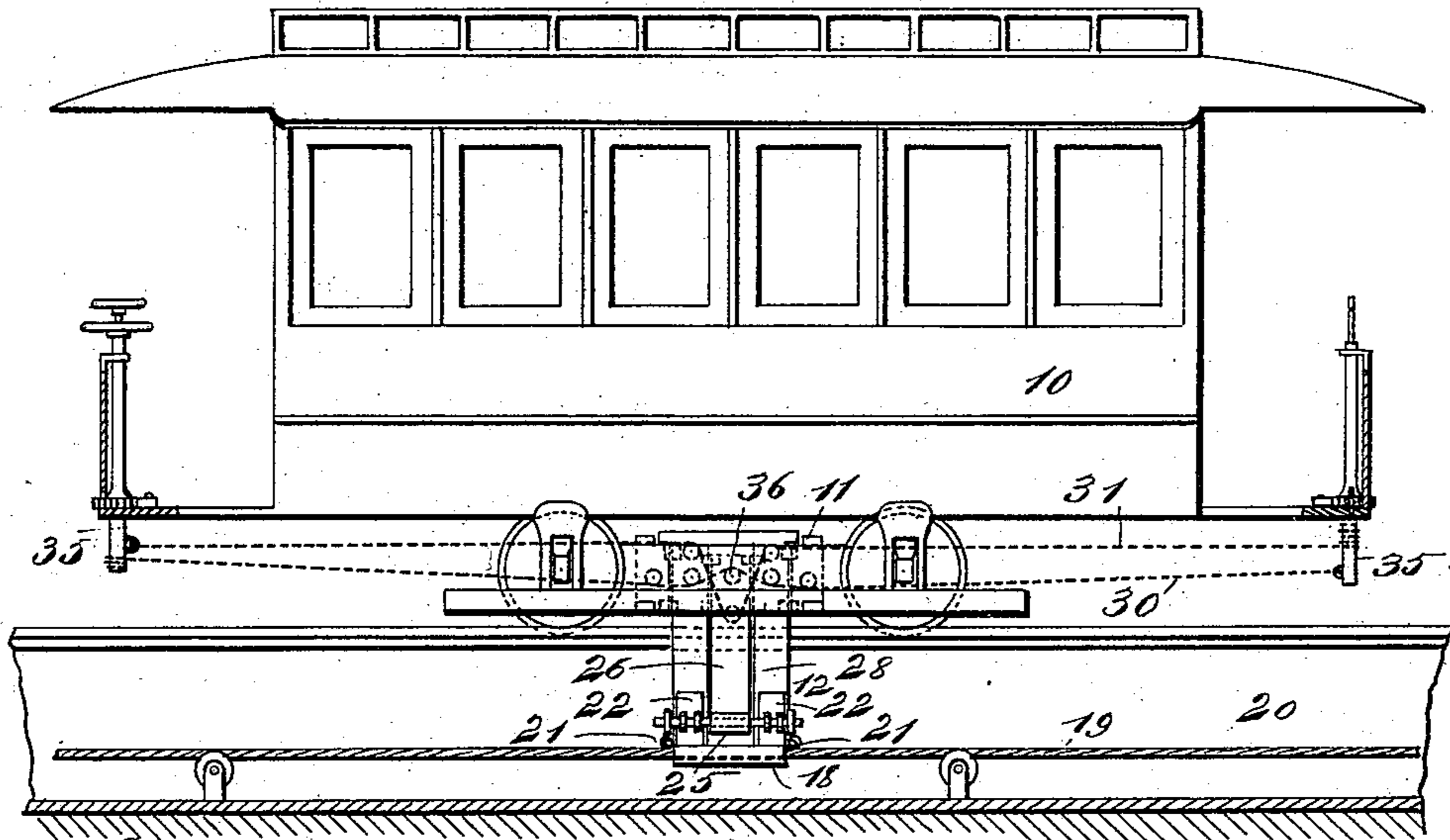
(No Model.)

G. C. ORMEROD & J. H. CHARLES.
CABLE GRIP.

No. 528,384.

Patented Oct. 30, 1894.

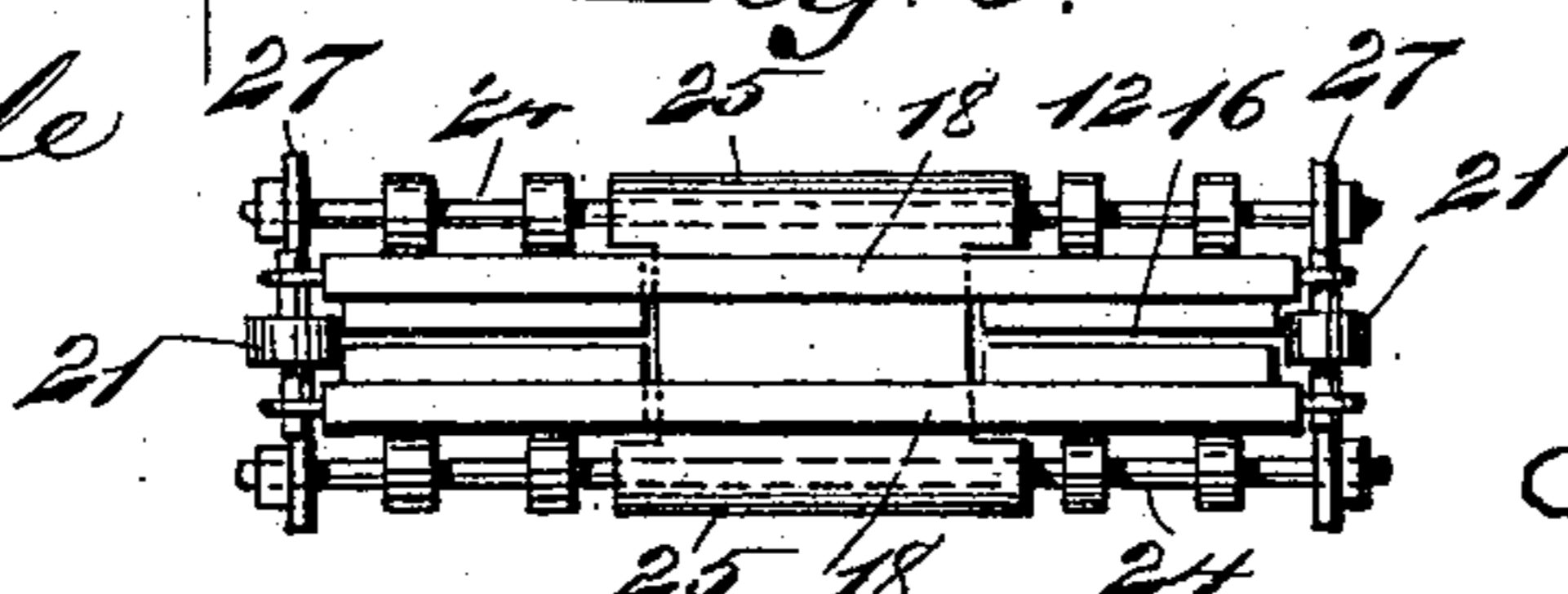
Fig. 1



WITNESSES:

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Fig. 5.



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GEORGE C. ORMEROD AND JOHN H. CHARLES, OF ASBURY PARK, NEW JERSEY.

CABLE-GRIP.

SPECIFICATION forming part of Letters Patent No. 528,384, dated October 30, 1894.

Application filed January 24, 1894. Serial No. 497,851. (No model.)

To all whom it may concern:

Be it known that we, GEORGE C. ORMEROD and JOHN H. CHARLES, both of Asbury Park, in the county of Monmouth and State of New Jersey, have invented a new and Improved Cable-Grip, of which the following is a full, clear, and exact description.

Our invention relates to improvements in cable grip such as are used on cars to engage a moving cable in order that the car may be drawn thereby.

The object of our invention is to produce a simple, strong, and efficient grip which may be attached to any ordinary car, and which may be operated by means of the customary revoluble brake and grip shaft, also to construct the grip in such a manner that its jaws may be very quickly and rigidly clamped to the cable or as easily released, also to provide a convenient means for raising and lowering the grip.

To these ends our invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

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

Figure 1 is a side elevation of a car provided with our improved grip, the latter being shown in connection with a cable. Fig. 2 is a sectional side elevation of the grip, showing it clamped to a cable. Fig. 3 is a vertical section on the line 3—3 of Fig. 2. Fig. 4 is a side elevation of the grip raised and with the jaws released from the cable. Fig. 5 is an inverted plan of the grip. Fig. 6 is a sectional plan on the line 6—6 of Fig. 2 of the grip; and Fig. 7 is a detail sectional view, illustrating the manner in which the brake and cable shafts are locked.

The car 10 may be of any ordinary construction and beneath it is a hanger or frame 11 which also may be of any approved kind, this being carried by the truck frame of the car and being adapted to support the grip 12 which has a slide frame 13 adapted to move vertically in the frame 11, this frame 13 moving through keepers 14 on the frame 11 and having, at its upper end, shoulders 15 which are arranged at the front and rear of the slide

frame and are adapted to strike the top of the frame 11 so as to limit the downward movement of the slide frame. The slide frame 13 is split at its lower end, as shown at 16, and one side of the lower end is preferably formed by spring plates 17 which are bolted to the body of the slide frame, as illustrated in Figs. 2 and 3, but it is obvious that the frame may be split and that the parts 17 may be integral with it, if desired.

The lower ends of the members of the slide frame 13 terminate in oppositely arranged horizontal jaws 18 which are normally sprung apart by the spring of the metal of the slide frame, but which may be forced together so as to clamp between them the cable 19, this, as illustrated, running in the conduit 20 in the ordinary way. At the ends of the jaws and journaled on the slide frame are anti-friction rollers 21 which are adapted to run on the cable.

The jaws 18 are rounded at their lower edges so that they may easily pass over the grooved pulleys which usually support the cable 19, and as the jaws are straight on their inner sides, they can firmly grip the cable when they are on a pulley, and when the cable is opposite the extreme lower portions of the jaws.

On opposite sides of the slide frame 13 and at its lower end opposite the split portion are inclined blocks 22, which are thickest at the bottom, and on these run rollers 23 which are carried by shafts 24, these being journaled in suitable bearings 25 on a slide plate 26, and the ends of the shafts are tied together by straps 27 to prevent them from springing. The slide plate 26 moves vertically in a slot 28 in the frame 13 and it will be seen that when the slide plate is raised the rollers 23 will be also raised, thus freeing them from the inclined blocks 22 and permitting the jaws 18 to spring apart so as to release the cable. On the other hand, when the slide plate is forced down, the rollers 23 striking the progressively thickened portion of the block, squeeze the members of the slide frame together and clamp the jaws firmly to the cable.

The slide plate 26 is provided with guide keepers 29, which overlap the slide frame 13, and the slide plate has a limited movement

in the slide frame, so that when it is raised it strikes the top of the slot 28 and if it is still further lifted it raises the slide frame 13 with it and thus lifts the jaws 18 entirely clear of the cable 19.

The grip is operated by cables or chains 30 and 31, which are connected with the shafts 35 at the ends of the car, these shafts being of the usual kind which are used for applying the brakes and operating the grip on street cars, so that a detailed description of them is unnecessary. The chain 30 is used for depressing the slide plate 26 and applying the grip to the cable, and to this end it runs over a guide pulley 32 on the slide plate, beneath the pulleys 33 on the slide frame, beneath the pulleys 34 on the frame 11 and is made fast at its ends to the shafts 35 as specified. It will thus be seen that when one shaft is turned and the other held stationary, the shortening of the chain will cause it to bear strongly on the under side of the pulleys 33 and 34 and to pull down on the pulley 32, so as to throw the slide plate forcibly downward and cause the rollers 23 to apply the jaws to the cable 19.

The cable 31 is used for raising and releasing the grip, and to this end it runs beneath a pulley 36 on the slide plate 26 and over pulleys 37 on the frame 11, the ends of the cable being made fast to the shafts 35, but the cables or chains 30 and 31 are reversibly wound on the shafts so that when one is tightened the other will be loosened. The shortening of the chain 31 causes it to lift up on the pulley 36, thus raising the slide plate 26 and releasing the jaws, and the continued shortening of the chain forces the top of the slide plate against the upper end of the slide frame 13, thus raising the said frame and lifting the jaws clear from the cable and this enables the grip to conveniently pass an intersecting cable or other obstruction. It will thus be seen that to release the cable so as to stop the car it is only necessary to shift the slide plate sufficiently to permit the jaws 18 to spring out slightly so as not to press against the cable and thus the jaws are, under ordinary circumstances, held directly opposite the cable.

The shafts 35 are alternately used in the customary way, and hence some means must be provided for locking one shaft while the other is being used, and a convenient means

is illustrated in Fig. 7. Here the shaft 35 is provided with the usual ratchet wheel 40 and the customary pawl, and the ratchet wheel and the foot of the shaft are perforated, as shown at 38, to receive a locking pin 39 which projects downward through the car platform. Any other suitable lock may be used for this purpose if desired.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A cable grip, comprising a vertically movable slide frame having opposite spring members at its lower end, jaws carried by the spring members to engage a cable, inclined blocks on the outer sides of the spring members, and vertically movable rollers arranged to run on the blocks, substantially as described.

2. A cable grip, comprising a vertically movable slide frame having opposite spring members at its lower end, jaws carried by the spring members to engage a cable, inclined blocks on the outer side of the spring members, a vertically movable slide plate on the slide frame, and rollers carried by the slide plate to engage the inclined blocks, substantially as described.

3. A cable grip, comprising a vertically movable slide frame having oppositely arranged spring members at its lower end, jaws carried by the spring members to engage a cable, inclined blocks on the outer sides of the spring members, a slide plate mounted on the slide frame, a cable mechanism for raising and lowering the slide plate, and rollers carried by the slide plate and adapted to run on the inclined blocks, substantially as described.

4. A cable grip, comprising a vertically movable slide frame slotted in the center and terminating at its lower end in opposite spring members, jaws carried by the spring members, inclined blocks on the outer sides of the spring members, a slide plate held to move in the slot of the slide frame, rollers carried by the slide plate to run on the inclined blocks, and a cable mechanism for raising and lowering the slide plate, substantially as described.

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Witnesses:

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