

(No Model.)

G. W. DOUGLAS.

DEPRESSION PULLEY FOR CABLE RAILWAYS.

No. 377,743.

Patented Feb. 14, 1888.

Fig 1.

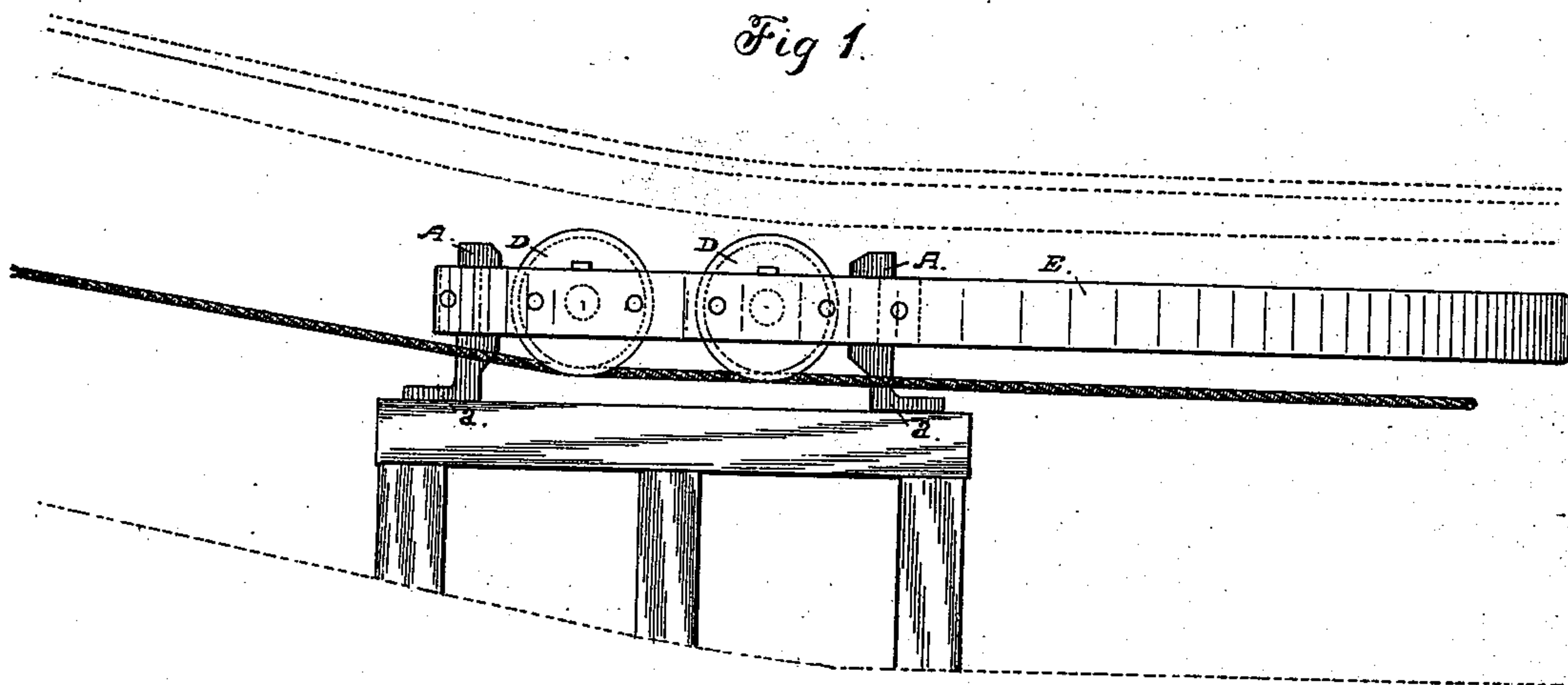


Fig 2.

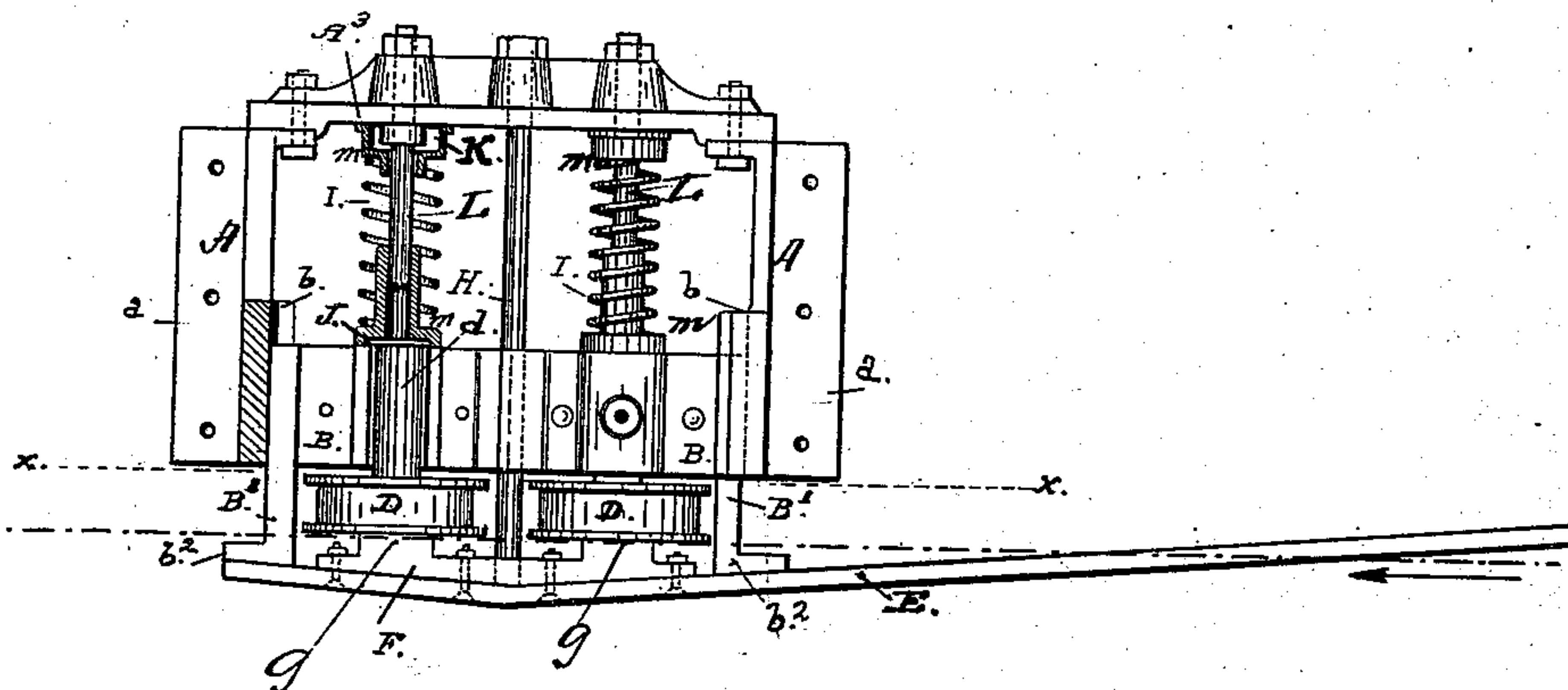
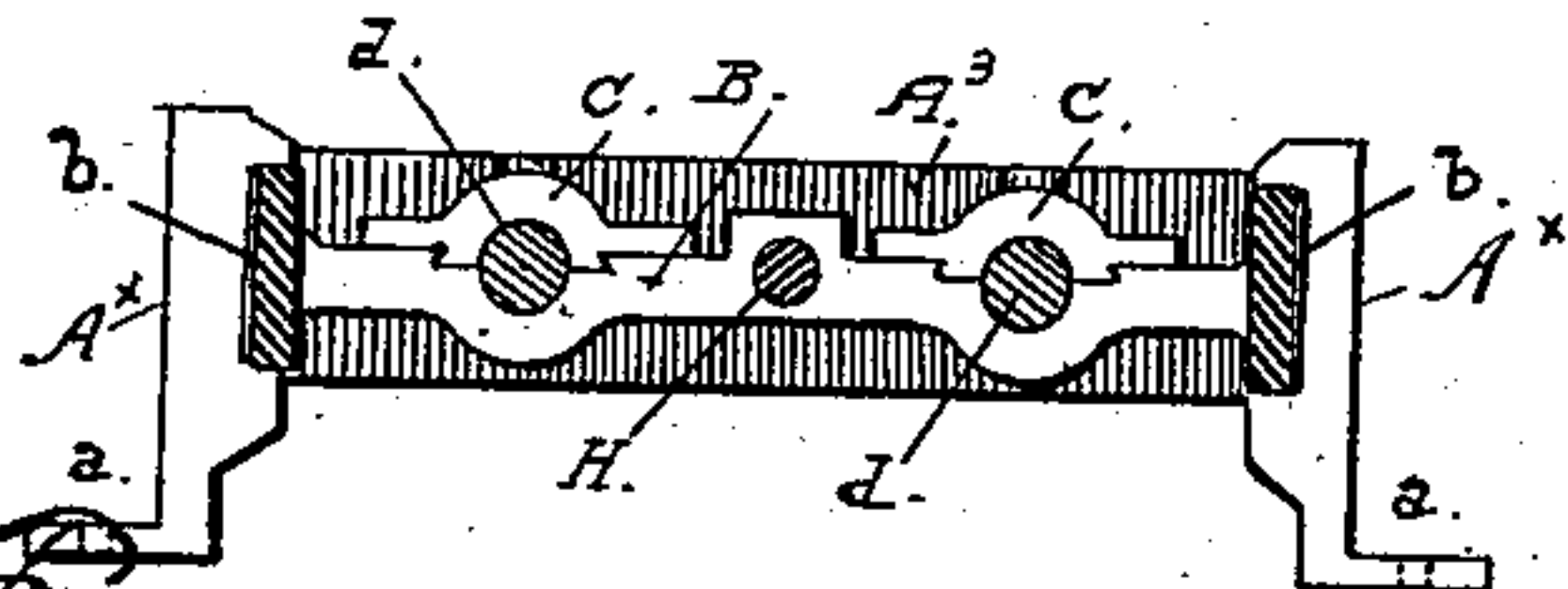


Fig 3.



Witnesses:

Jos. E. Ford  
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Inventor:

George W. Douglas  
By Smith & Osborn  
his attorneys.



# UNITED STATES PATENT OFFICE.

GEORGE W. DOUGLAS, OF SAN FRANCISCO, CALIFORNIA.

## DEPRESSION-PULLEY FOR CABLE RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 377,743, dated February 14, 1888.

Application filed September 9, 1887. Serial No. 249,278. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. DOUGLAS, a citizen of the United States, residing in the city and county of San Francisco, and State of California, have invented certain new and useful Improvements in Depression-Pulleys for Cable Railways; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being  
10 had to the accompanying drawings.

My invention relates to improvements in pulleys for depressing or holding down the propelling-cable of a cable railway at the bottom of an incline and at other points in the roadway where the cable is to be held down.  
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My improvements consist in a certain novel construction and combination of a stationary frame sliding carriage, on which the pulleys are mounted, and bearings or boxes for the pulleys, as hereinafter described and as pointed out in the claims.  
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The accompanying drawings, forming a part of this specification, represent, in Figure 1 a side view of the invention in position at the bottom of an incline in the road, and in Fig. 2 a plan of the device. Fig. 3 is a vertical section taken across the view Fig. 2 at about the line *x x*.  
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The open guide-frame A has flanges *a a* on the bottom to secure it to a bed timber or support. There are grooves *b b* on the inside faces of the side bars, *A<sup>x</sup>*, that form ways for the plate B to slide in. *C C* are boxes on this slide, with removable caps to take the spindles  
30 *d* of the pulleys D.

The side bars, *B'*, are secured to or are a part of the plate B. They project to the front beyond the slide-plate, and the inclined bar E is secured to them by bolts which pass through the bar and into the flanges *b<sup>2</sup>*. The block F, that is bolted to the back of the bar E between the side bars, as shown in Fig. 2, furnishes bearings *g g*.  
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H is a guide-rod that runs from the head-plate *A<sup>3</sup>* through the center of the frame to the front, and is screwed into the block F, to form a center guide for the slide B. This rod passes through the back plate of the frame, and its head constitutes a stop to limit the forward  
40 movement of the slide.

The springs I I are placed in the frame between the back plate, *A<sup>3</sup>*, and the slide. One is set behind each pulley, to throw the slide out and bring the pulleys into position over the cable after the grip has passed the end of the bar E. The springs are supported by  
55 tubular bosses J K, of which the one J in each set projects from the back of the slide and the other, K, from the back plate, *A<sup>3</sup>*, facing it.

The guide-pin L, fixed in the back plate, is of suitable length to take in the end of the part K, and the spring, being supported on these parts, has a bearing at each end against the shoulders *m m*. This construction brings the pressure of the spring directly in line with the spindles, while the guides on the sides of the frame and the center guide-rod secure even movement of the slide in the guide-frame without bending.  
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The tail end of the bar E is carried back at an angle across the path of the grip-bar, but with its face in the same plane, so that in striking it the grip shall press with a gradually-increasing force against the bar. This angle is such that the contact of the two parts shall not be too abrupt under the speed at which the grip-bar moves along the slot.  
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In placing the device for operation it is fixed in the usual position within the tube at the bend or angle, and the frame is bolted down to a suitable supporting bed or timber, to bring the pulleys at the required point over the cable. In this position the long end of the inclined bar E extends in the direction to meet the grip, and sets across its path directly under the grip-slot.  
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Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the fixed frame A, pulley-carrying slide B, having pulley-boxes C C, the springs I I, pulleys D D, and the inclined bar E, fixed to and forming a part of the slide B, substantially as described, to operate as set forth.  
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2. In a depression-pulley device for cable railways, the fixed frame A, having guides *b b*, in combination with the pulley-carrying slide B, the springs I I, and the inclined bar E, with bearings for the front ends of the pulley.  
80 100

3. In a depression-pulley device for cable  
railways, a pulley-carrying slide or plate, B,  
guides in which said plate works, a bar or rail,  
E, connected to said slide, and having an in-  
5 clined face to receive lateral pressure from the  
frame of the grip, and springs I, to return the  
slide or plate into position, combined for op-  
eration substantially as described.

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

GEORGE W. DOUGLAS. [L. s.]

Witnesses:

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