

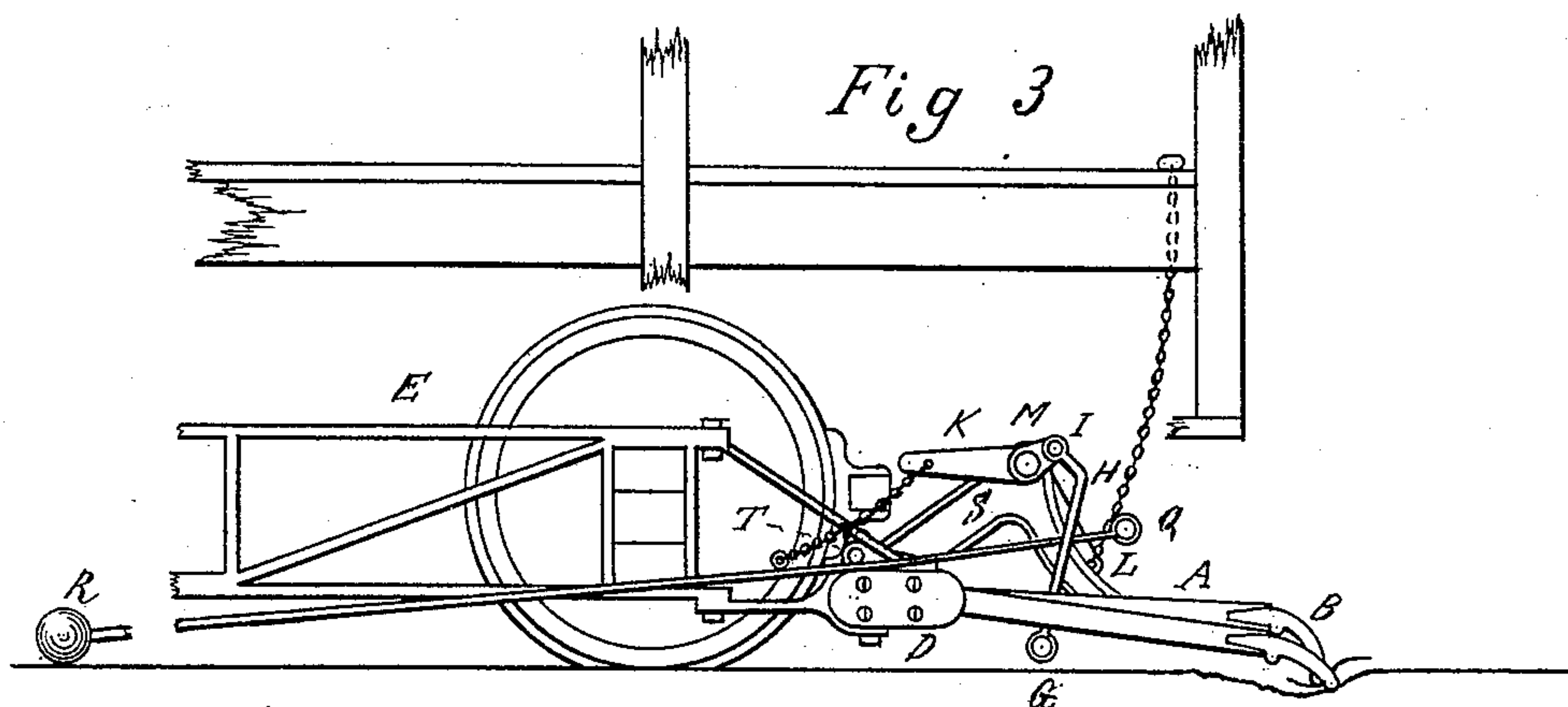
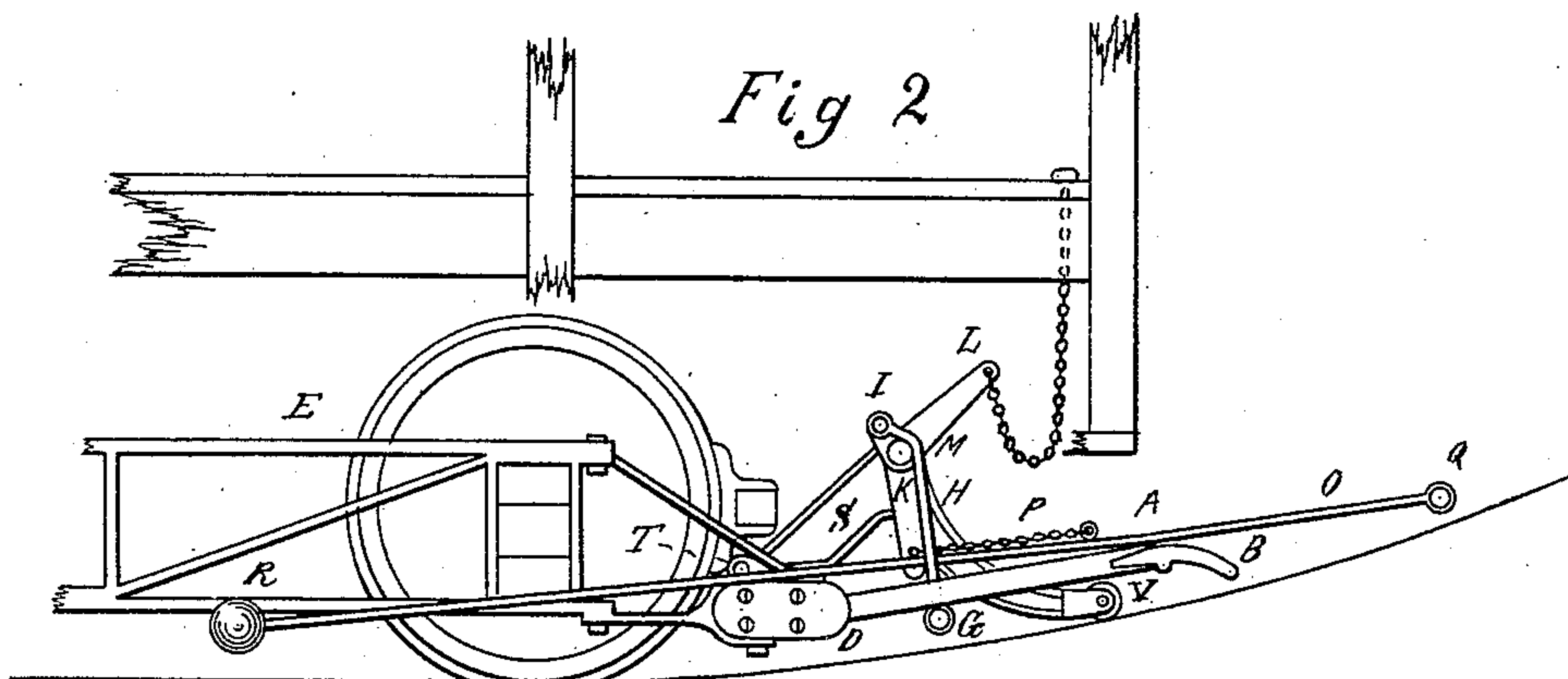
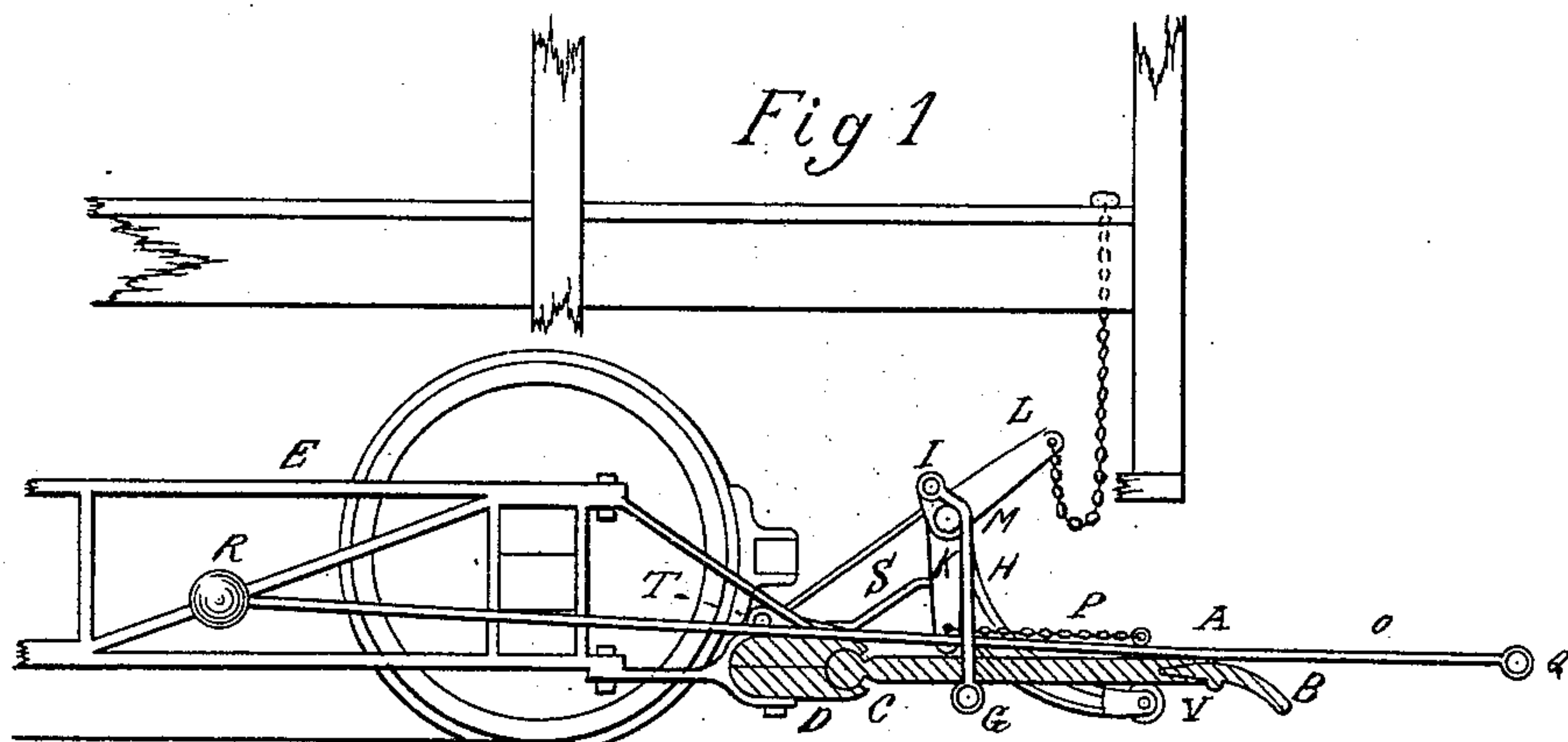
(No Model.)

2 Sheets—Sheet 1.

G. RISCHMULLER.
SAFEGUARD FOR CABLE OR ELECTRIC CARS.

No. 536,704.

Patented Apr. 2, 1895.



Witnesses
Charles H. Doone
No. 2. Doone

Inventor
George Rischmuller

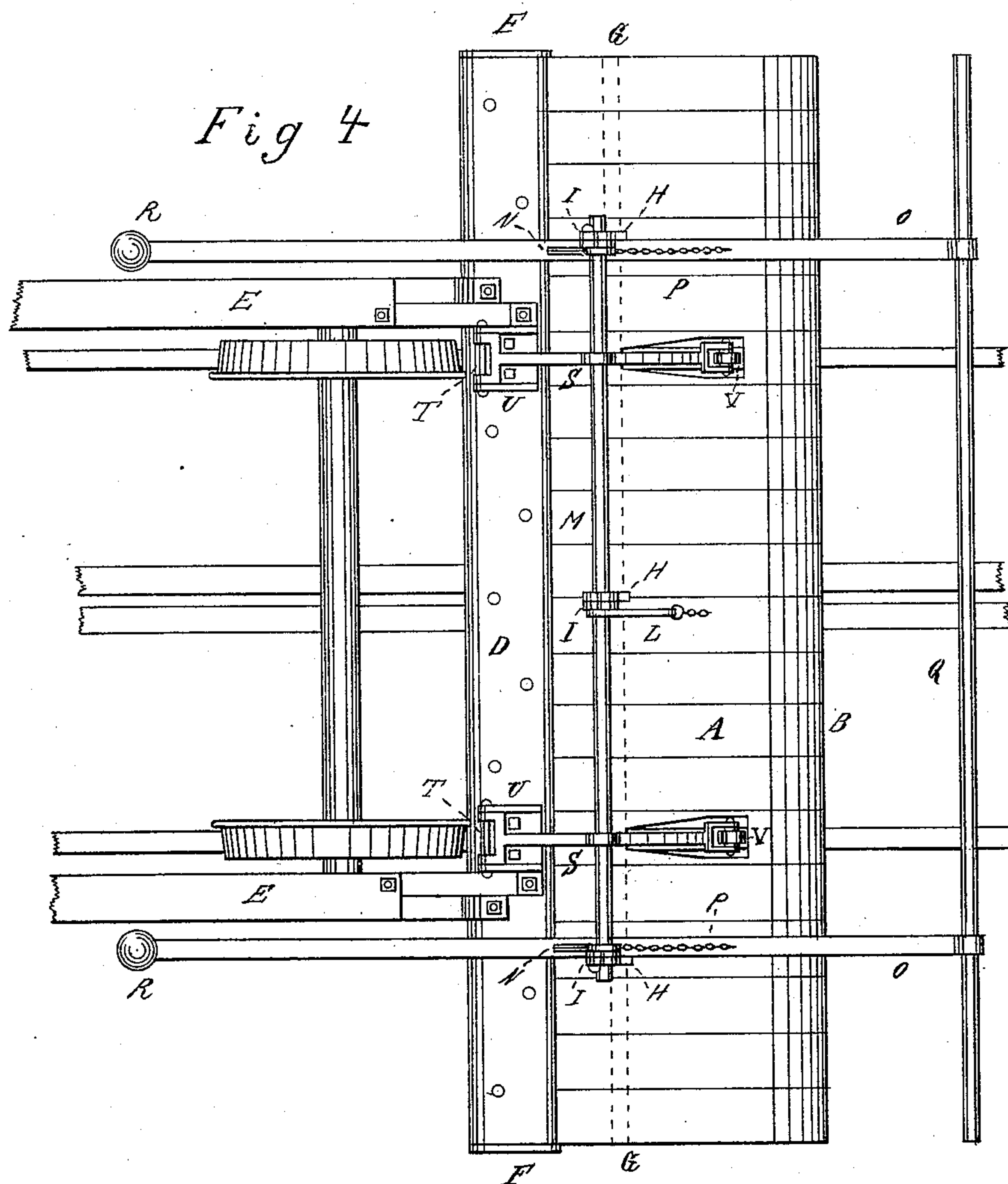
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Witnesses
Chas. Heath
Wm. L. Boone

Inventor
George Rischmuller.

UNITED STATES PATENT OFFICE.

GEORGE RISCHMULLER, OF SAN FRANCISCO, CALIFORNIA.

SAFEGUARD FOR CABLE OR ELECTRIC CARS.

SPECIFICATION forming part of Letters Patent No. 536,704, dated April 2, 1895.

Application filed February 24, 1894. Serial No. 501,416. (No model.)

To all whom it may concern:

Be it known that I, GEORGE RISCHMULLER, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented a new and useful Safeguard for Cable or Electric Cars, of which the following is a specification.

My invention relates to improvements in safeguards for cable and electric cars in which an apron made of narrow parallel pieces provided with a flexible point and hinged into a cross piece operates in conjunction with a tripping device and the objects of my improvement are, first, to provide a perfect shield on a smooth road as well as on a rough one, so that in case of an accident it will be impossible for any person to get under the car; second, to prevent the breaking of the apron. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the lower front part of a cable car and a section of the apron with the crosspiece. It shows the guard in a horizontal position as it appears when in general use. Fig. 2 is also a side view showing the car starting up an incline with the apron lifted automatically by the pilot. Fig. 3 is a side view of the same car and shows the guard after the cross bar Q has been in collision with an obstacle on a rough portion of the road. Fig. 4 is a top view of the guard or apron with a portion of the truck and showing the slot, track and rails.

Similar letters refer to similar parts throughout the several views.

The apron A consists of narrow pieces of wood provided at the front with a flexible point, like rubber or leather B and at the rear with a round head C journaled into the crosspiece D which is made out of two pieces, bolted together and fastened to the truck E. The several pieces of the apron A are held in their respective places by the plates F and in horizontal position by the carrying bar G shown in Fig. 4 by the dotted lines.

The three rods H carry a bar G and are fastened at the top to short levers I which are in one piece with the longer levers K and L respectively and keyed to the shaft M. The three rods H are bent at the top for the purpose of carrying the line of suspension of bar

G, from pivots I and consequently the weight of the apron to the rear of the shaft M and when in that position will carry the apron. 55

The lower point of the lever K extends through a slit N in the bar O and keeps the same from moving to the side or rear unless an obstruction is encountered and the chain P keeps it from moving forward. It also, in case of an accident, allows the bar to slide backward out of the way to clear the points of the apron, as referred to hereinafter. These bars O carry at the front end the cross bar Q and at the rear the counterweights R. 65

The shaft M is journaled into the pilots S which are pinned with the bolts T to the casting U and this is fastened to the crosspiece D. The object of this pilot is to lift the apron if the car is starting up an incline, as shown in Fig. 2 where it will be observed that the wheel V is resting on the rail and as the fulcrum of the pilot is at the bolt T it lifts the shaft M with the carrying bar G which in turn lifts the point of the apron and also the crossbar Q. 75

In case of an accident the crossbar Q which strikes the person first will be driven backward and carry with it the levers K and consequently turn the shaft M. As soon as the pivots I have swung forward over and past the vertical line of the center of the shaft M the latter will turn around swiftly and pull back the bar Q when the counterweight R will drop down onto the road and the momentum of the car draws the bar O with crossbar Q to the position as shown in Fig. 3. 85

If several divisions of the apron strike an uneven part of the road the flexible point B which is curved downward will always clear it from the obstacle and therefore prevent the breaking of the guard. 90

With the chain connected to the lever L the apron can be lifted up again. When drawing ahead the cross bar Q see that the lever K enters the slit N and the apparatus is ready for action. 95

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

1. In a safeguard for cable and electric cars the combination of a divided apron provided with a curved flexible point, a crosspiece D, to which said apron is journaled, and a supporting bar G to prevent the point of the apron 100

from striking the roadbed, substantially as and for the purpose specified.

2. In a safeguard for cable and electric cars the combination of the bar O having a cross-
5 piece Q at its front end a counterweight at the other end and a slit in the center, a chain fastened to the bar and the lever K to operate substantially as and for the purpose specified.

3. In a safeguard the combination of a di-
10 vided apron or guard with a carrying bar G, the rods H with levers I and K, the shaft M, the bar O with crosspiece Q the counter weights and the chains fastened to said levers K which rest against the shoulders in the slits to keep

said bar in position as shown and to operate 15 substantially as and for the purpose specified.

4. In a safeguard for cable and electric cars the combination of the pilots S, and wheels V at their front ends journaled to a cross piece D having a shaft M in the center connected 20 to the carrying bar G for the support of the apron to operate substantially as and for the purpose specified.

GEORGE RISCHMULLER.

Witnesses:

CHAS. D. WHEAT,
JNO. L. BOONE.