

(No Model.)

2 Sheets—Sheet 1.

J. H. SHOENBERGER.  
ROTARY FENDER FOR RAILWAY CARS.

No. 542,573.

Patented July 9, 1895.

FIG 1

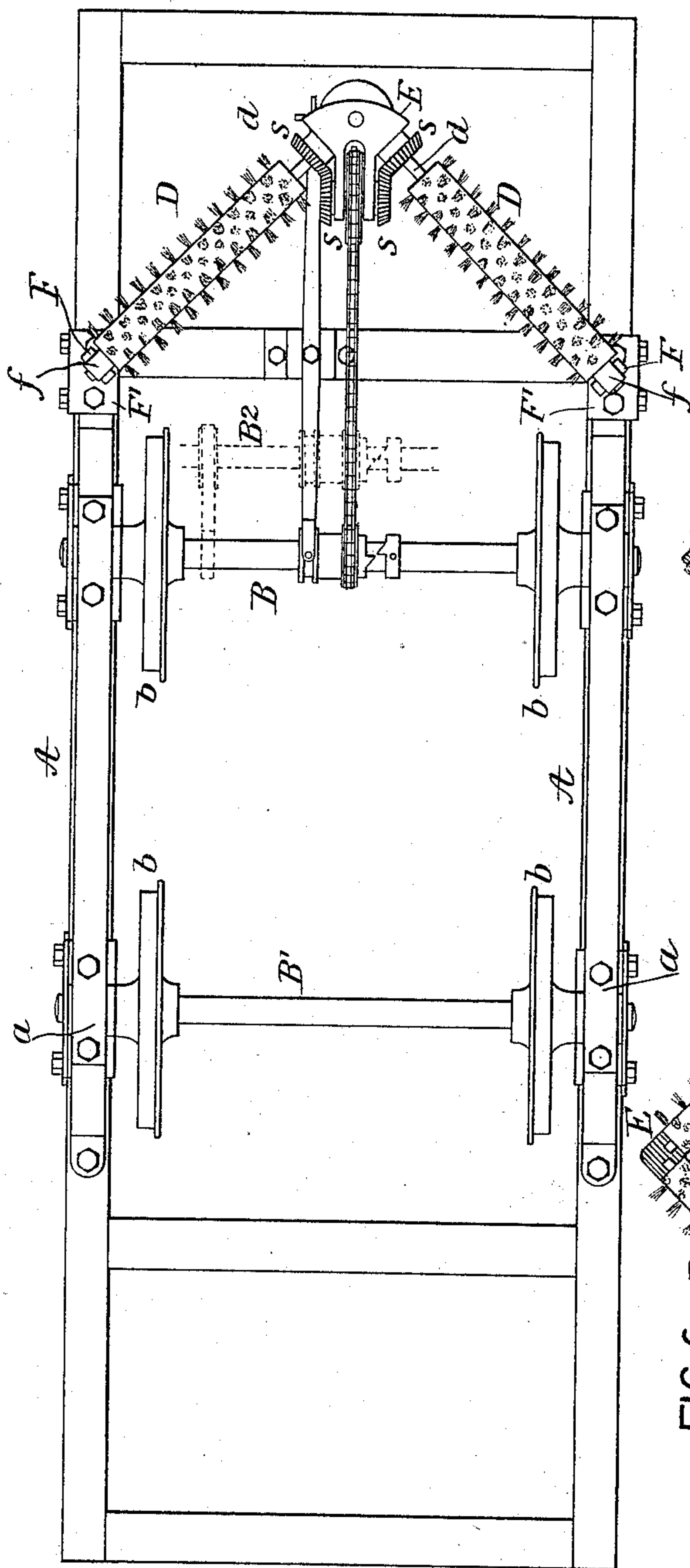


FIG 7

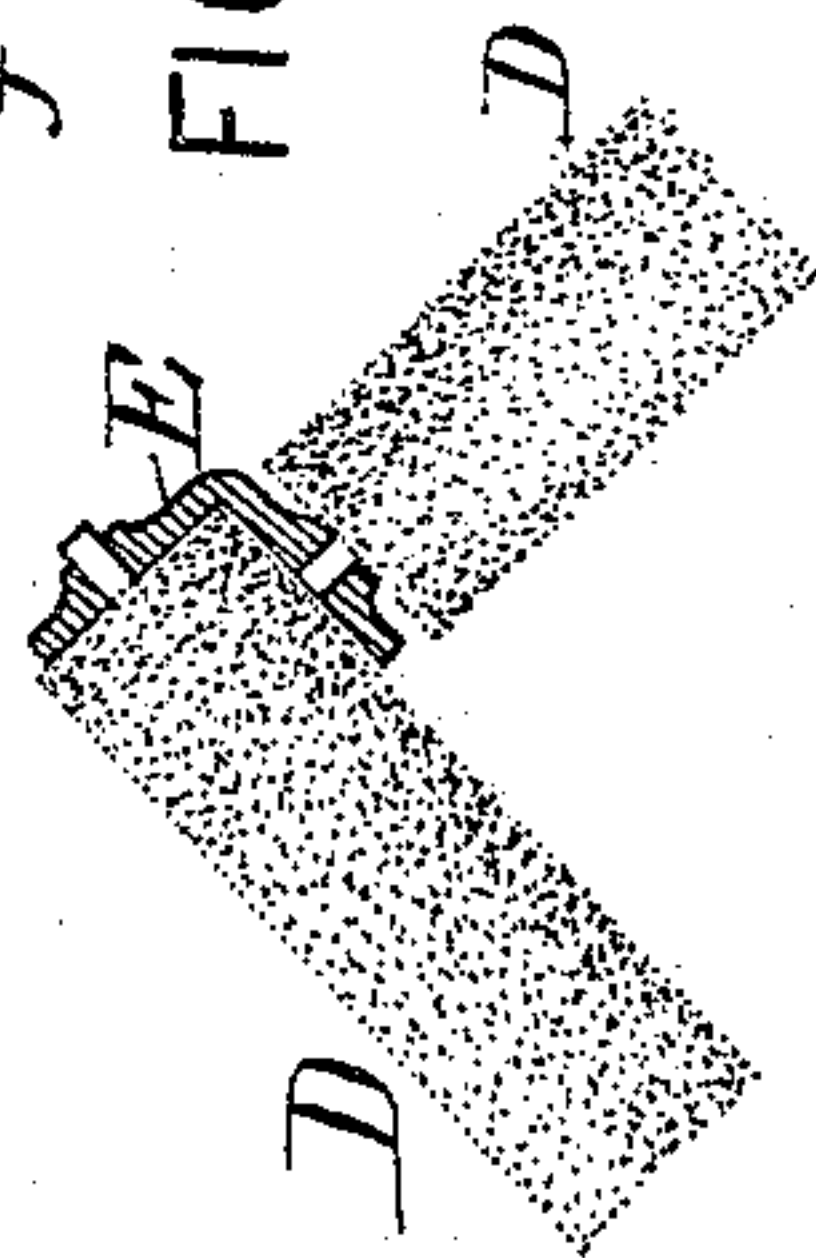
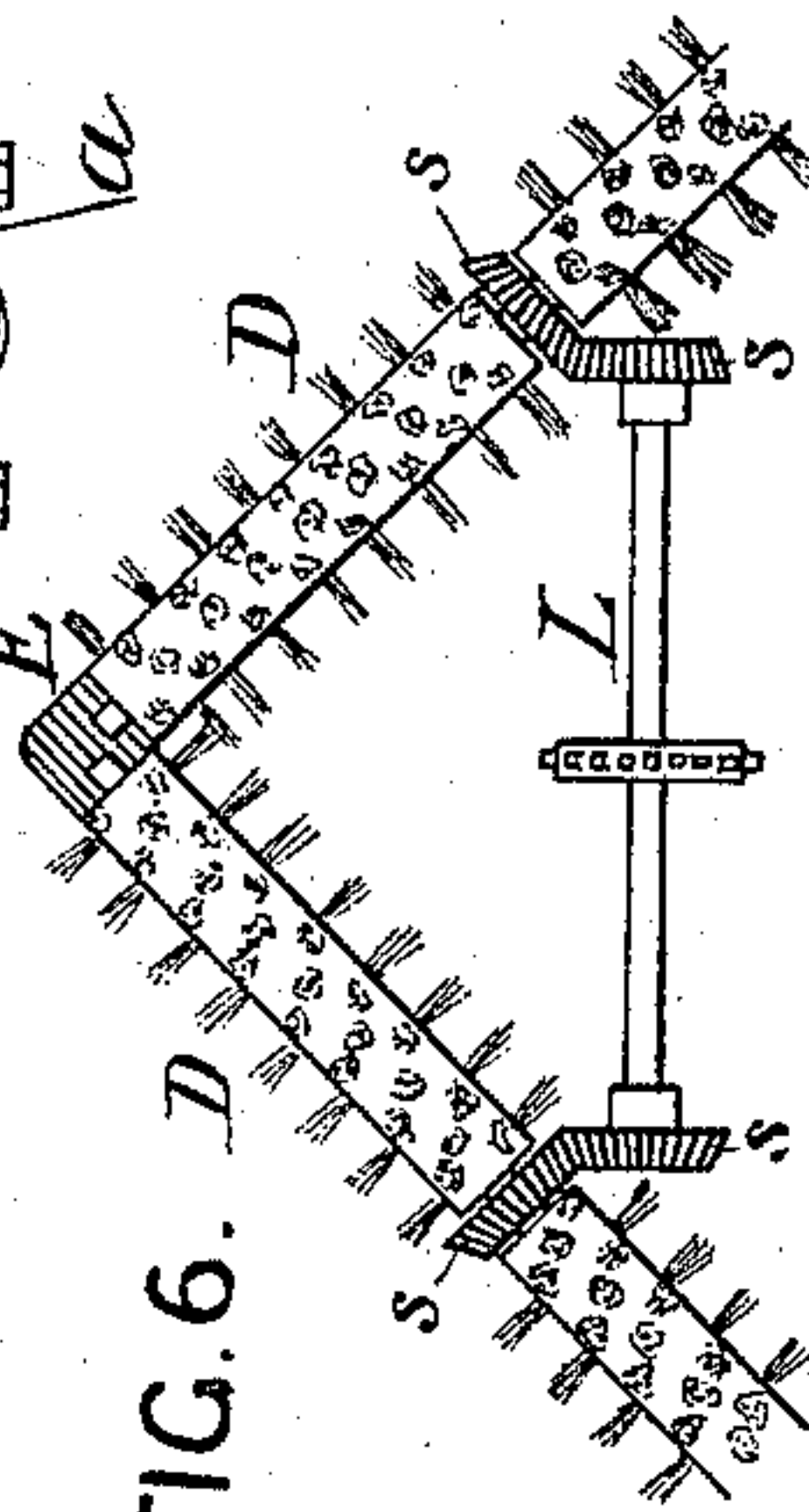


FIG. 6.



WITNESSES

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FIG 2

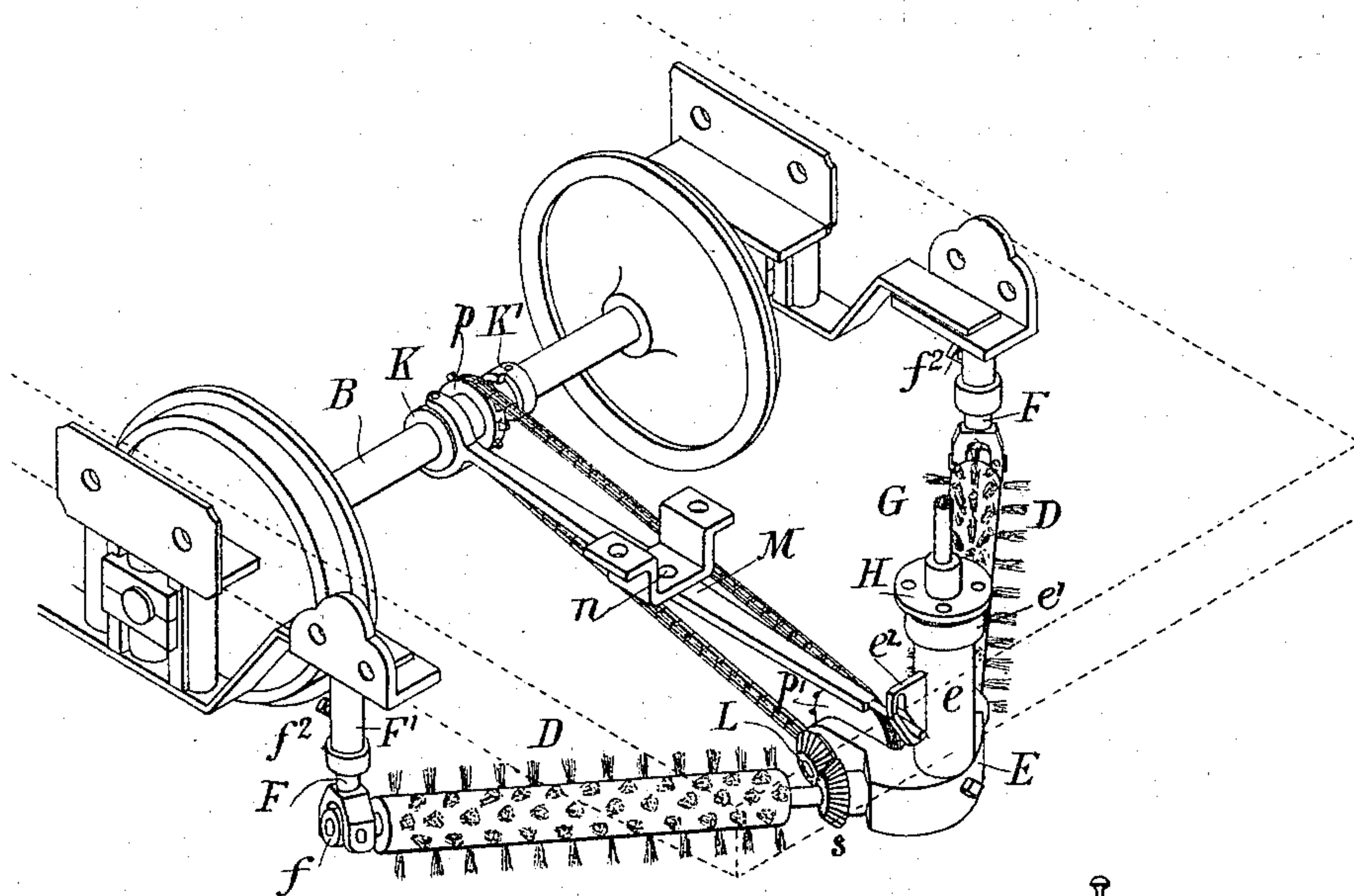


FIG 3

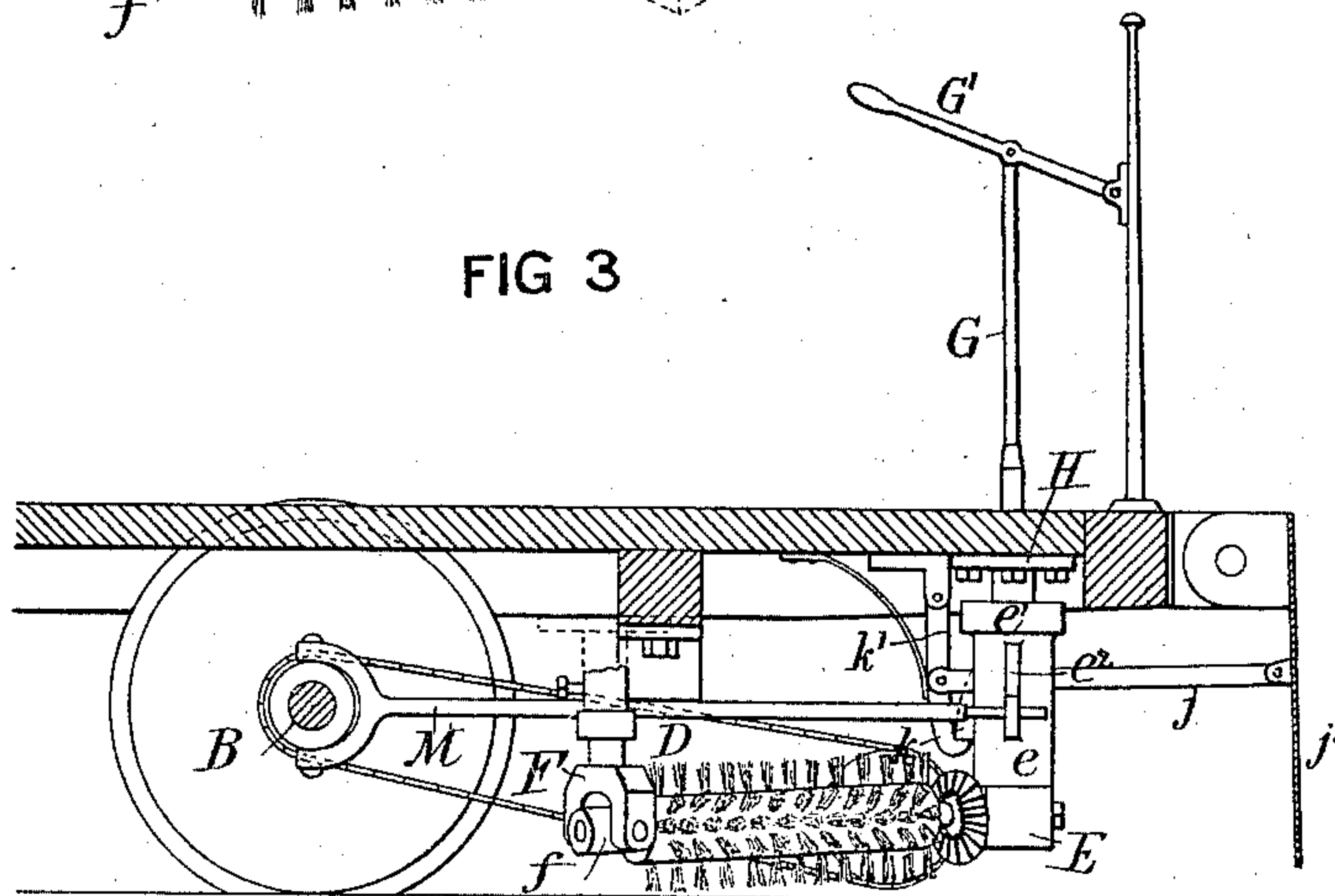


FIG 4

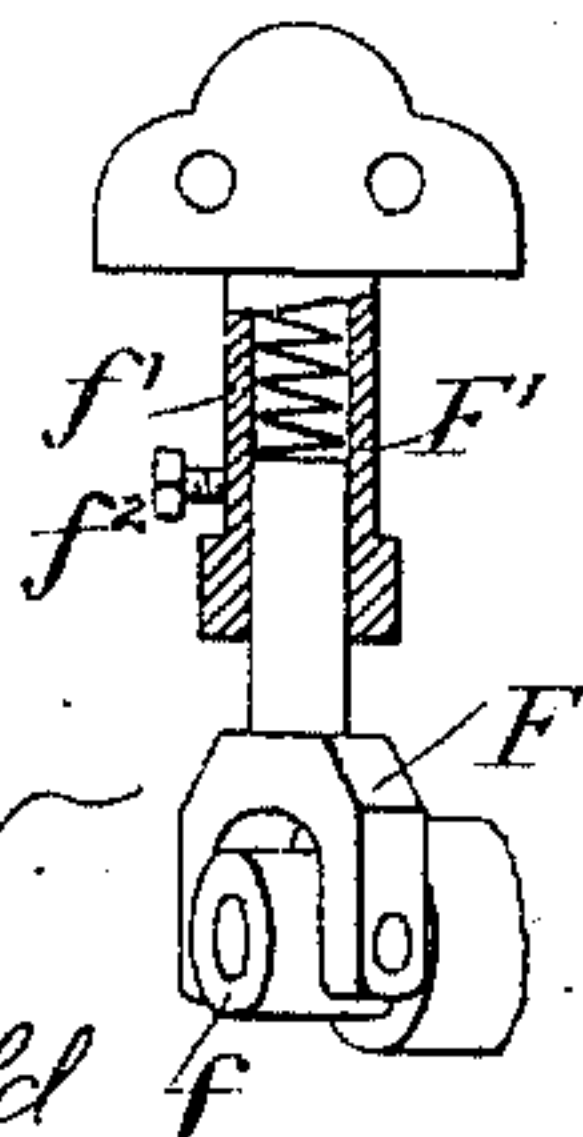
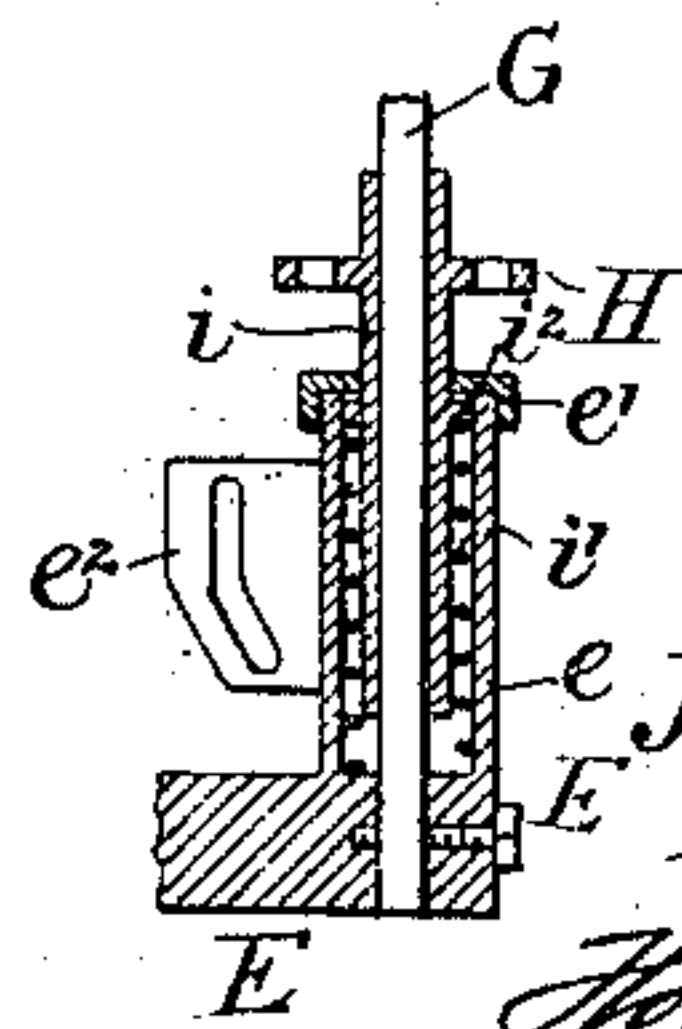


FIG 5



WITNESSES

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# UNITED STATES PATENT OFFICE.

JOHN H. SHOENBERGER, OF PHILADELPHIA, PENNSYLVANIA.

## ROTARY FENDER FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 542,573, dated July 9, 1895.

Application filed August 29, 1894. Serial No. 521,599. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. SHOENBERGER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Rotary Fenders for Railway-Cars, of which the following is a specification.

The object of my invention is to provide a railway-car, especially a cable or motor driven street-car, with a fender which will, on the one hand, prevent injury to persons falling in front of the car by throwing them clear of the track upon one side or the other, and, on the other hand, will prevent injury to the car itself or to the grip-bar or motor machinery by reason of contact of the same with objects falling upon the track in front of the car, and which would otherwise be likely to injure said parts. I may further utilize the device for removing snow from the track.

In the accompanying drawings, Figure 1 is an inverted plan view of the truck-frame of a car with the main parts of my improved fender. Fig. 2 is a perspective view illustrating a portion of the fender structure and the forward wheels of the truck. Fig. 3 is a side view of the fender with the car-truck in section. Fig. 4 is a sectional view of one of the outer hanger-boxes. Fig. 5 is a sectional view of the inner hanger, showing the operating mechanism therefor; and Figs. 6 and 7 are views illustrating certain modifications of the invention.

A is the truck-frame, upon which are mounted the bearings *a* for the axles B B' carrying the wheels *b*. In front of the axle B is arranged my improved rotary fender, comprising two cylindrical brushes D D, having their spindles *d* mounted in bearings in the center block E and in bearings *f* on hangers F at the sides of the car. These brushes are preferably provided with stiff teeth of wire or other material and are arranged at an angle of about forty-five degrees in respect to the center line of the track, so that in case anything comes into contact with the brushes they will throw it off to one or the other side of the track.

The bearings for the spindles of the brushes are pivoted to the outside hangers F, so that said brushes can be lowered into contact or nearly into contact with the street-pavement.

The center block E, carrying the inner ends of the brush-spindles, is secured to the lower end of a vertical rod G, which projects through the platform of the car and is connected at the upper end to a lever G' within convenient reach of the motor-man.

The rod G passes through a plate H on the platform, and this plate has a depending tubular projection *i*, which serves as a guide for the rod.

Between the tubular projection *e* on the block E and the projection *i* is interposed a spring *i'*, which tends to depress said block E, the upper end of the spring bearing against a collar *i*<sup>2</sup> on the projection *i*, which collar also serves as a bearing for a cap *e'* at the top of the projection *e* and limits the descent of the block E under the action of the spring *i'*.

On the outside of the projection *e* is a lug *k*, which is engaged by a spring hook or catch *k'*, hung to a bracket on the under side of the platform, and said catch is connected by a rod *j* to a depending trip-plate *j'*, suitably pivoted at the front of the platform, as shown in Fig. 3.

The parts are normally in the position shown in Fig. 3, the brushes being raised some distance above the track, and retained in this position by the engagement of the catch *k'* with the lug *k* of the block E. When, however, any object falls in front of the advancing car, the trip-plate *j'* will be struck thereby and said plate will be caused to swing rearward, so as to push the catch *k'* out of engagement with the lug *k* and permit the brushes to descend under the action of the spring *i'* to a point close to the track, so that the object will be swept aside out of the way of the wheels. The brushes can then be lifted by the motor-man through the medium of the lever G', the catch *k'* again engaging with the lug *k*, so as to retain the brushes in the elevated position, and thus prevent rapid wear of or injury to the brushes by contact of the same with projecting paving-blocks or other slight obstructions which it is not necessary to remove.

Extending from one side of the projection *e* is a cam-block *e*<sup>2</sup>, which engages with one arm of a lever M pivoted to some fixed portion of the car-frame at *n*. The other arm of the lever extends to the axle B and spans the



grooved hub of a clutch-sleeve K, which is adapted to slide on the axle B, the mate K' of this clutch-sleeve being secured to the axle.

On the clutch-sleeve K is a sprocket-wheel *p*, around which passes a chain belt, which drives a sprocket-wheel *p'* on a shaft L, carried by the block E, said shaft being geared by bevel-wheels *s s* to the spindles of the brushes D, so that when the clutch parts *p p'* are in engagement the brushes will rotate forwardly and will have a tendency to throw anything coming in contact therewith to one side or other of the car.

It will be understood that when the swinging trip-plate releases the block E and permits the same to descend not only are the brushes depressed, but the clutch is thrown into gear with the forward axle of the car, and the brushes are consequently rotated as soon as they are lowered, while when the motor-man raises the block E the brushes are raised, and at the same time the clutch is thrown out of gear, so that the rotation of said brushes is stopped.

In some instances a single brush arranged diagonally across the track may be used instead of the two brushes, as shown, or more than two brushes may be used without departing from my invention.

When the motor mechanism for driving the car is upon the forward axle I may provide an independent shaft B<sup>2</sup>, on which may be mounted the sprocket-wheel and clutch, this shaft B<sup>2</sup> being geared to the axle, as shown by dotted lines in Fig. 1.

Each hanger F is mounted in a casing F', and in the casing, above the hanger, is a spring *f'*, tending to force the brush down upon the track. A set-screw *f*<sup>2</sup>, however, serves as a means for locking the hanger to the casing, so as to keep the brush at the outer end clear

of the track, the set-screw being released, however, when it is desired to lower the outer end of the brush, so that it may come in contact with the rails to clear them of snow or sleet.

In Fig. 6 I have shown a slightly-modified construction in which the brushes are permitted to come closer together at the center of the truck, the driving bevel-wheels being located in the body of the brush, and in Fig. 7 I have shown a construction in which the forward end of one brush overlaps that of the other brush.

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

1. A fender for cars, combining a rotative brush or sweeper, a vertically movable support for the spindle of said brush, gearing for rotating the brush, having as one of its elements a laterally movable clutch, and means whereby the rising and falling movement of the brush spindle is caused to effect the lateral movement of said clutch, substantially as specified.

2. A fender for cars combining a rotative brush or sweeper, a vertically movable support for the spindle of said brush, a catch for retaining said support in the elevated position, a trip plate in advance of the fender for releasing said catch, rotating mechanism for the fender having as one of its elements a clutch, and means whereby said clutch is thrown into and out of action on the descent and rise of the movable brush support.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN H. SHOENBERGER.

Witnesses:

FRANK BECHTOLD,  
JOSEPH H. KLEIN.