(No Model.) 2 Sheets—Sheet 1.

G. H. WRIGHT.

DEVICE FOR DEPRESSING CABLES AT THE STREET CROSSINGS OF CABLE RAILROADS.

No. 410,062. Patented Aug. 27, 1889.

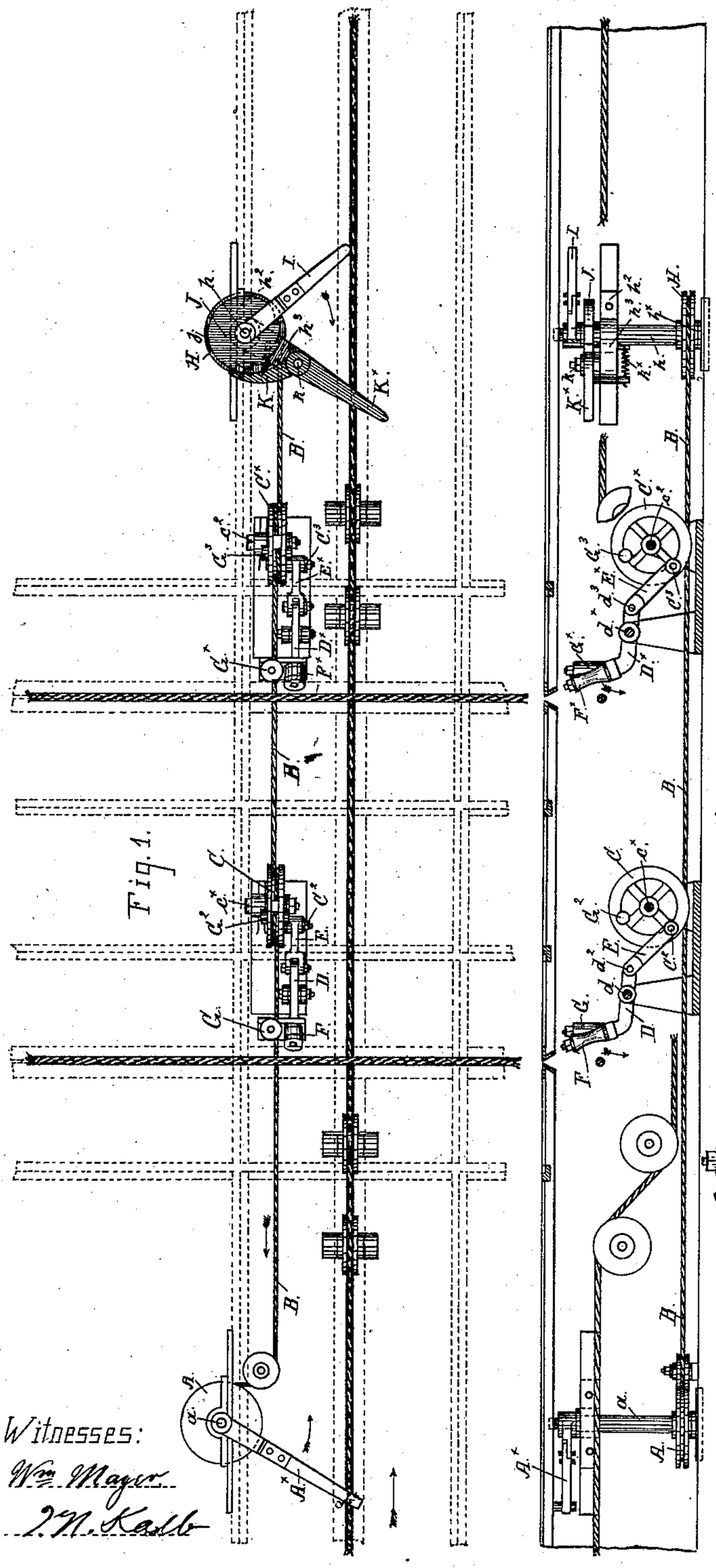

Fig. 1.

Fig. 2.

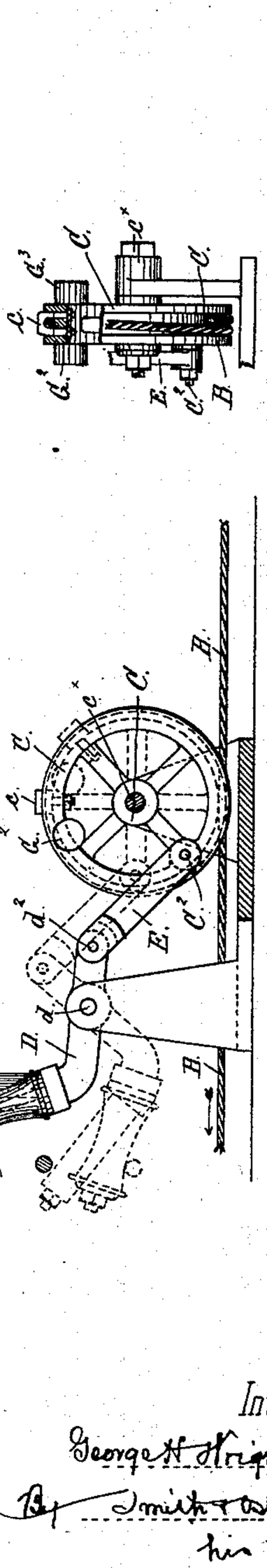

Fig. 3.

Fig. 4.

Witnesses:
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Inventor:
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(No Model.) 2 Sheets—Sheet 2.

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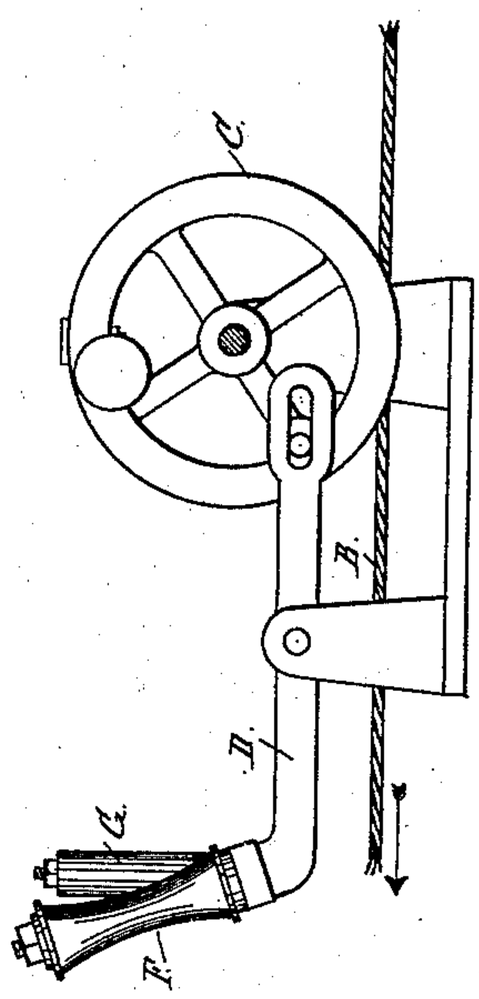

Fig. 7.

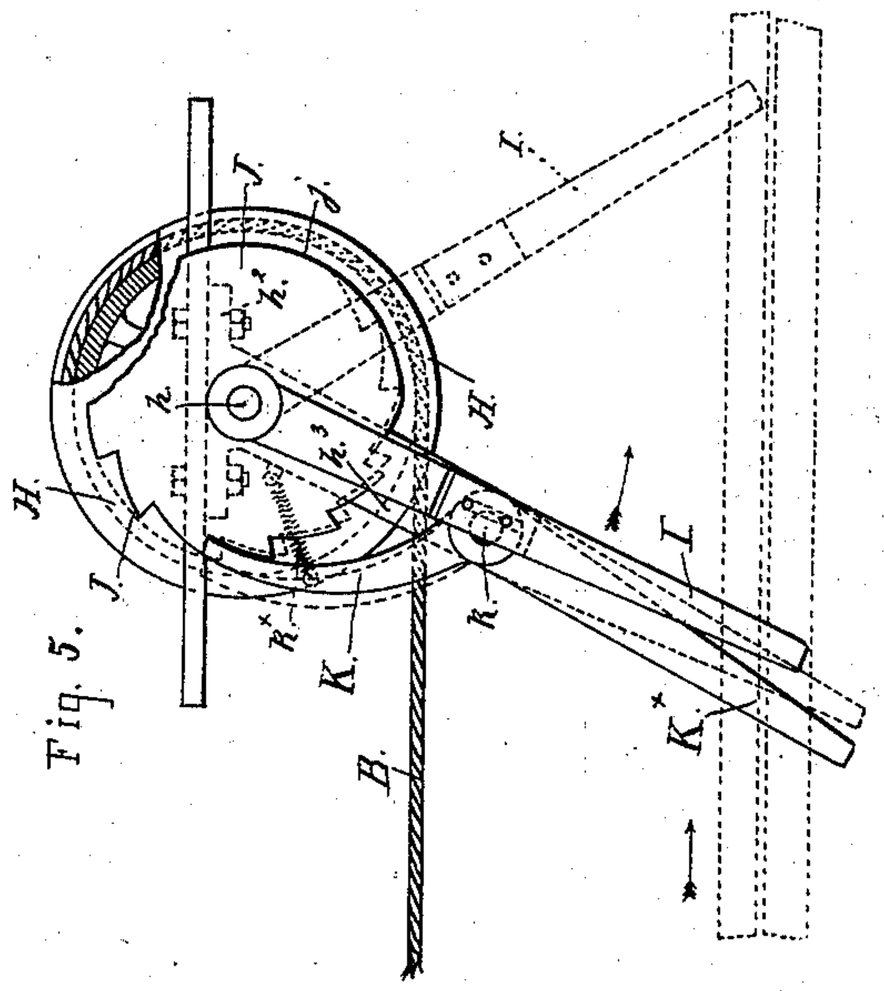

Fig. 5.

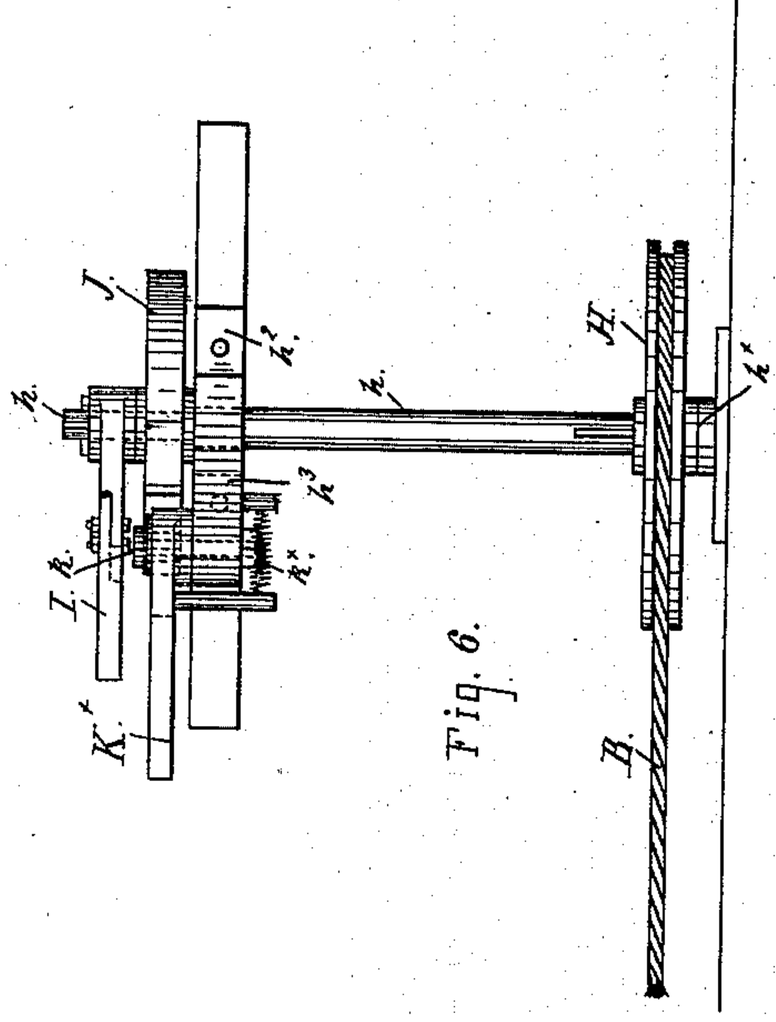

Fig. 6.

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UNITED STATES PATENT OFFICE.

GEORGE H. WRIGHT, OF SAN FRANCISCO, CALIFORNIA.

DEVICE FOR DEPRESSING CABLES AT THE STREET-CROSSINGS OF CABLE RAILROADS.

SPECIFICATION forming part of Letters Patent No. 410,062, dated August 27, 1889.

Application filed March 6, 1889. Serial No. 302,162. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. WRIGHT, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Devices for Depressing Cables at the Street-Crossings of Cable Railroads, of which the following is a specification.

My invention consists of a device by which at the intersection of cable-railroad lines the upper cables of a double-track road are depressed to allow the grip of the cable-car on the intersecting road to pass over them, and then automatically release the cables again after the crossing has been made.

The object of my invention is to depress and release the cables in an automatic manner through the action of or by means of the grip of the car or dummy. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents a plan of the mechanical appliances situated at the intersection of cable-railroad tracks. Fig. 2 represents an elevation of the parts seen in Fig. 1. Fig. 3 shows, on a larger scale, an elevation of the cable-depressing appliance. Fig. 4 is a detail view of the operating-sheave seen in Fig. 3. Fig. 5 shows a top view of the cable-releasing appliance. Fig. 6 is an elevation of the parts seen in Fig. 5. Fig. 7 represents a varied construction of the depressing mechanism.

Similar letters refer to similar parts throughout the several views.

The mechanical appliance which depresses the cables is located underneath the track at suitable distance from the crossing-point; and it consists in a sheave A, keyed to an upright shaft a, carrying a lever $A^\times$ at the upper end. This lever extends directly underneath the slot-irons a short distance and across the slot of the track in such position that the grip of the cable-car running on that track will strike and move it. A wire rope B is securely fastened to the sheave A, and runs through the cable-tunnel to the cable-depressing appliances, which are situated nearer to the crossing-point of the cables on which they operate, and from this point the wire ropes extend to another appliance, by which the release of the depressed cable is effected.

The depressing appliances consist of the sheaves C $C^\times$, to which the wire rope B is fastened by a clamp c or other device, so that the rope B being drawn in either direction will cause the sheaves C $C^\times$ to rotate around the pins $c^\times$ c^2 correspondingly. The levers D $D^\times$ are pivoted at d' and $d^\times$ to standards or hangers in the cable-tunnel, and connect at d^2 d^3 with the links E $E^\times$, the latter being fastened to the crank-pins C^2 C^3 of the sheaves C $C^\times$, whereby an oscillating movement of the levers D $D^\times$ will be obtained through the rotating action of the sheaves C $C^\times$. The outer ends of said levers D $D^\times$ are turned upward and enlarged to form sufficient surface for carrying the rollers F $F^\times$ and the weights G $G^\times$. Weights G^2 G^3 are attached to the sheaves C $C^\times$, to act in one position of said sheaves as counter-weights to the rollers F $F^\times$, and the weights G $G^\times$, while in the other position of the sheaves, add their weight to the pressure on the depressed cables. From the sheave $C^\times$ the wire rope B runs to the sheave H and is securely fastened thereto. The upright shaft h, to which the sheave H is keyed, extends from the step $h^\times$ upward through the box or bracket h^2, and carries at the upper end the lever I, that is also keyed to the shaft h and projects a short distance across the slot of the cable-road in like manner to the lever $A^\times$. Below the lever I and keyed to the shaft h is a ratchet-wheel J, having a large part of its circumference a smooth surface j. A pawl K, pivoted at k to an apron h^3 of the bracket h^2, extends in front of a lever $K^\times$, which latter, as just stated, lies across the slot of the track in the path of the grip. A spring $k^\times$, extending from the pawl to the arm h^3, will keep this pawl always in contact with the ratchet-wheel J.

The levers $A^\times$ and I may be adjustable in length.

All the above-mentioned parts are by suitable means fastened to connections between the yokes of the cable-tunnel, as shown in Fig. 5.

The oscillating motion of the lever D is directly obtained from the sheave C through the crank-pin working in a slot of the lever D.

When the grip of a cable-car running toward the intersection of the cable-lines

strikes the lever $A^{\times}$, a partially rotative motion of the sheave A is produced, which being transmitted through the wire rope B to the sheaves C $C^{\times}$ and H will cause the same to rotate around their respective centers. This motion of the sheaves C $C^{\times}$ effects a depression of those ends of the levers D $D^{\times}$ which carry the rollers F $F^{\times}$ and weights G $G^{\times}$. The rollers bearing upon the upper cables will press the same downward out of reach of the approaching grip. The rotating motion of the sheave H is transmitted to the ratchet-wheel J and lever I, which by this action will change their relative positions shown in Fig. 1 to that seen in full lines in Fig. 5. The pawl K, which before was in contact with the smooth-surface portion *j* of the ratchet-wheel, will now engage with the notches of the same, and therefore prevent a backward motion of the above-mentioned parts and keep the rollers F $F^{\times}$ in their depressed position. The tendency of the cables of the cross-line to jump up and throw the rollers upward is thereby effectually counteracted, and the grip of the car passing over will completely clear the cables. Shortly after the car has made the crossing the grip will strike first the lever $K^{\times}$, which turns the pawl K, and bring the same out of contact with the ratchet-wheel J, thereby allowing the ratchet to rotate in the direction of the arrow in Fig. 5. This movement is produced by the grip striking the lever I. This action brings all the parts above mentioned into their original position. It releases the cables of the cross-line from the pressure upon them and leaves the lever $A^{\times}$ again in a position to be acted upon by an approaching car.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a device for depressing the cables at the crossings of cable railroads, the combination, with the lever $A^{\times}$ and the sheave A, connected by a wire rope with the sheaves C' $C^{\times}$ and H, of the levers D $D^{\times}$, carrying the rollers F $F^{\times}$, the latter having connection with the sheaves C $C^{\times}$ to effect the depression of the cross-cable, substantially as set forth.

2. The combination, with the lever I and the sheave H, connected by wire rope with the sheaves C $C^{\times}$ and A, of the levers D $D^{\times}$, carrying the rollers F $F^{\times}$ and connected by means of the links E $E^{\times}$ to the sheaves C $C^{\times}$, to effect the release of the pressure on the cross-cable, substantially as set forth.

3. The combination, with the lever I, the pawl K, and ratchet-wheel J, of the sheaves H and C $C^{\times}$, the latter being connected by means of the links E $E^{\times}$ with the levers D $D^{\times}$, carrying the rollers F $F^{\times}$, to hold the cables in a depressed position, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

GEORGE H. WRIGHT. [L. S.]

Witnesses:
C. W. M. SMITH,
CHAS. E. KELLY.