

(No Model.)

A. J. SMITH.
AUTOMATIC GIPSY FOR CABLE RAILWAYS.

No. 482,279.

Patented Sept. 6, 1892.

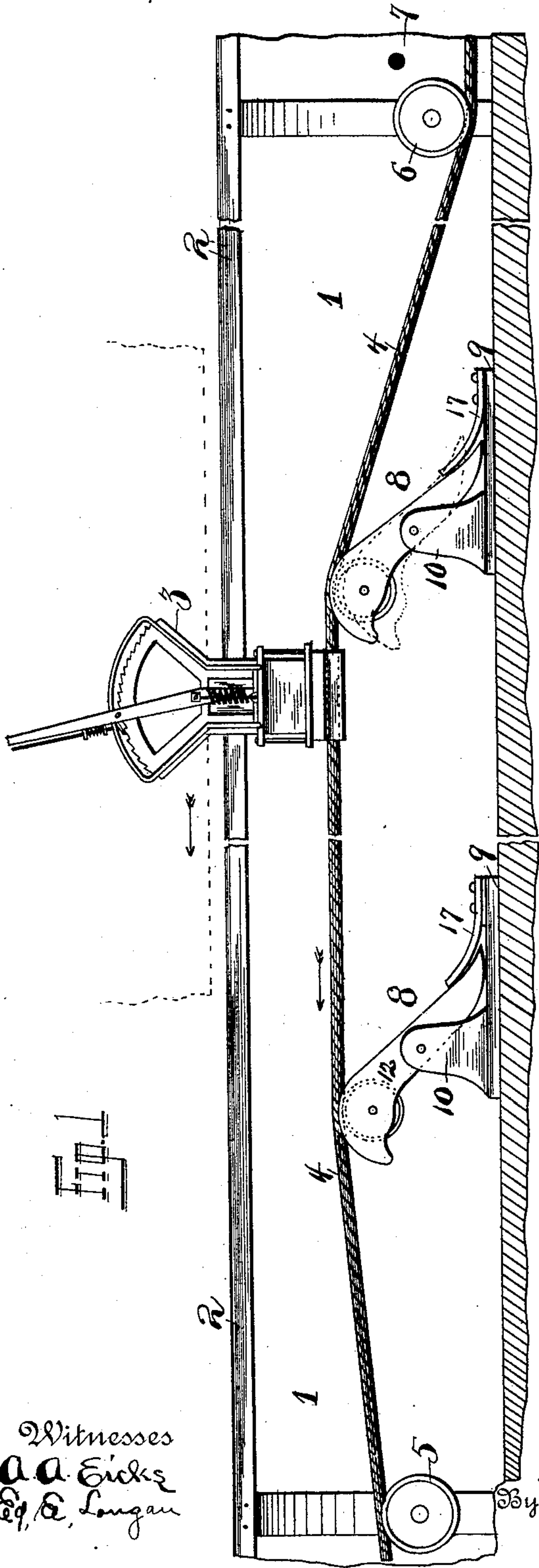


FIG. 1

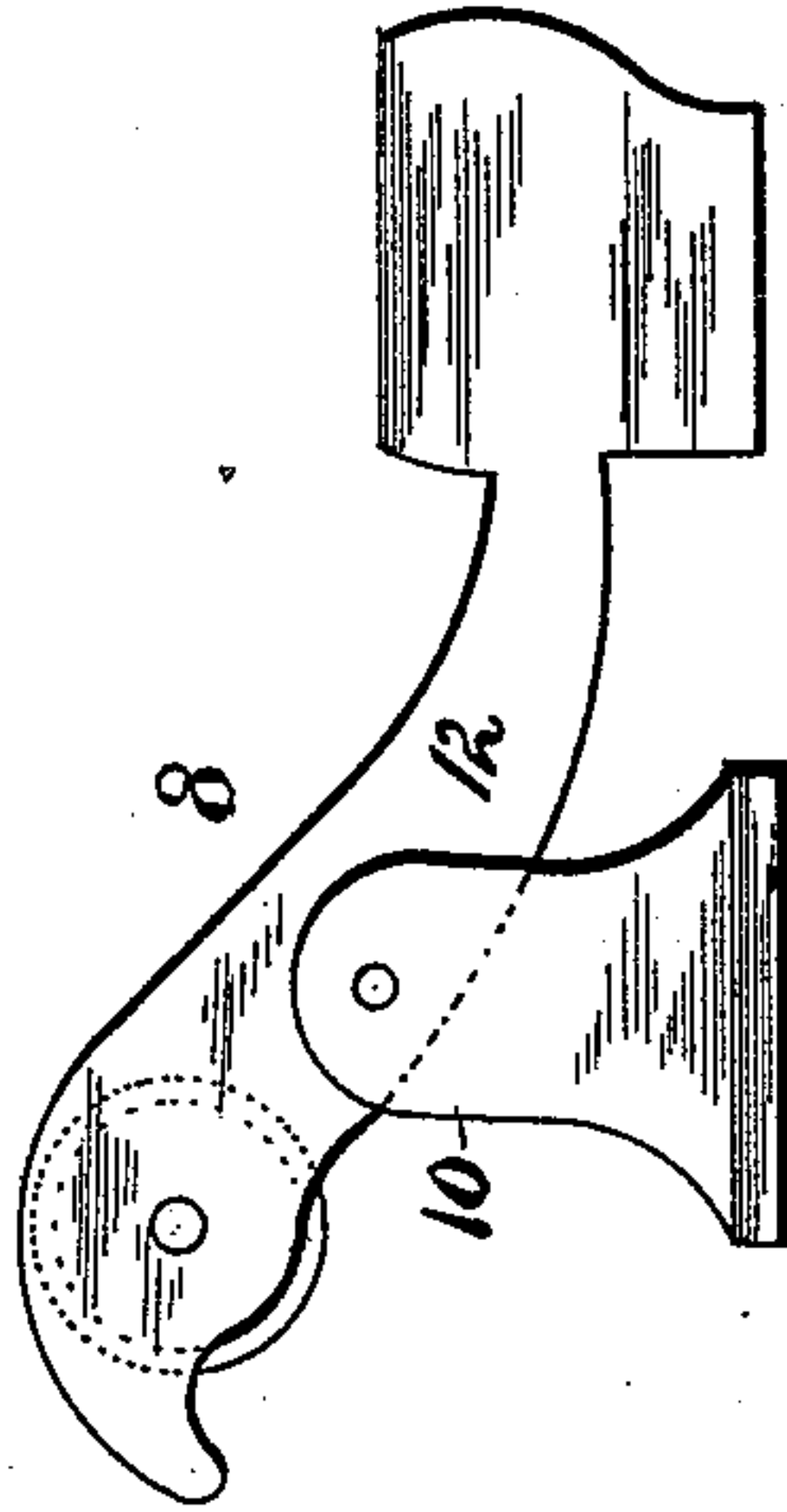
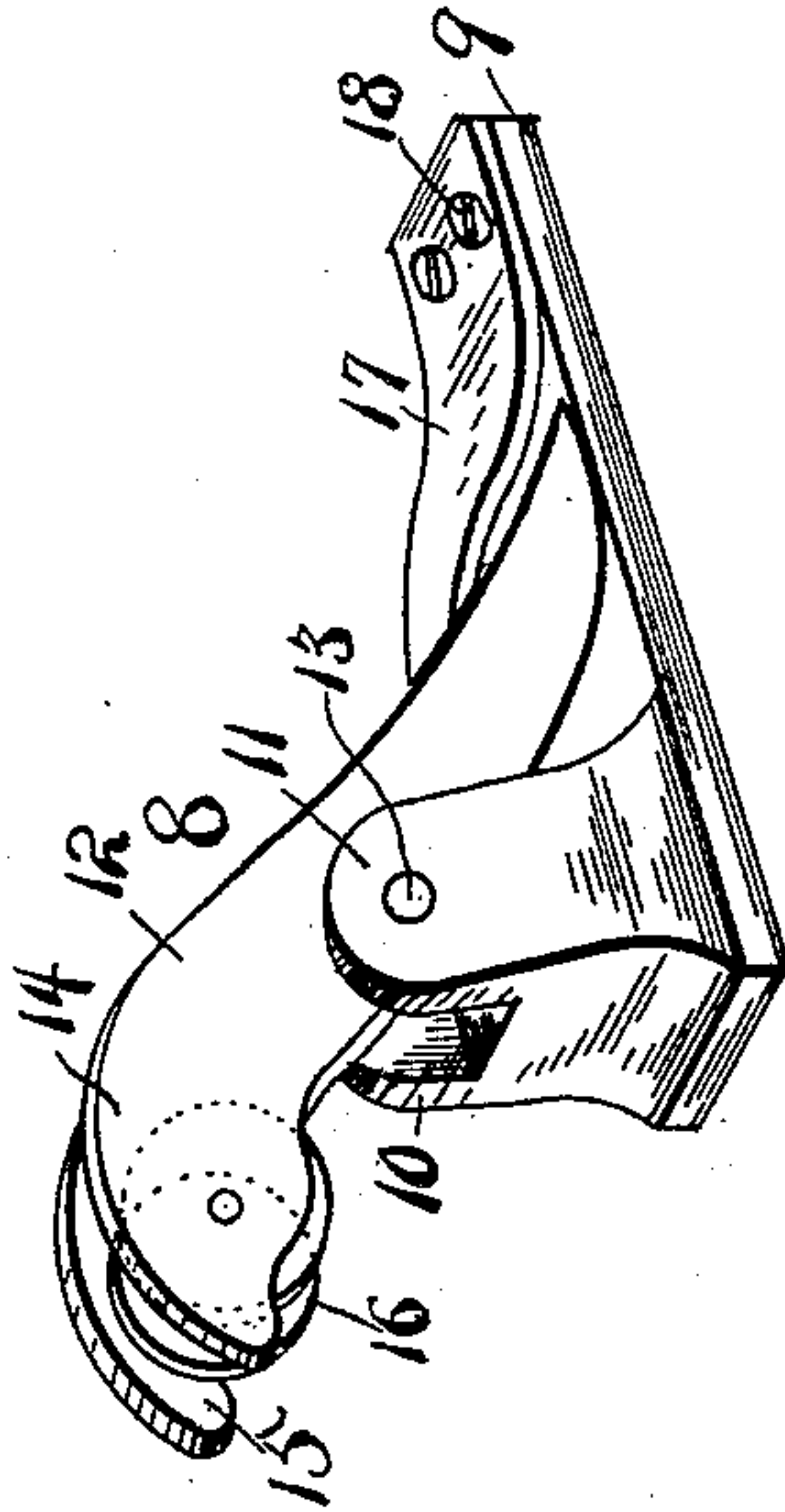


FIG. 2



Witnesses
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UNITED STATES PATENT OFFICE.

ANDREW J. SMITH, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
THEODORE H. WURMB, OF SAME PLACE.

AUTOMATIC GIPSY FOR CABLE RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 482,279, dated September 6, 1892.

Application filed October 24, 1891. Serial No. 409,653. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. SMITH, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Automatic Gipsies for Cable Railways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

10 My invention relates to an improved apparatus for holding an aligned determinate length of the cable yieldingly and abnormally elevated into the path of the jaws of the grip adjacent to a crossing or at such places where
15 the grip is transferred to another cable, so that the grip carried by the car may grasp the abnormally-elevated length of cable at any point within said determinate length without stopping the car.

20 Heretofore the cable at crossings has been supported by fixed pulleys at a normal elevation and a hand-operated "gipsy" has been employed to elevate it into the path of the grip-jaws in some instances, while in others a
25 single yielding pulley has been proposed for the purpose. In all of these arrangements, however, the cable is only abnormally elevated at a single point, there being no aligned determinate length held in the path of the
30 grip-jaws, as in my improved construction, with the result that it has been found very difficult for the gripman to manipulate his grip and car so as to bring the jaws into engagement with the very short elevated portion of such cable, and the complete stoppage
35 of the car has been compelled for such purpose, as well as the "backing" of the car when it has been inadvertently run past the single elevated portion of the cable.

40 My invention consists in an improved arrangement of gipsies constructed to normally and yieldingly hold an aligned determinate length—say fifty feet—of the cable elevated above the normal height in the path of the
45 grip carried by a car, whereby a car may "take" the cable at a crossing without stopping or even slackening speed at any point within said determinate length so elevated.

50 In the drawings, Figure 1 is a longitudinal section of a cable-conduit having my invention applied thereto. Fig. 2 is a perspective

view of one of the yielding supports made use of in carrying out the invention, and Fig. 3 is a side elevation of a modified form of same.

1 indicates the conduit, and 2 the slot-rails, 55 between which the shank of the grip 3 passes, as is well known in the art.

4 indicates the cable, which is supported, as usual, at intervals of its length at a normal height slightly below the path of the jaws of 60 the grip, except at points adjacent a crossing, where it is permanently (in some cases) depressed below the normal height by means of a depressing-pulley 6, mounted in bearings fixed to the wall of the conduit, so that the 65 grip engaging the upper cable 7 may pass above without releasing said last-mentioned cable. Now at a point adjacent the crossing—say thirty feet from the upper cable 7—I locate one yielding support, as 8, and at a 70 determinate distance from this first yielding support—say thirty-six feet or even a car's length—I locate another of such supports and mount the cable thereupon, as shown. The height of such supports 8 is such that they 75 will hold a determinate length of the cable normally elevated above the peripheries of the usual stationary sheaves or pulleys 5 and in the path of the jaws of the grip.

Each of the yielding supports 8 is constructed as now to be described, and as two 80 or more of them may be employed and as the construction of each is identical I will describe but one. 9 indicates a suitable base, from which rises a standard 10, having perforated ears 11 or bearings for the curved lever 85 12. The lever 12 is pivotally mounted at about the center of its length by means of a short shaft 13, which is received by the perforations or bearings of the standard 10. The 90 head or upper end of the lever 12 is rounded or curved downwardly at 14 and bifurcated at 15, and within the bifurcation thus formed is secured a suitable roller 16, so that its upper edge will rest slightly below the plane of 95 the curved portions on either side and so that its lower edge will rest above the plane of the lever-fulcrum. Thus mounted, the roller rests entirely beyond or in advance of the fulcrum or the lever which carries it, so that 100 it may be depressed a considerable distance with the expenditure of a small amount of

power. To the opposite end of the base 9 is secured a flat spring 17, which is held in place by a suitable bolt 18 or other fastening. The purpose of this spring is to rest upon and normally hold the lower end of the lever 12 at the limit of its downward movement in contact with the base, and, of course, though I here show a flat spring it is evident that other well-known forms of springs may be employed for the purpose. The free end of the spring 17 bears upon the tail portion of the lever 12, so that when the upper end or head of said lever is depressed by the grip contacting with it the said tail portion will be elevated a corresponding distance. When the grip has passed out of engagement with the head portion, the spring 17 will depress the tail and elevate the head to normal position, which is that shown.

In Fig. 3 I have shown a modified form of support wherein I employ a weighted tail for the lever 12 instead of the spring previously described, which weighted tail performs the same function—that of causing the support to assume and hold its normal position.

The operation is as follows: The grip and cable are supposed to travel in the direction indicated by the arrows in Fig. 1, the grip having previously dropped the cable on the other side of the upper cable 7. When the grip strikes the curved head of the first support 8, the said support will be depressed, and after the grip has passed over it and cleared it said support will assume its normal position, and as the other support stands in normal position at some distance in advance—say two car-lengths—the two supports thus hold and present a determinate length of the cable elevated in proper position to be engaged by the jaws of the grip at any point in such length and the grip may take the cable at any point between the said two supports while the car runs at full speed. This determinate length

of cable is shown clearly in Fig. 1, just beneath the arrow. As the car continues its movement in the direction of the arrow, the support farthest from the crossing will also be contacted by the grip and depressed, but will immediately assume normal position after said grip has passed the same. The cars may be run backward over the supports, if so desired, and the operation will be the same.

By my invention I provide very light supports which will act quickly without disastrous shock upon contact of the grip therewith.

What I claim is—

1. In a cable railway, the combination, with the cable and its carrying-sheaves normally below the path of the grip, of gipsies arranged in juxtaposition with a crossing cable and adapted to normally hold a straight determinate length of the first-mentioned cable elevated in the path of the grip, substantially as set forth.

2. In a cable railway, the combination, with the cable, of yielding gipsies arranged to normally hold a determinate length of said cable above the normal height and in the normal path of the grip-jaws carried by the car, whereby cars may take the cable without stopping or slacking speed at any point within said determinate length so elevated, substantially as set forth.

3. The combination of two yielding supports 8, situated a determinate distance apart in a cable-conduit and constructed to yieldingly hold a determinate length of cable elevated above its normal line of travel and in a line in the path of the grip-jaws, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW J. SMITH.

Witnesses:

ED. E. LONGAN,
ALFRED A. EICKS.