

(No Model.)

2 Sheets—Sheet 1.

W. M. HOOD.

SLOT BRAKE FOR CONDUIT RAILWAYS.

No. 507,366.

Patented Oct. 24, 1893.

Fig. 1.

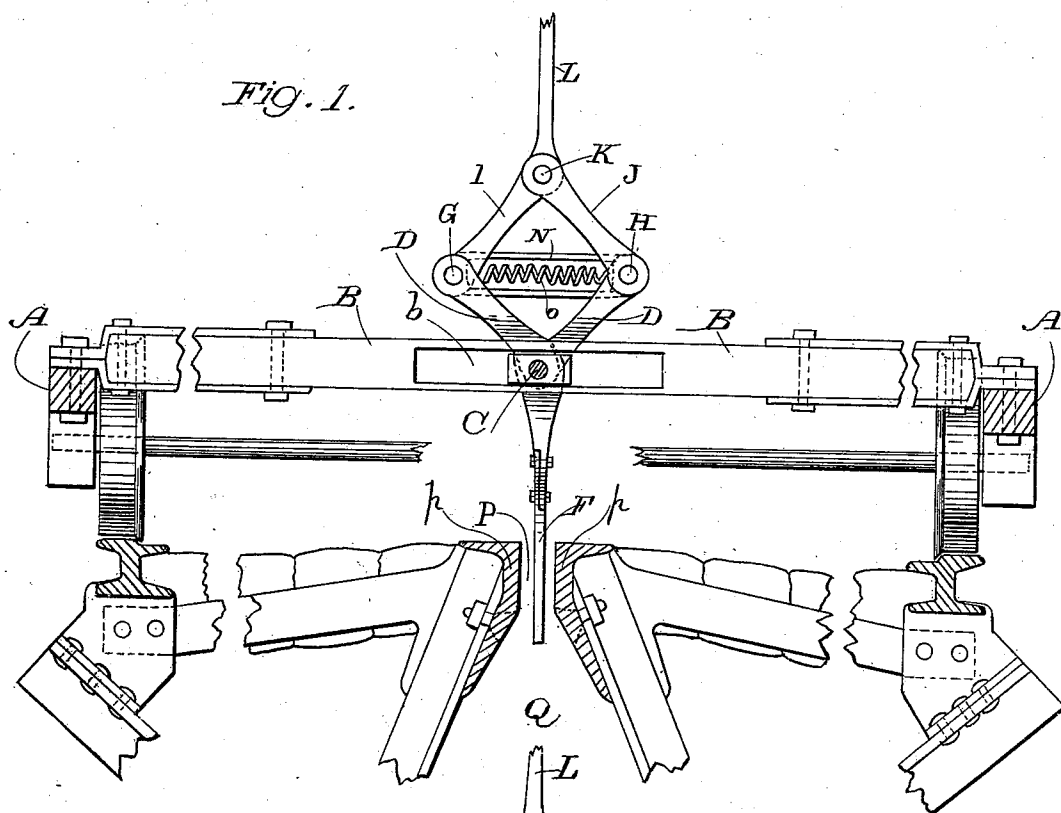
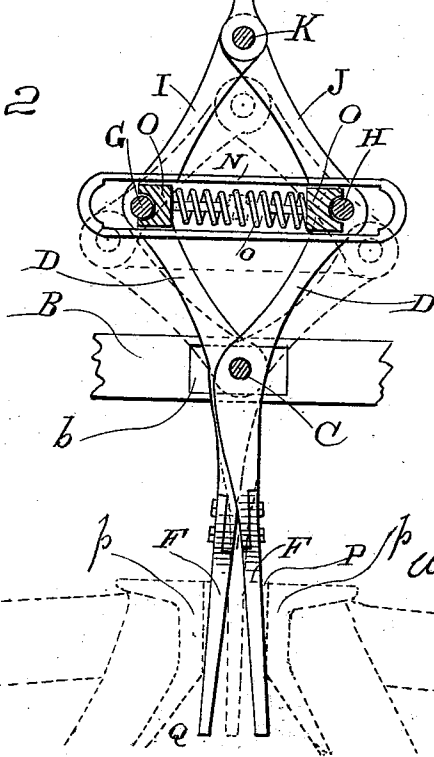


Fig. 2



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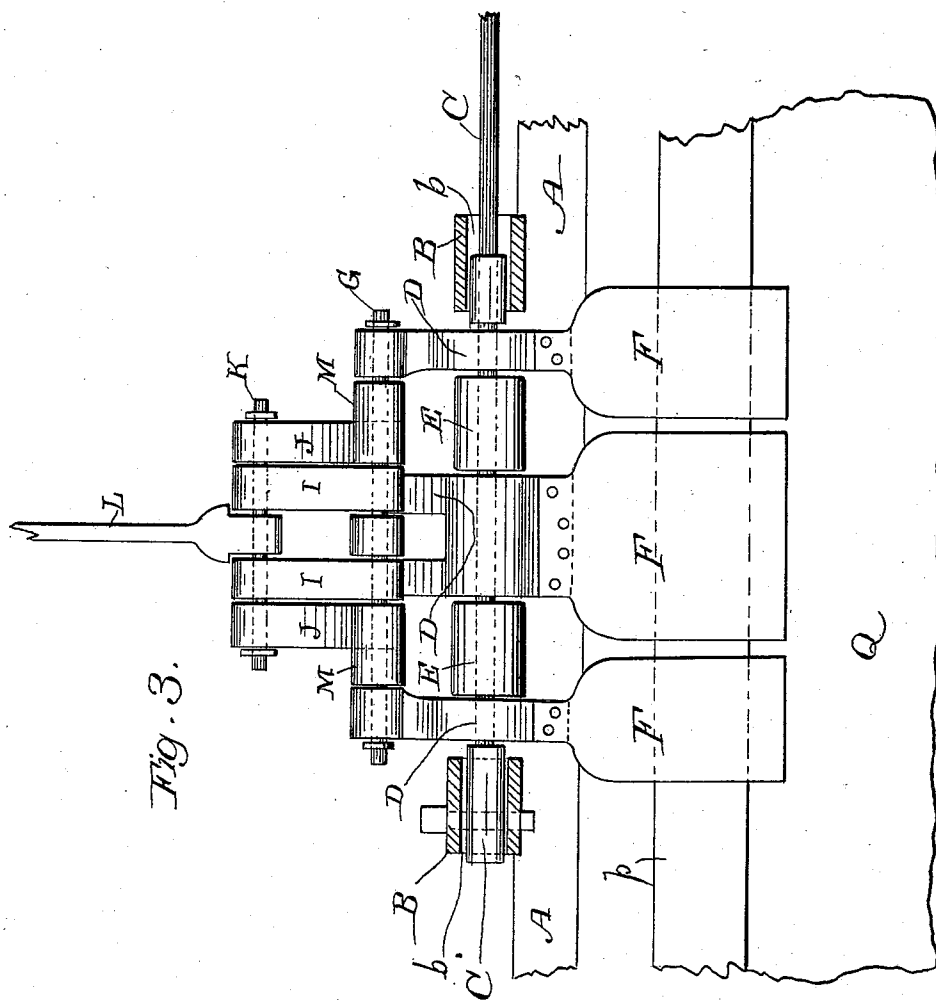
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UNITED STATES PATENT OFFICE.

WILLIAM M. HOOD, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO THE
PACIFIC CABLE RAILWAY COMPANY, OF SAME PLACE.

SLOT-BRAKE FOR CONDUIT RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 507,366, dated October 24, 1893.

Application filed June 26, 1893. Serial No. 478,915. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. HOOD, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Slot-Brakes for Conduit Railways; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of brakes for the cars of railways in which is employed a conduit provided with a continuous slot in its top, and in which the necessary frictional contact is made with the walls of said slot. This class of brakes is commonly termed "slot brakes" and is applicable to cable, electric and other railways employing a slotted conduit.

My invention consists essentially in a laterally expansible and contractible brake shoe or piece traveling in the slot of the conduit and adapted by its expansion to form frictional contact therewith, and by its contraction to relieve itself.

It also consists in the novel construction and arrangement of parts which I shall hereinafter fully describe and specifically point out in the claims.

The object of my invention is to provide a simple and effective brake of this class; one which is readily insertible in the slot and is easily removable, which will not be interfered with by any of the usual constructions of slot and connections, and which will be powerful enough to serve its purpose as a brake under all circumstances.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is an end elevation of my slot brake showing its normal position. Fig. 2 is an end elevation showing it expanded for use, the dotted lines showing its normal position. Fig. 3 is a side elevation.

The frame-work A represents any suitable and ordinary frame-work to be used for supporting the brake device from the truck or other portion of the car. Between the bars of this frame-work at each end, extend the cross bars B provided with slots *b* in one of which is pivoted one end of the shaft C, the other end of said shaft playing freely in the slot of the other bar. This construction is

for the purpose of allowing the brake which this shaft carries to conform itself to curves and other movements of the car in the same manner that the grips are provided for. Pivotaly mounted upon the shaft C are the bent levers D. There are here shown three of these, one at each end, and one in the middle, the latter being separated from the former by suitable collars E upon the shaft. These levers are pivoted upon the shaft at their angles, their lower arms extending downwardly in a normally vertical plane, while their upper arms extend upwardly at an angle, the two end levers extending in one direction while the middle lever extends in the opposite direction. To the lower or vertical arms of each of these levers is secured (preferably by a removable connection for the purpose of renewing them when worn) the brake shoe plates F. These consist of wide flat surfaced plates separated from one another by a sufficient distance to permit of their independent operation, and yet practically forming a long continuous frictional surface. The projecting upper ends of the end levers are connected by a pin G, while in the oppositely extending upper end of the middle lever is fitted a pin H. Upon the pin G are mounted links I, and upon the ends of pin H are mounted links J; these links I and J converge upwardly and their ends are connected by a pin K. To this same pin is attached the operating lever or rod L which extends upwardly to within reach of the gripman on the car.

Suitable collars M are on pin G to separate the links from the levers. Between the pins G and H extends a cross guide N which is slotted throughout its length and said pins pass freely through its ends. In this slotted cross guide, at each end, are sliding bearing blocks O against which the pins G and H bear, and between these blocks is a spring *o*.

The operation of the block is as follows:— In a normal position the brake shoe plates are in line and extend downwardly in a vertical plane, passing down into the slot P of the conduit Q, and traveling in a plane about midway between the slot irons *p*. When it is desired to apply the brakes, the lever or rod L is raised whereby through the links I,

J, the levers D are moved in opposite directions whereby the end brake plates are thrown over in one direction, while the middle one is thrown over in the other direction, by which lateral expansion the brake plates are thrown against the slot irons, (here shown as bearing against the vertical portions thereof) and create sufficient friction to effect the result of braking the car. To throw off the brake, the lifting rod is released whereby the brake plates return to their normal position in line with one another and free of the slot rails, the spring returning them positively to their alignment.

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

1. A slot brake for the cars of conduit railways consisting of a pivotally mounted laterally expandible and contractible piece or brake shoe for traveling in the slot of the conduit and adapted when expanded to come in frictional contact with the walls of said slot, and when contracted to return from said contact, substantially as herein described.

2. A slot brake for the cars of conduit railways consisting of two or more frictional plates secured to a pivotally mounted carrier and forming brake shoes, said plates traveling in the slot of the conduit and adapted to be moved in opposite directions whereby they come in frictional contact with the walls of the slot and to be moved back again from said contact, substantially as herein described.

3. A slot brake for the cars of conduit railways consisting of two or more frictional plates secured to a pivotally mounted carrier and forming brake shoes adapted to travel in the slot of the conduit, and connections with said plates whereby they are moved simultaneously in opposite directions to bear against the walls of the slot and to be relieved therefrom, substantially as herein described.

4. A slot brake for the cars of conduit railways consisting of two or more frictional plates or brake shoes adapted to travel in the slot of the conduit, pivoted levers carrying said plates, and means for operating said levers in opposite directions to throw the plates oppositely into contact with the walls of the slot and to return them, substantially as herein described.

5. A slot brake for the cars of conduit railways consisting of two or more friction plates forming brake shoes adapted to travel in the conduit slot, levers carrying said plates and extending in opposite directions, a carrying shaft upon which said levers are pivoted, an operating lever or rod, and links connecting said rod with said levers whereby they are moved in opposite directions to throw their plates outwardly into contact with the opposite walls of the slot and to return them, substantially as herein described.

6. A slot brake for the cars of conduit railways consisting of two or more friction plates forming brake shoes adapted to travel in the

conduit slot, levers carrying said plates and extending in opposite directions, a carrying shaft upon which said levers are pivoted, an operating lever or rod, links connecting said rod with said levers whereby they are moved in opposite directions to throw their plates outwardly into contact with the opposite walls of the slot, and a spring connection between said levers for returning them, substantially as herein described.

7. A slot brake for the cars of conduit railways consisting of the independent end and middle plates forming brake shoes, adapted to travel in the conduit slot, the bent levers carrying said plates, the end levers having their upper ends extending in one direction and the middle lever having its upper end extending in the other direction, a carrying shaft upon which said levers are pivoted at their angles, pins carried by the upper ends of said levers, links mounted upon said pins, a pin connecting the upper ends of the links, and a lifting rod connected with said last named pin, substantially as herein described.

8. A slot brake for the cars of conduit railways consisting of the independent end and middle plates forming brake shoes adapted to travel in the conduit slot, the bent levers carrying said plates, the end levers having their upper ends extending in one direction and the middle lever having its upper end extending in the other direction, a carrying shaft upon which said levers are pivoted at their angles, pins carried by the upper ends of said levers, links mounted upon said pins, a pin connecting the upper ends of the links, a lifting rod connected with said last named pin, whereby the levers are moved in opposite directions, and a spring between the pins of the levers for returning them, substantially as herein described.

9. A slot brake for the cars of conduit railways consisting of the independent end and middle plates forming brake shoes adapted to travel in the conduit slot, the bent levers carrying said plates, the end levers having their upper ends extending in one direction and the middle lever having its upper end extending in the other direction, a carrying shaft upon which said levers are pivoted at their angles, pins carried by the upper ends of said levers, links mounted upon said pins, a pin connecting the upper ends of the links, a lifting rod connected with said last named pin for moving the levers in opposite directions, a slotted guide connecting the pins of the levers, sliding blocks in said guides against which the pins bear, and a spring in the guide between the blocks, substantially as herein described.

In witness whereof I have hereunto set my hand.

WILLIAM M. HOOD.

Witnesses:

S. H. NOURSE,
J. A. BAYLESS.