

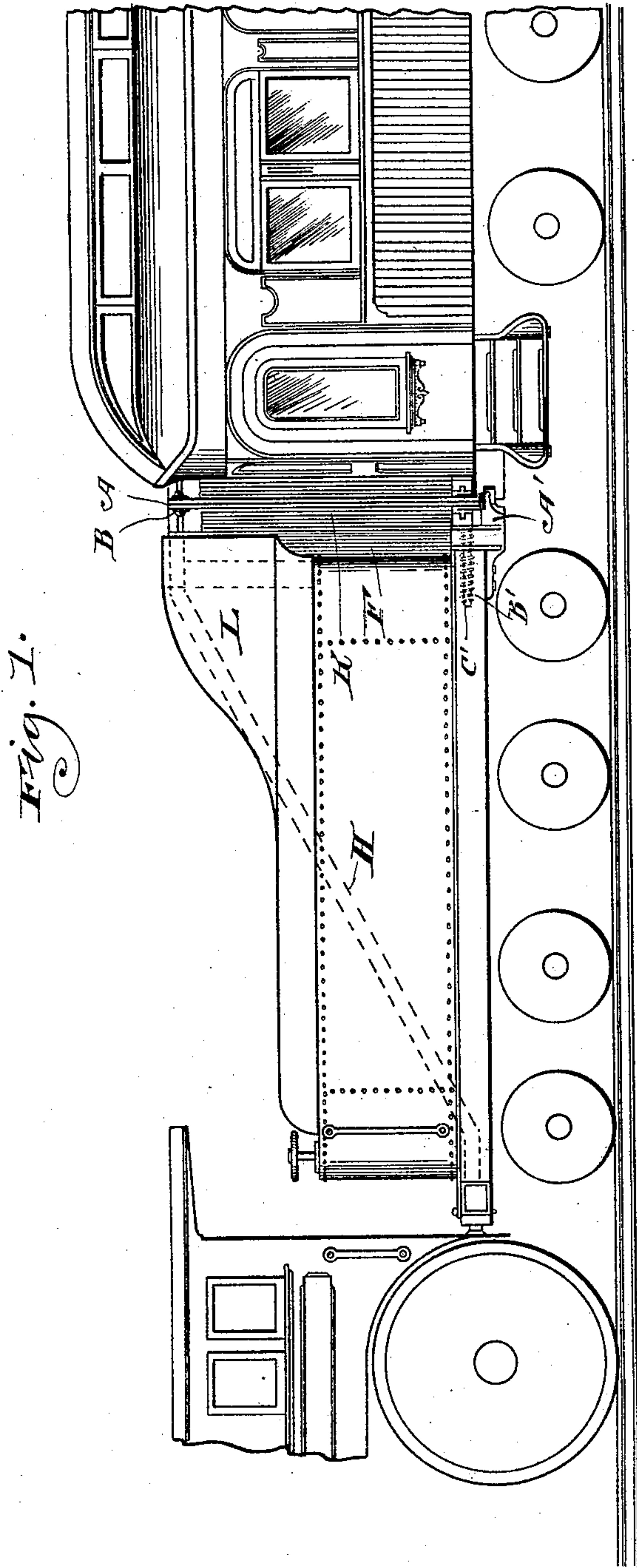
(No Model.)

3 Sheets—Sheet 1.

C. L. PULLMAN.
SAFETY DEVICE FOR RAILWAY CARS.

No. 509,326.

Patented Nov. 21, 1893.



Witnesses,

J. S. Mann,
J. B. Goodwin

Inventor,

Charles L. Pullman
By *Offield, Smith & Fierman,*
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(No Model.)

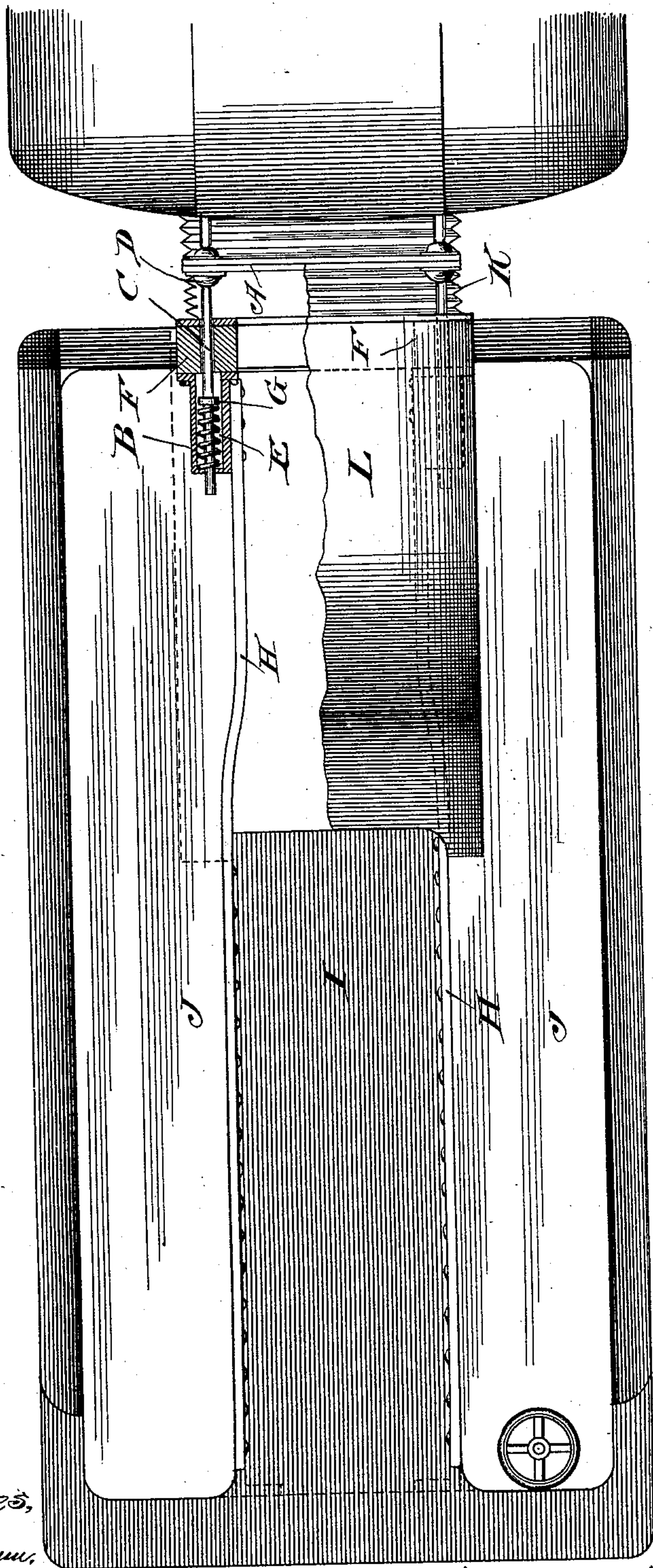
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Fig. 2.



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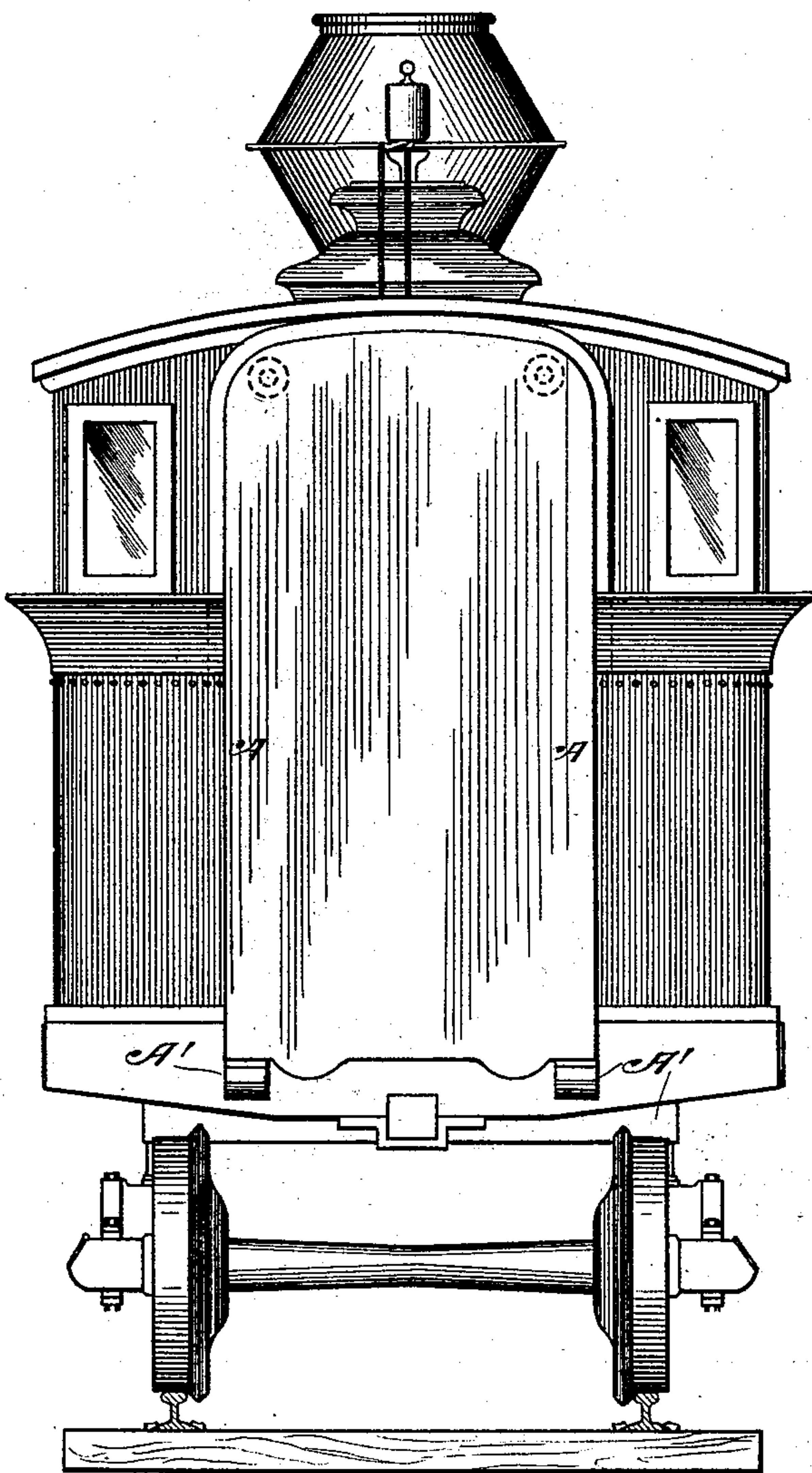
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Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES L. PULLMAN, OF CHICAGO, ILLINOIS.

SAFETY DEVICE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 509,326, dated November 21, 1893.

Application filed January 16, 1893. Serial No. 458,483. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. PULLMAN, of Chicago, Illinois, have invented certain new and useful Improvements in Safety Devices for Railway-Cars, of which the following is a specification.

In the construction of modern railway cars, provision is made for moderating the impact and shock of collision by providing heavy metal frame plates upon the ends of the cars which plates are backed up by powerful springs which hold the plates in frictional contact. With these plates are combined diaphragms to form an inclosed passage way between adjacent cars in a train and are commonly called vestibules. This construction also retards and limits oscillation of the car bodies.

Heretofore no provision has been made for applying these safety devices to the front end of the forward car, although such provision is desirable for many reasons. In the first place in case of front end collision the shock starts from the engine and is transmitted through the tender to and through the first car of the train without material modification, no provision being made, even in cars equipped with modern vestibules, for taking up the shock until the rear end of the first car is reached. The first car of all trains for the carriage of passengers is usually either an express, baggage or mail car, and no protection has been afforded against the telescoping of such cars in case the locomotive is in collision.

The principal object of my invention is, therefore, to provide suitable protection for persons occupying the front car of a train, and this protection should be as ample as that afforded to passengers in the coaches. To this end I apply to the tender and the first car of the train a construction in which is employed friction plates normally held in contact by springs which take up or moderate the shock in collision. In order to effectively apply these devices at this point I have somewhat modified their usual construction and have thereby rendered them more efficient.

For a better understanding of my invention reference may be had to the accompanying drawings, in which—

Figure 1 is a side elevation of a tender showing the rear end of the locomotive and the forward end of a car. Fig. 2 is a plan view of the tender and car partly in transverse section to show one of the buffer plate springs; and Fig. 3 is a rear end elevation of the tender showing a face view of the frame plate.

At the rear end of the tender I erect vertically a frame plate A, which is normally thrust outward by buffer springs B acting upon the rods C, the latter preferably being connected by a ball and socket joint D with the frame plates at their upper angles. The lower ends of the plates A rest on supports A' carried by the tender, and the lower buffer springs are marked B' and their stems C'. The frame plates may be substantially rectangular in outline and are preferably solid but may have their central portions cut away in case it be desired to provide only against telescoping. But in order to cut off communication between the tender and the platform of the car next the engine, I prefer to make the frame plate imperforate at least in that portion which projects above the rear end of the tender. Obviously a frame plate of the usual inverted U-shape may be employed and the opening therein above the rear end of the tender closed by planks or plates.

Train robbers have heretofore found an easy point of attack by climbing upon the engine and passing thence over the tender through the front door of the first car, or by hiding upon the front platform until the train is under way and then climbing over the tender to coerce the engineer and fireman. To provide against this I completely inclose the front platform of the car. In order to sustain the springs B they have a bearing in the spring pockets E and the front sides of these pockets are bolted to the upright posts F, the rods C sliding through apertures in the post and rear wall of the spring pocket, and having a collar G against which the forward end of the spring abuts.

H represents brace bars which extend diagonally along the sides of the coal space I and are bolted to the walls of the tank J. These brace bars are preferably strong metal bars having their ends bent at an angle to

their middles, the upper end being bolted to the spring box and the lower end to the frame work of the tender.

5 K represents the diaphragm inclosing the space between the frame plate carried by the tender and the rear end thereof. I have provided a hood or cover L which forms an extension of the diaphragm and covers the portions of the brace-bars which project above
10 the tender.

The front end of the car M is provided with a frame plate and diaphragm of known construction and complementary of the parts carried by the tender.

15 I have shown a car having its side walls extended so as to inclose the front platform. This inclosed space affords room for a heater or for storage, and I prefer to have the entire forward end of the car thus inclosed so
20 that proper and efficient protection will be afforded express messengers, baggage men and persons engaged in the railway mail service against attacks by train robbers.

25 It will be seen that the vestibule construction is made much stronger than ordinarily because of the provision of the brace bars which extend from the floor of the tender. A tender provided with this improvement will not be so likely to telescope the first car of the
30 train and the shock will be largely moderated before passing through such vestibule construction.

35 The diaphragms and closed frame plate form an efficient protection to the engineer and fireman against the attack of persons attempting to pass over the tender to the cab and by inclosing the front platform of the car

evil disposed persons are prevented from hiding there until opportunity is afforded for attack on express, messengers or mail clerks. 40

I do not of course limit my invention to precise details of construction.

Without limiting myself to precise details of construction, I claim—

1. A railway locomotive tender having its rear end provided with a frame plate sustained by outwardly forcing springs, brace bars extending diagonally from the spring bearing to the floor of the tender and said frame plates being adapted to co-operate with
50 a complementary construction carried by the car, substantially as described.

2. A railway locomotive tender having its rear end provided with a spring-sustained frame-plate, brace-bars extending from the upper spring bearings to the floor of the tender and a hood covering the upper ends of said brace-bars, substantially as described. 55

3. A railway locomotive tender having its rear end provided with a spring-sustained frame-plate, diaphragms inclosing the space between the sides of the frame-plate and the rear end of the tender and the frame-plate being imperforate or closed above the rear end of the tender and the whole being adapted to cooperate with a frame-plate and diaphragms carried by the front platform of a car and whereby communication between the car and tender is cut off, substantially as and for the purpose described. 65

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