

No. 612,434.

Patented Oct. 18, 1898.

J. OTTO.  
VEHICLE STOPPER.

(Application filed Mar. 4, 1898.)

(No Model.)

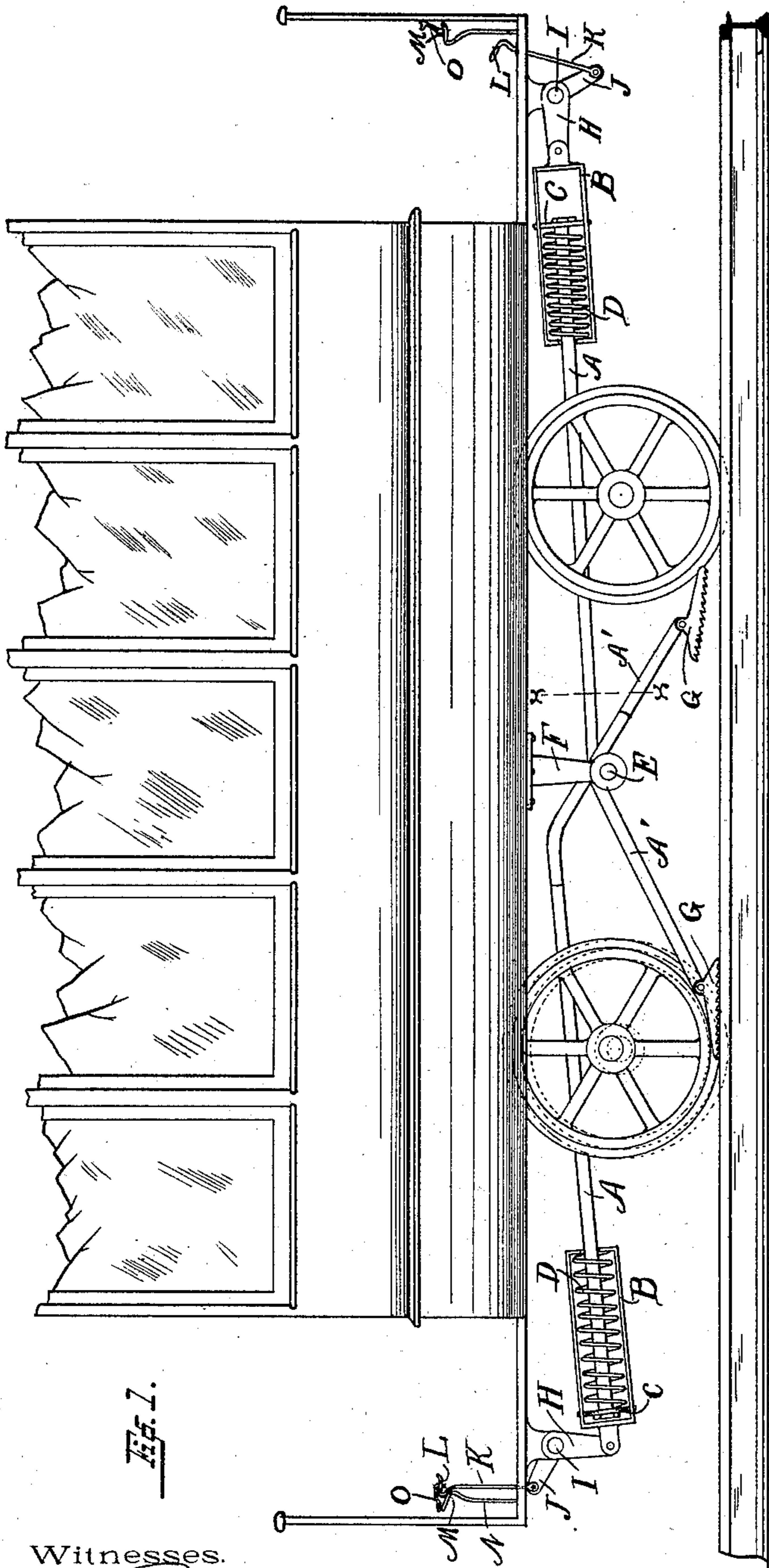


Fig. 1.

Witnesses.

J. A. Otto,  
Kinners Timber.

Fig. 4.

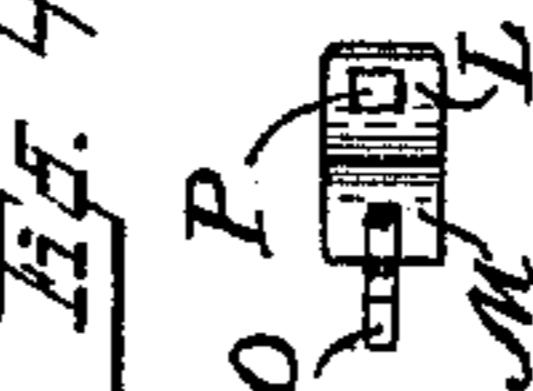


Fig. 3. T.



Fig. 5.

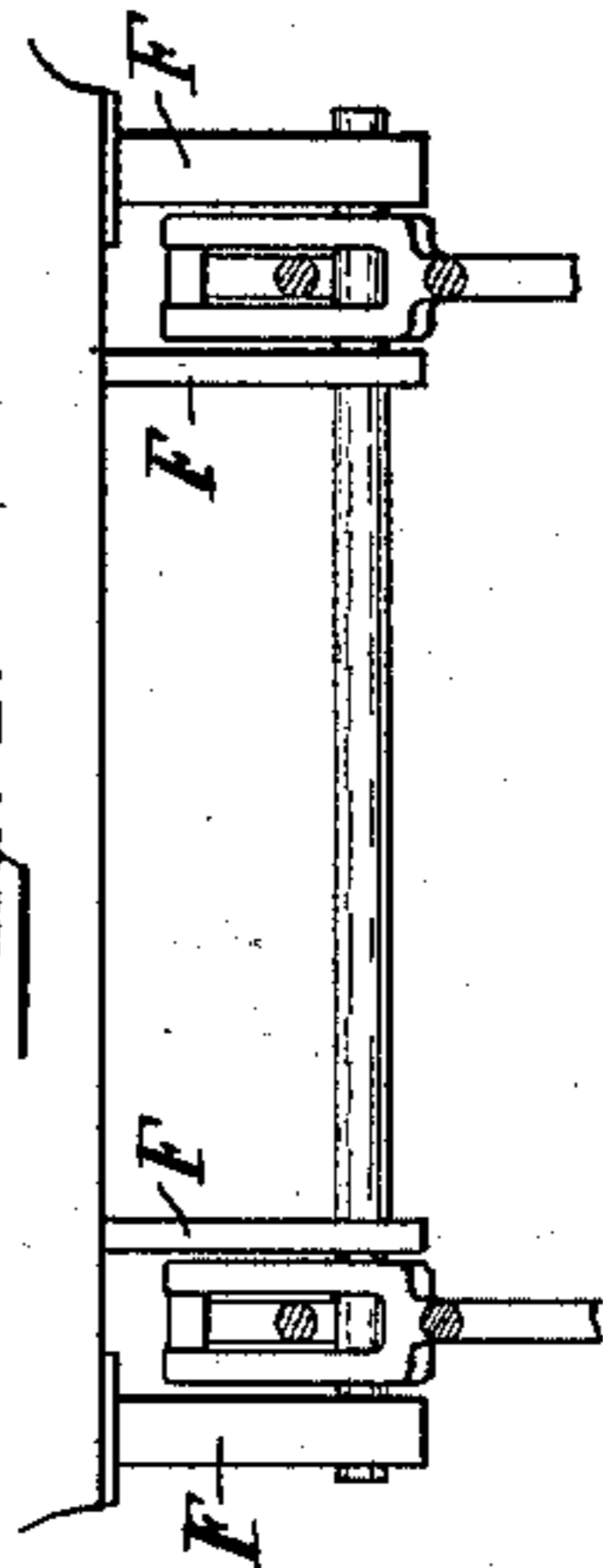
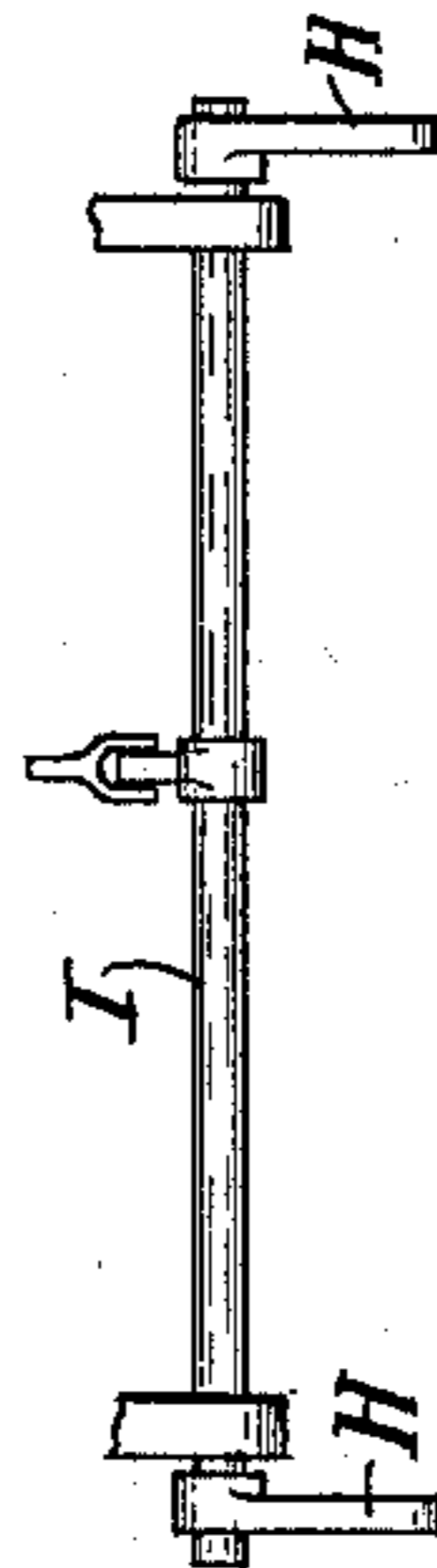


Fig. 2.



Inventor.

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# UNITED STATES PATENT OFFICE.

JULIUS OTTO, OF MILWAUKEE, WISCONSIN.

## VEHICLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 612,434, dated October 18, 1898.

Application filed March 4, 1898. Serial No. 672,535. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS OTTO, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Vehicle-Stoppers, of which the following is a specification.

My invention relates to improvements in devices for stopping cars and other vehicles.

The object of my invention is to provide for suddenly and effectually stopping a vehicle in emergencies.

In the following description reference is had to the accompanying drawings, in which—

Figure 1 is a side view of the lower portion of a street-car or tram equipped with my invention. Fig. 2 is a detail view of the operating-shaft and its connected arms. Fig. 3 is a detail top view showing the slotted portion of one of the shoe-supporting rods. Fig. 4 is a top view of the locking device for securing the holding-bar in its raised position. Fig. 5 is a view of the shaft-supporting hangers and shoe-supporting rods, drawn on line  $x x$  of Fig. 1.

Like parts are identified by the same reference-letters throughout the several views.

A bent rod A is supported underneath the car or other vehicle with one end engaged in a pivoted box B and provided with a head C, bearing upon a spring-cushion D, located therein. The rod A is provided with an angularly-bent portion A', which runs over a bearing-shaft E between the shaft-supporting hangers F F, and the lower end of this section A' of the rod is attached to a shoe G, which is normally supported by the rod at a convenient distance above the track and in close proximity to one of the wheels of the vehicle.

The box B is pivotally attached to an arm H of a transverse rock-shaft I, said shaft being also provided with an arm J, to which is attached an actuating-bar K, which extends above the platform of the vehicle or to any other point within convenient reach of the person in charge. It will be observed that the relation of the arms H and J of the shaft is such that when the bar K is raised, as shown at the left hand in Fig. 1, the arm H will retract the rod A and hold the shoe in a raised position; but when the bar J is lowered, as

shown at the right hand in Fig. 1, the arm H will swing into line with the rod A and push the rod over the bearing-shaft E, thus lowering the shoe upon the track and pushing it under the vehicle-wheel. The latter rides upon the shoe and the vehicle is stopped by the frictional contact of the shoe upon the track. The spring-cushion D relieves the shock and allows the vehicle-wheel to mount upon the shoe sufficiently to permit the entire weight to bear thereon. The shoes are preferably roughened or provided with teeth on their under surface, as shown in the drawings, in order to increase the friction.

In the drawings I have shown my invention applied to an ordinary street-car or tram, and as these run in both directions I have provided shoes for each wheel operated by rods from the respective platforms. The bars J are provided with an angular bend or slip-hook L at their upper ends, which are adapted to engage upon a shoulder M of a bar N, projecting upwardly from the platform, the engagement of the hook upon the shoulder being sufficient to prevent the bar J from dropping with the weight of the parts; but in order to prevent the bar at the rear end of the car from being pushed down by the passengers the bars J and N are secured or locked together at that end by means of a hook O, secured to the hook L and adapted to engage in a notch or recess P in the shoulder M, as shown in Fig. 4 and at the left hand in Fig. 1.

At the end of the vehicle occupied by the motorman or person in charge the hook O is released and swung backwardly, as shown at the right hand in Fig. 1. It is evident that in case of an emergency the shoe can be instantly thrown upon the track by pressing the foot or hand downwardly upon the bar to release it from engagement with the shoulder M.

Where the car is equipped from both ends, I provide one of the rods A with a slot T, through which the other rod passes, as shown in Fig. 3, thus causing each rod to furnish an additional support for the other.

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

1. A device for stopping cars or other vehicles, comprising one or more shoe-supporting rods, shoes supported on said rods in prox-

imity to the wheels of the vehicle, connections for actuating the rods to force the shoe upon the track in front of and under the vehicle-wheels, and a spring cushion or buffer  
5 interposed between the rod and its actuating connections, substantially for the purpose set forth.

2. A device for stopping cars or other vehicles, comprising a shoe-supporting rod, a  
10 wheel-engaging shoe secured to one end thereof and normally held in a raised position thereby, a box or casing inclosing the other end thereof, a spring engaged between the inclosed end of said rod and one end of said  
15 box or casing, a rock-shaft journaled transversely of the vehicle, and having an arm pivotally connected to one end of said box or casing, and means for actuating said shaft, whereby the wheel-engaging shoe may be  
20 forced upon the track under the car-wheel, substantially for the purpose set forth.

3. A device for stopping cars or other vehicles comprising angularly-bent shoe-supporting rods operating in opposite directions,  
25 over bearings at or near the center of the vehicle, shoes supported by said rods in proximity to the vehicle-wheels, connections for actuating said rods longitudinally from both ends of the vehicles to force the shoes upon  
30 the track in front of the vehicle-wheels, and a spring cushion or buffer interposed between said rods and their actuating connections to relieve the strain upon the latter, substantially for the purpose set forth.

4. A device for stopping cars or other vehicles, comprising one or more shoe-supporting rods, shoes supported on said rods in proximity to the vehicle-wheels, a transverse operating-shaft having arms connected with said shoe-supporting rods, an actuating-bar  
40 connected with an arm of said shaft and projecting upwardly to a point within reach of the person in control of the vehicle, said bar being provided with a slip-hook adapted to engage with a shoulder on said vehicle to hold  
45 said bar with the shoe in a raised position and to be released by downward pressure, to permit said shoe to drop upon the track in front of the vehicle-wheel, substantially for the purpose set forth. 50

5. A device for stopping cars or other vehicles, comprising one or more shoe-supporting rods, shoes supported on said rods in proximity to the wheels of the vehicle, a bar connected to each of the shoe-rods and projecting  
55 above the platform of the vehicle, a slip-hook on said bar, a shoulder adapted to be temporarily engaged by the slip-hook, and a lock-hook for temporarily securing the slip-hook and shoulder together against accidental  
60 release.

In testimony whereof I have hereunto set my hand this 23d day of February, 1898.

JULIUS OTTO.

Witnesses:

F. A. OTTO,

ROBERT REINHOLD.