

(No Model.)

2 Sheets—Sheet 1.

R. MAYOLINI.
CAR FENDER.

No. 540,106.

Patented May 28, 1895.

Fig. 1.

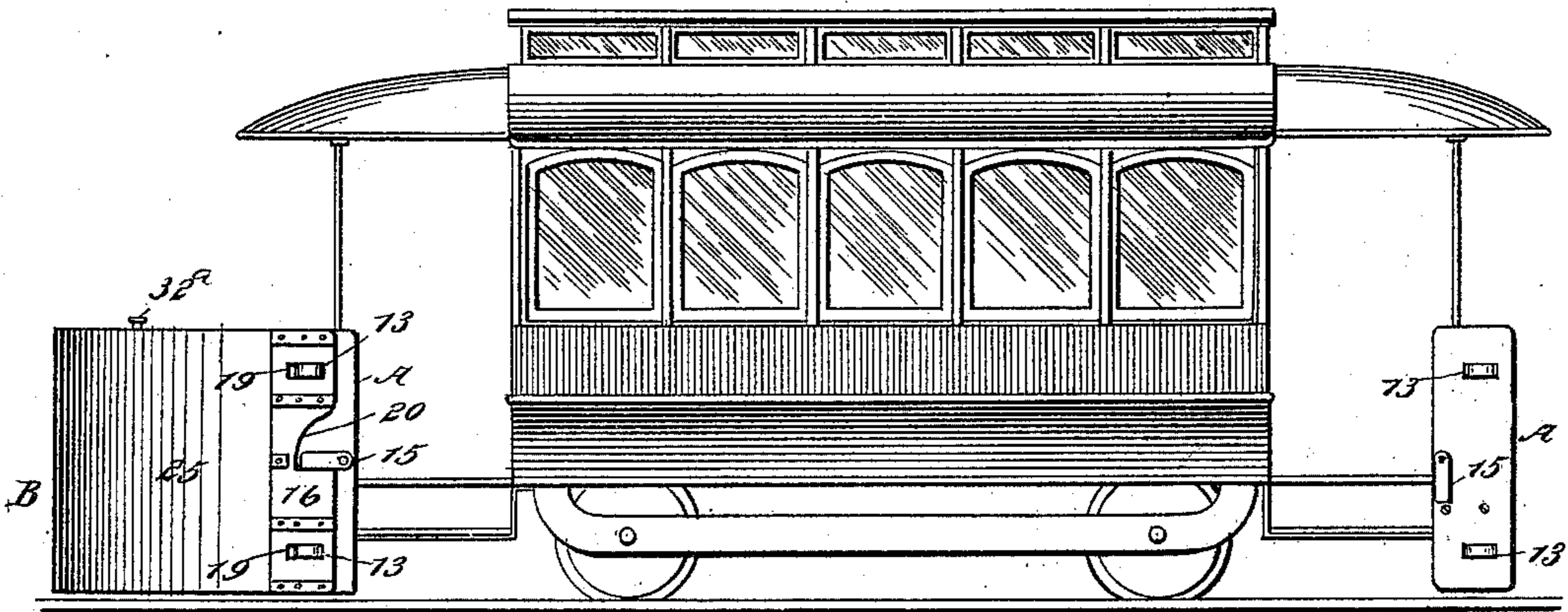


Fig. 2.

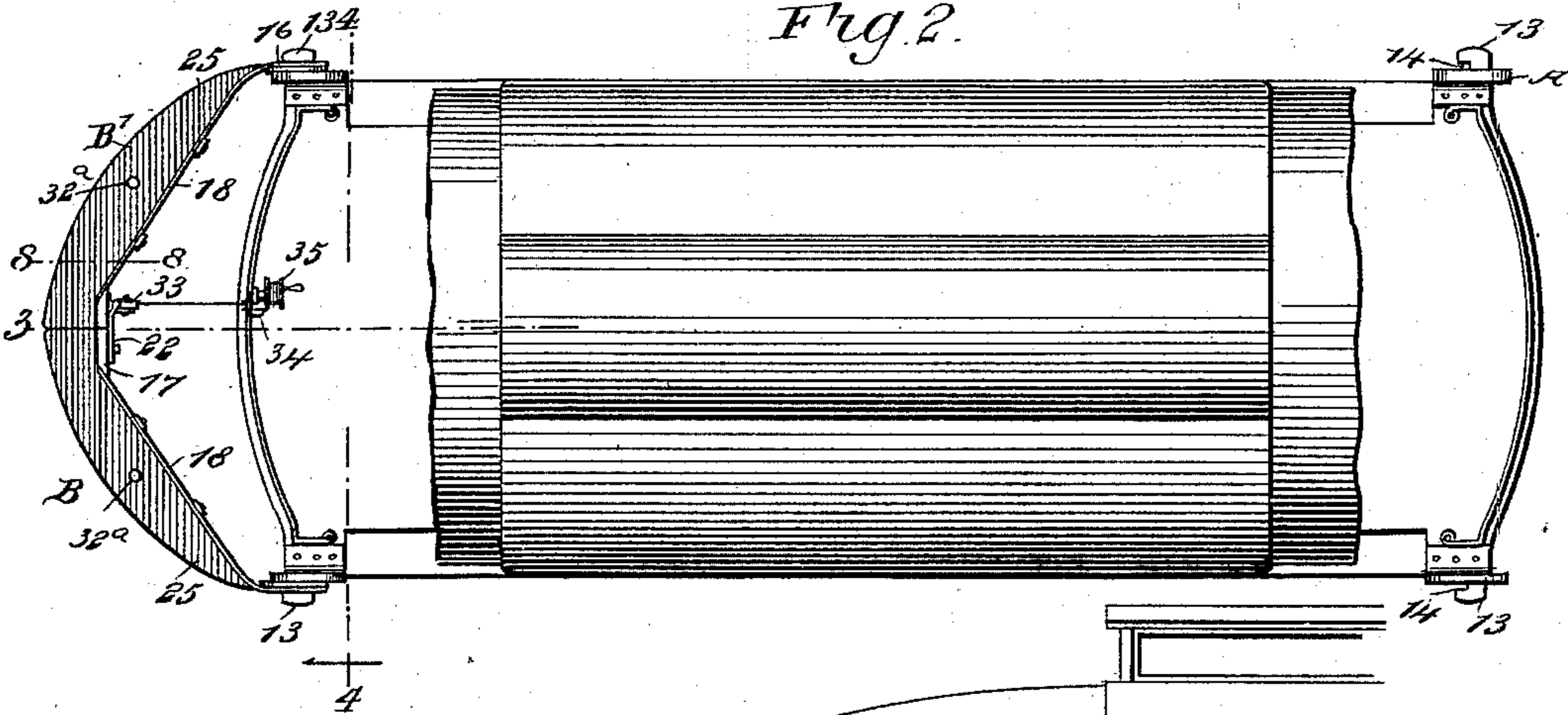
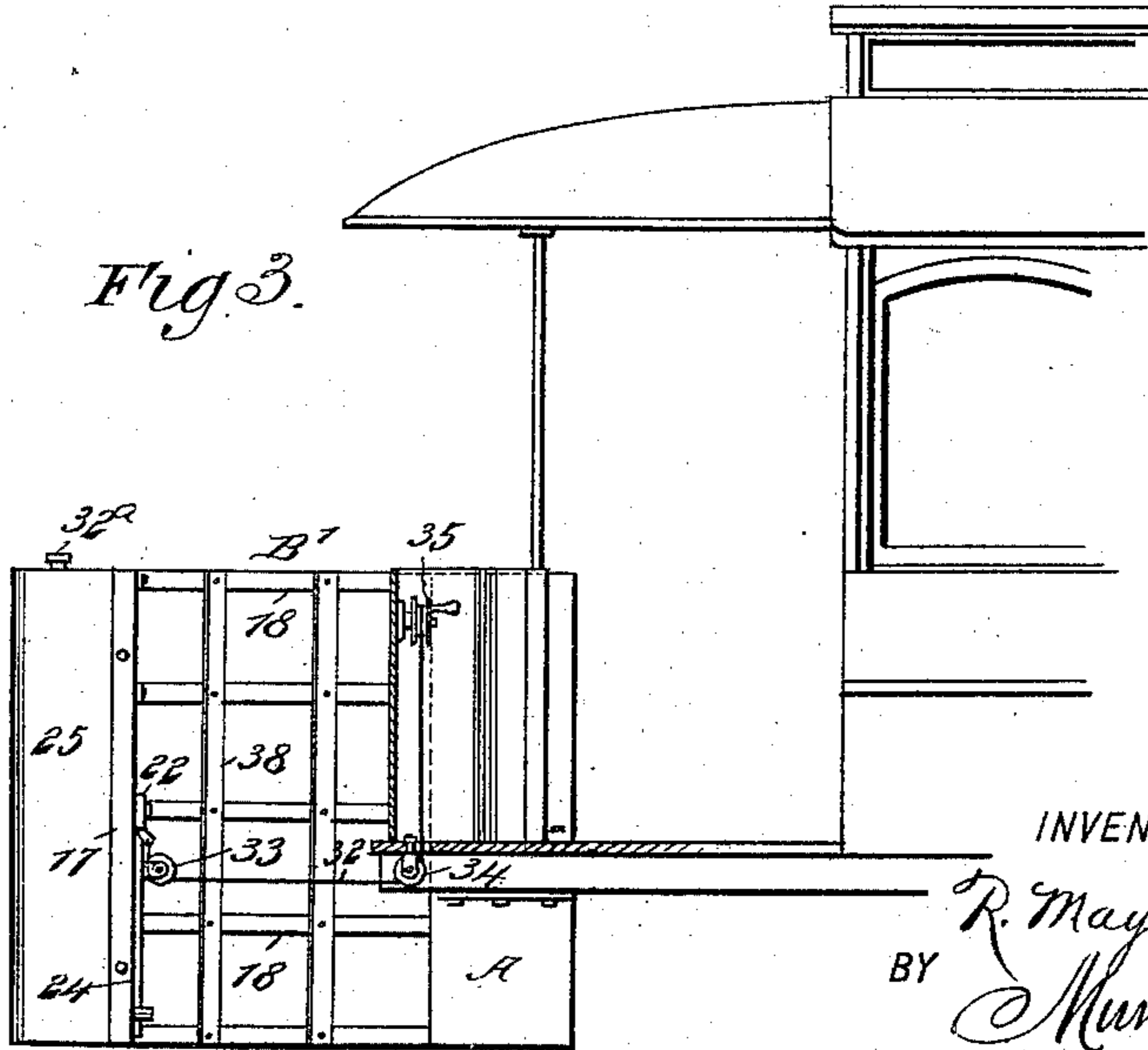


Fig 3.



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(No Model.)

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Fig 4.

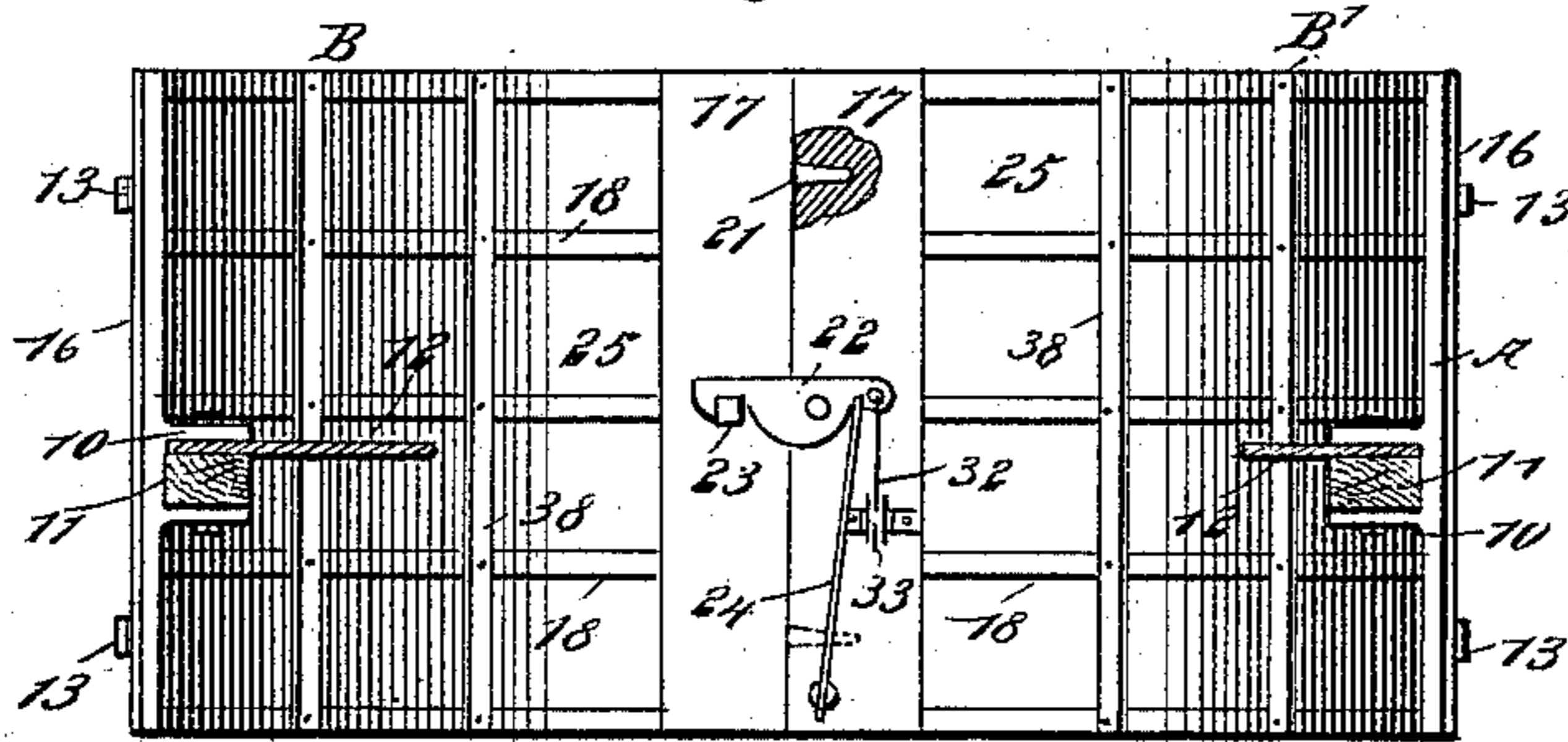


Fig 5.

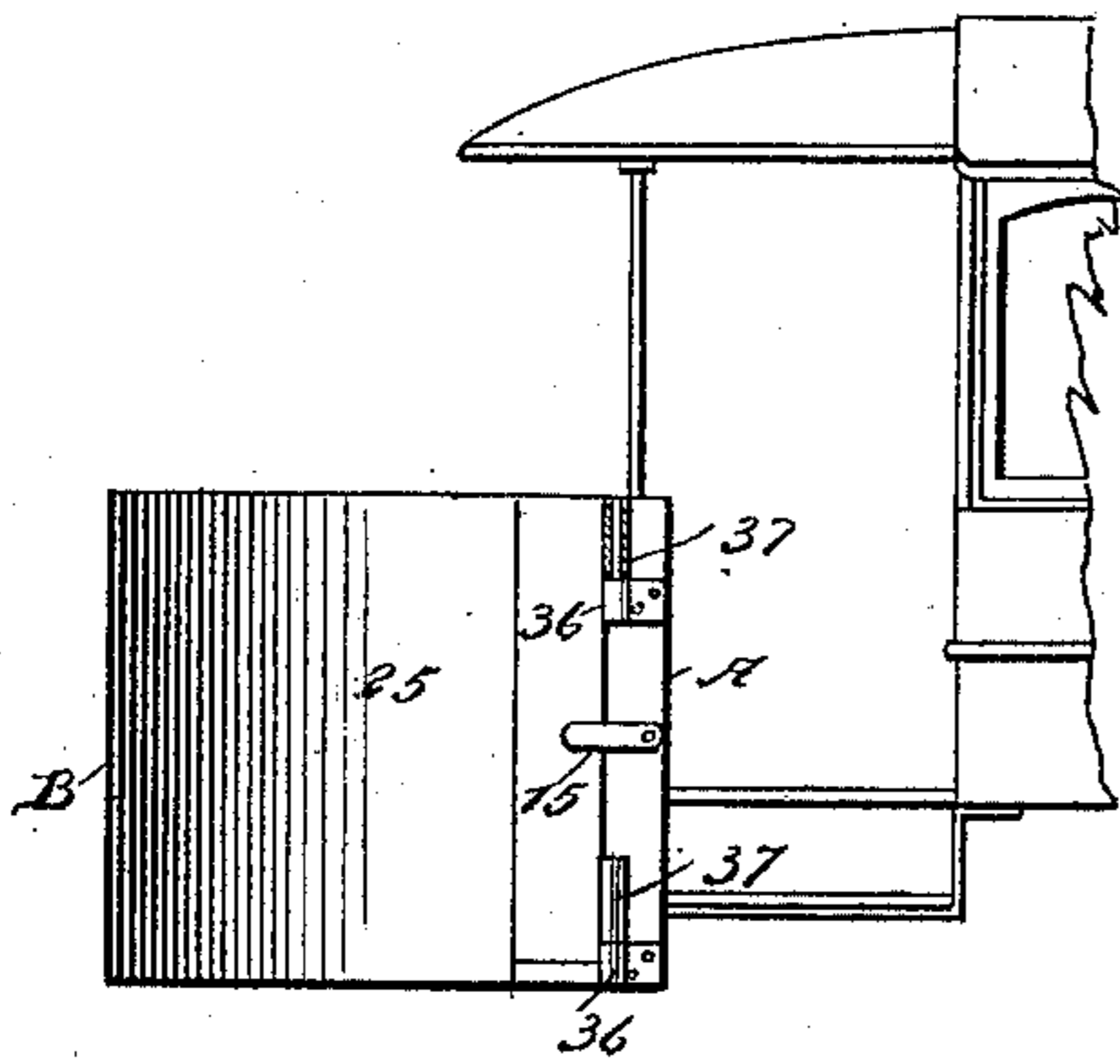


Fig 6.

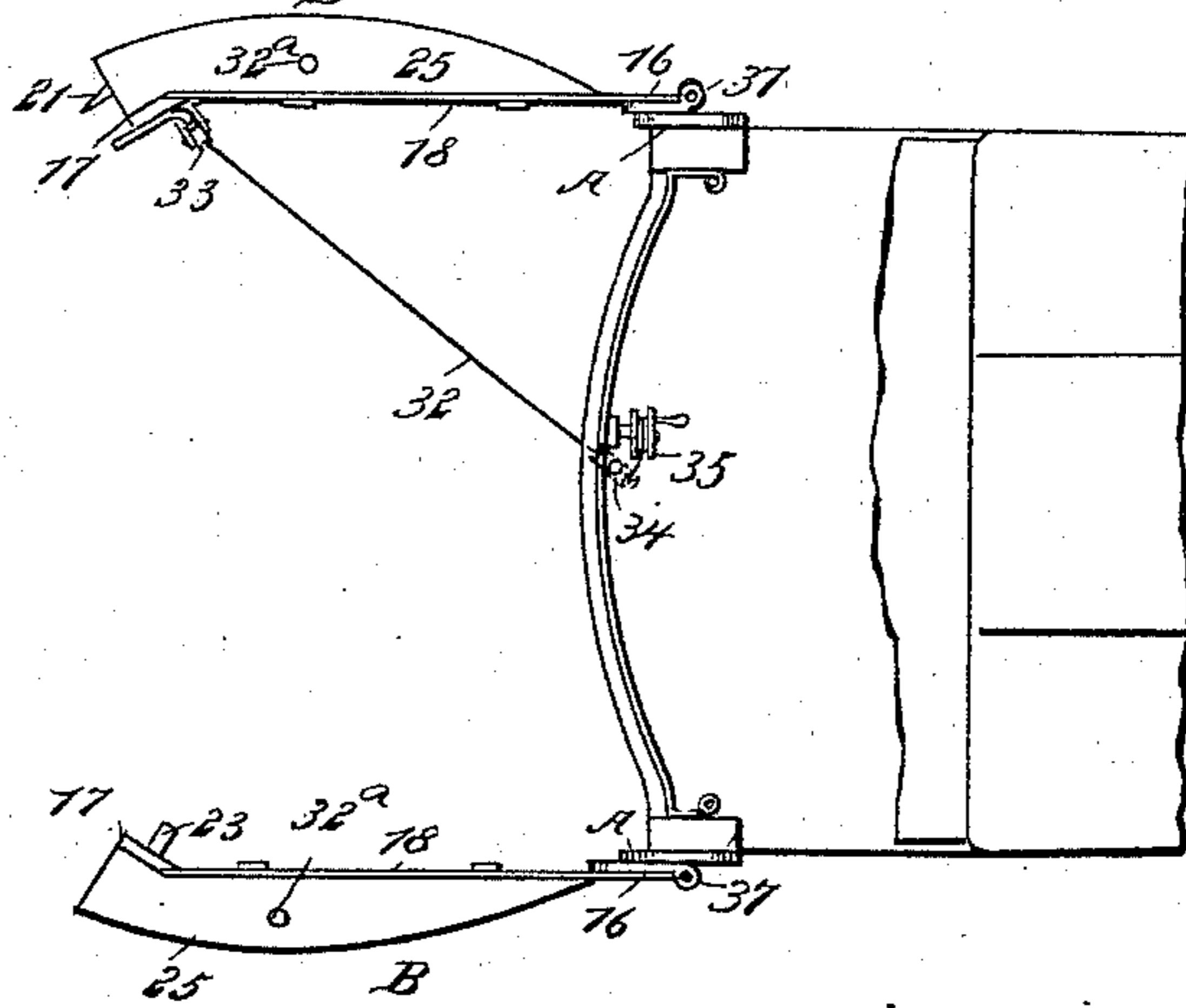


Fig 7.

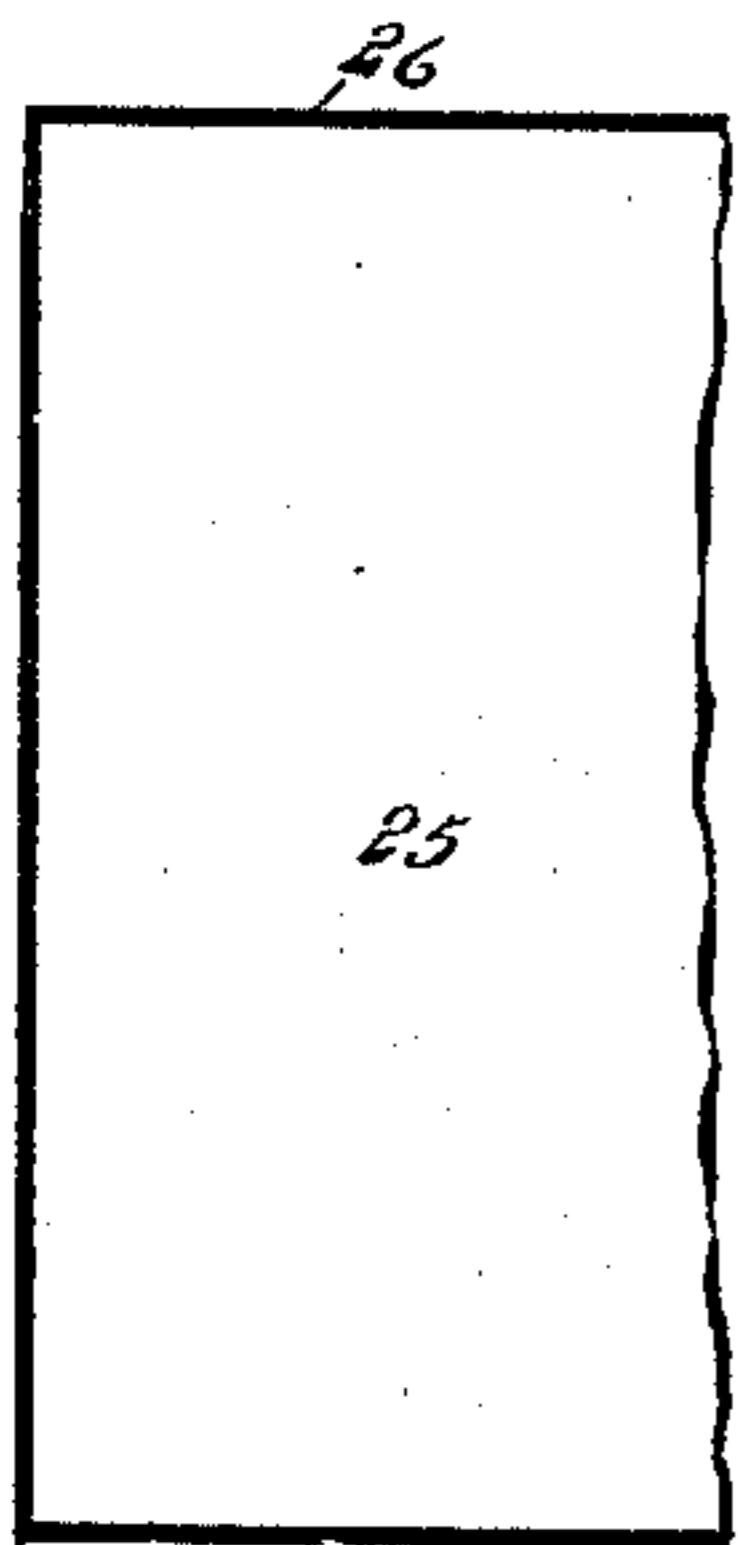


Fig 8.

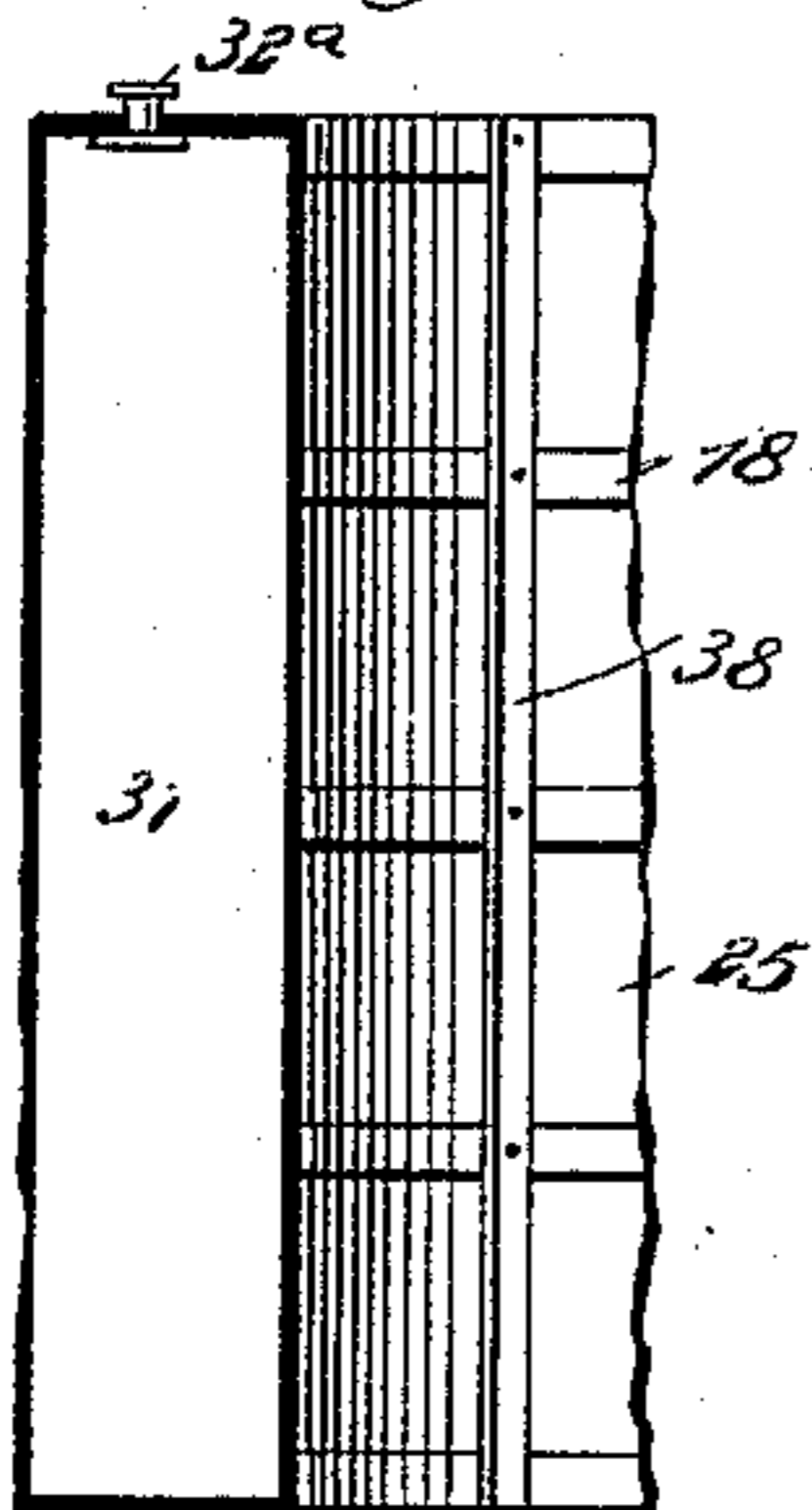


Fig 9.

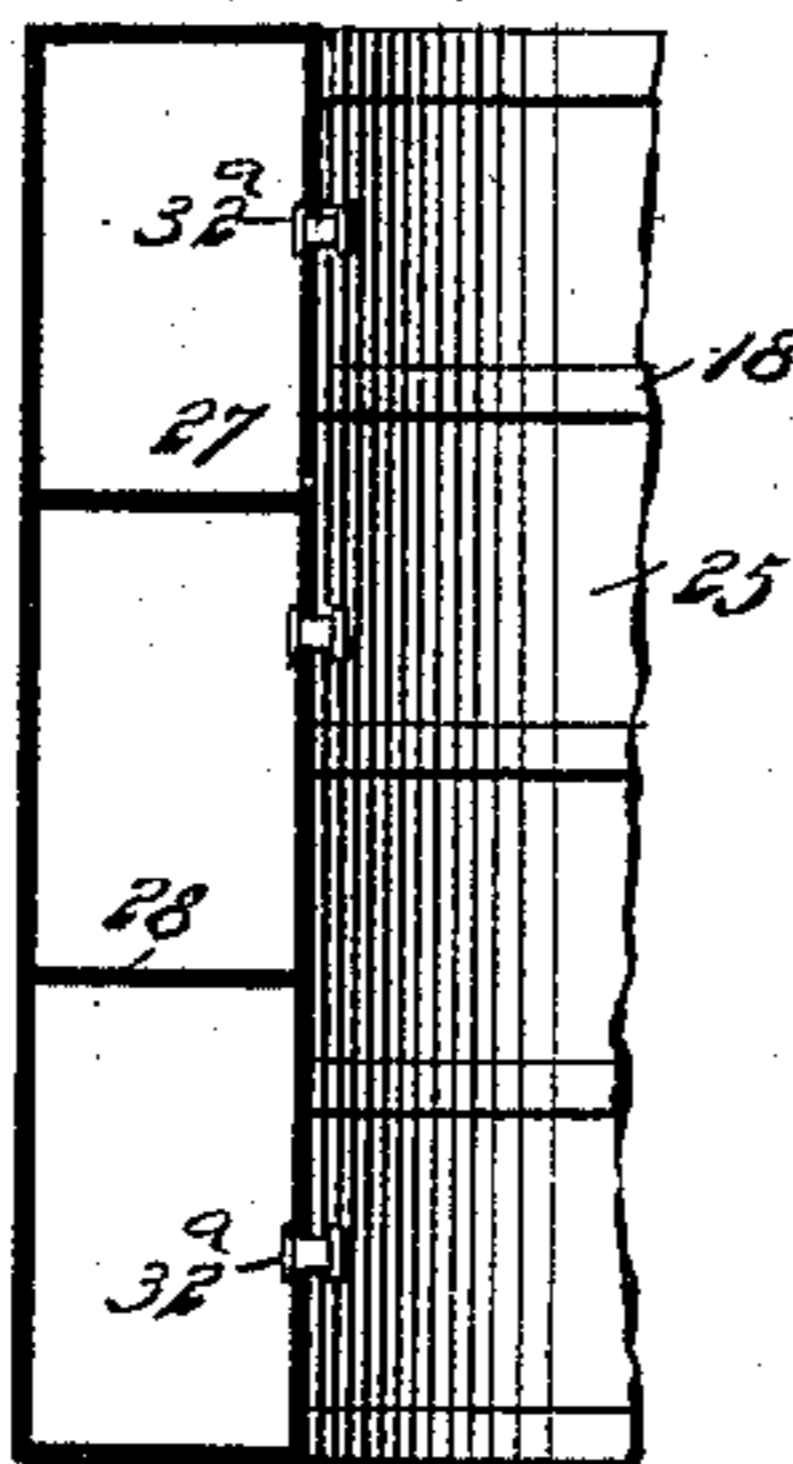
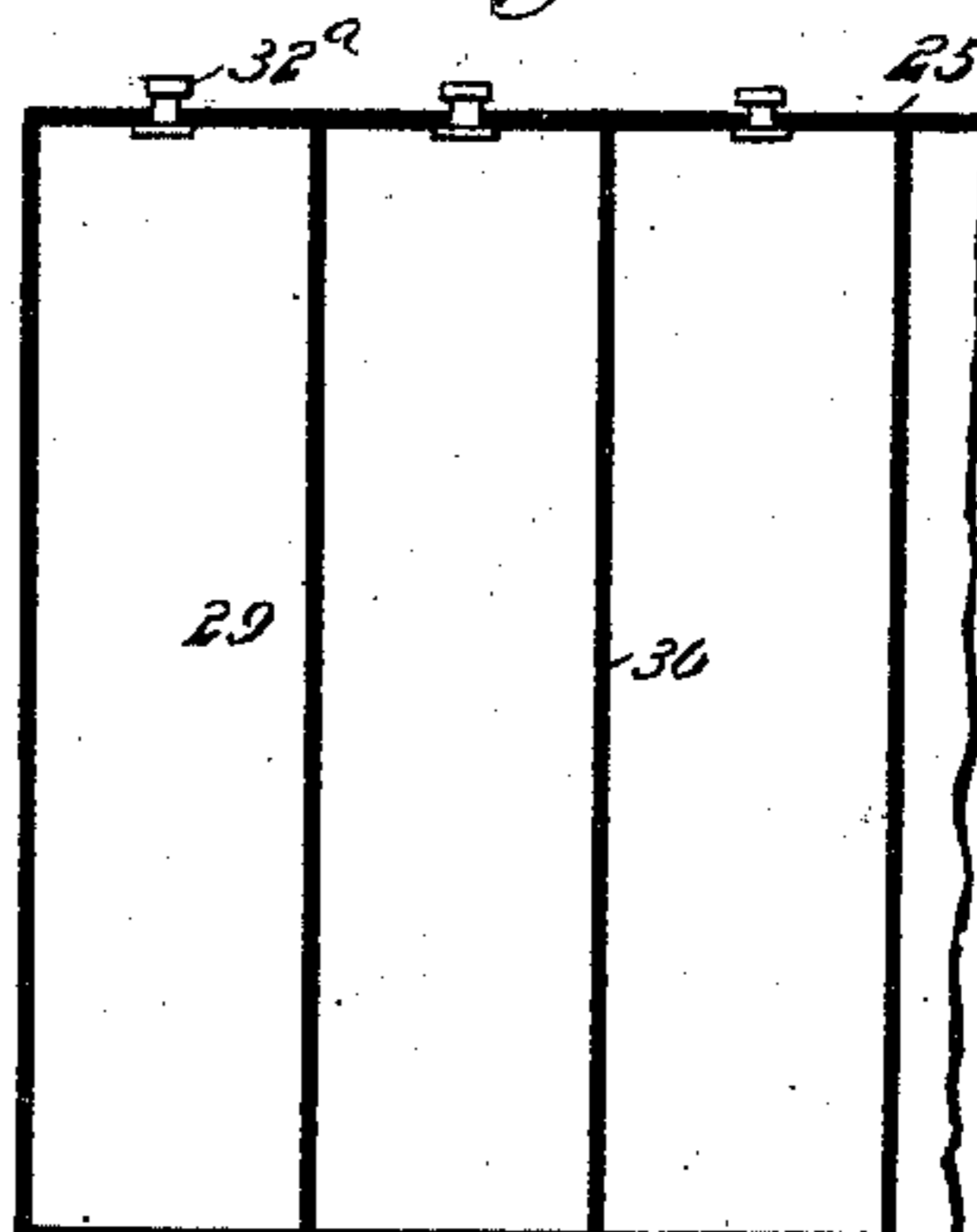


Fig 10.



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UNITED STATES PATENT OFFICE.

RAFAEL MAYOLINI, OF NEW YORK, N. Y.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 540,106, dated May 28, 1895.

Application filed March 6, 1895. Serial No. 540,773. (No model.)

To all whom it may concern:

Be it known that I, RAFAEL MAYOLINI, a subject of the King of Italy, residing at New York city, in the county and State of New York, have invented a new and Improved Car-Fender, of which the following is a full, clear, and exact description.

The object of the invention is to construct a fender having its front and sides cushioned, which will approach the ground at its lower edge and at its upper edge be substantially flush with the corresponding portion of the dashboard.

A further object of the invention is to provide a bow fender for the front of a car, capable of being readily transferred from one end of the car to the other, and constructed in two spring sections, which when curved, brought together and locked, will completely guard the front of the car, presenting a practically unbroken yielding surface to objects that may be in the path of the car.

Another object of the invention is to provide a means whereby from the platform of a car the connected fender sections may be quickly disconnected, permitting the spring frames of the sections to straighten themselves, and in so doing the sections will move quickly in opposite directions to the sides of the car, carrying with them any interfering object or objects with which they come in contact, safely to the sides of the track.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a car having the improved fender applied to one end thereof. Fig. 2 is a plan view of the car, a portion of the hood being broken away, and likewise a plan view of the improved fender. Fig. 3 is a partial side elevation of a car, the platform being in section, and an inner face view of a section of the fender, the latter being in open position. Fig. 4 is a transverse section through the platform of the car, the said section being taken substantially on the line 4 4

of Fig. 2, the fender-sections being shown in rear elevation and as connected. Fig. 5 is a side elevation of the front portion of the car, illustrating a fender-section in open position and a modification in the attaching devices for the sections. Fig. 6 is a plan view of the fender and a portion of the car, the sections of the fenders being shown open and the attachment being made in like manner as shown in Fig. 5. Fig. 7 is a partial longitudinal section through the cushion of a fender-section. Fig. 8 is a transverse section through the frame and cushion of a fender-section. Fig. 9 is a view similar to Fig. 8, illustrating a slight modification in the construction of the cushion; and Fig. 10 illustrates a further modification in the formation of the cushion.

In carrying out the invention a plate A, bar, standard or its equivalent, is secured to each side of each platform of the car adjacent to the ends of the dashboard, and the said plates or standards extend upward practically flush with the upper edge of the dashboard and downward below the platform and below the step, the lower edges of the plates or standards approaching the ground quite closely as is best shown in Fig. 1. The attachment of these plates, bars or standards may be made in any approved manner. In the drawings they are illustrated as being provided with horizontal spaced ears 10 upon their inner faces, the ears receiving between them the side timbers 11 and flooring 12 of the platform, as shown in Fig. 4.

Each standard, post or plate A is provided upon its outer face with two or more studs 13, which studs have under-cut recesses 14 made in their inner edges, as shown in Fig. 2; and each plate, standard or post is further provided at or about the central portion of its inner edge with a button 15, as illustrated in Figs. 1 and 5.

The fender proper is made in two sections B and B' and the two sections are substantially identical in construction, each consisting of a frame comprising two end bars 16 and 17, the bar 17, which is the forward bar of the fender section having a beveled outer side edge, and the two side bars are connected by any desired number of spring bars or strips 18, being preferably secured firmly to the outer face of the rear end bar by rivets

or equivalent fastening devices, and attached in like manner to the outer beveled edge of the forward end bar 17.

When the fender sections are disconnected from one another their spring bars or strips will be substantially straight, as shown in Fig. 6; and the attachment of the fender sections to the car is usually accomplished by producing in the inner or rear end bar of a section a number of transverse openings 19, corresponding in number and location to the studs 13 on the fixed plates A of the car. These studs are made to enter the aforesaid openings 19 as best illustrated in Fig. 1, and the fender sections are then drawn forwardly until the rear walls of the slots or openings 19 will have entered into the under-cut recesses 14 of the studs, and the sections are held in this position by causing the buttons 15 on the stationary plates or standards A to enter recesses 20 in the rear edges of the inner or rear end plates of the fender sections, as is likewise shown in Fig. 1. In this manner the fender sections will be securely yet removably connected with the end of the car, and the free ends of the sections are carried in direction of each other until their forward end bars meet, and pins 21 in one end bar enter recesses in the opposing end bar, as illustrated in Fig. 4. The sections are now locked together; otherwise the tension of the springs forming a portion of the sections would force them outward substantially parallel with the sides of the car.

The locking connection between the fender sections may be made in various ways, and that which is preferably used is shown in Fig. 4, which consists of a latch 22 pivoted upon the inner face of the front end bar of one section, being adapted to engage with a keeper 23 upon the corresponding end bar of the opposing section, the latch being held in position for such engagement, and being held in said engagement through the medium of a spring 24.

Each fender section is provided with a cushion 25 secured upon its outer face, and the said cushions are made to completely cover the spring bars or strips of the fender frame. These cushions also completely cover the front end bars 17 of the fender frames, and their opposing surfaces are flat, so that when the frame is locked together the two cushions will contact closely, and constitute virtually a single arched cushion, as shown in Fig. 2.

The preferred form of cushion employed consists of a sack 26 of suitable shape, made of rubber or other compressible or elastic material, and each cushion, or the sack of each cushion, may be divided into a series of horizontal compartments 27 by means of horizontal partitions 28, as shown in Fig. 9, or into a series of vertical compartments 29 as shown in Fig. 10 in which the partitions 30 will be vertically located; or, as shown in Fig. 8, the cushion of each section may contain but a

single compartment 31. The cushions are inflated by means of air, or the equivalent, and to that end a suitable valve 32^a is introduced in the cushion, leading one into each compartment thereof. These valves may be placed in the top portion of the cushion, or in the inner walls thereof as may be found most expedient.

When the sections of the fender are locked together as illustrated in Fig. 2, they will receive any object that may be in the path of the car, and direct said object to one or the other side of the track, and the cushions will be so yielding that even should the object be struck while the car is at high speed, comparatively little if any damage will be done to said object; but it frequently happens in the use of a solid bow fender that an object, a human being for example, is thrown to the ground and carried along with the car. In order to prevent such a mishap, the fender is constructed of the spring-controlled sections heretofore described, and when the fender contacts with one or more objects, the motorman or gripman by lifting the latch 22 will disengage the two sections and the springs therein will throw the sections, outward in opposite directions to the sides of the track, carrying with them any object that may be in their path, delivering said object well outside of said track.

The operation of the latch 22 may be accomplished in different ways, as for example it may be provided with a knob which may be depressed by the hand of the motorman or gripman; or as shown in the drawings a cable or chain 32 may be attached for example to the pivot end of the latch, being passed downward over a pulley 33 below the latch and secured upon the end bar of one of the fender sections. The cable may then be led over a pulley 34 upon the bottom of the platform, and up through the platform to an engagement with a reel 35, journaled on the inner face of the dashboard, or an equivalent device. Under this construction it is obvious that by winding the chain or cable on the reel the latch will be opened, and as soon as the sections are disconnected the reel may be released.

In Figs. 5 and 6 I have illustrated a slight modification in the manner of attaching the fenders to the stationary plates, posts or standards A of the car, in which the studs 13 are dispensed with, and pintles 36 are substituted on the stationary plates, posts or standards, and knuckles 37 are formed upon the inner or rear plate of the fender sections to receive the said pintles, whereby a hinged connection between the fender and car is obtained; but the forward movement of the fender sections is limited by causing the buttons 15 which are retained, to pass over the outer faces of the said rear end plates of the sections.

It is obvious that the fender sections may be expeditiously and conveniently transferred

from one end of the car to the other, and that these sections need not necessarily be very heavy.

I desire it to be understood that the spring bars or strips 18 of the fender frames may be strengthened transversely by means of vertical strips 38, the said strips being of a character and so placed as not to interfere with the elasticity of the main spring strips 18.

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

1. A car fender, comprising two spring sections consisting of end bars and horizontal bars connecting the end bars, the inner end bars being secured to the car and the outer end bars being held in locked engagement, whereby an arched fender with unbroken outer surface will be formed, substantially as described.

2. A car fender, comprising two spring sections having their inner ends secured to the car and their outer ends locked in engagement with each other, and a cushion on each section contacting with each other when the sections are locked together, substantially as described.

3. A car fender, the same being constructed in two sections, each section comprising end bars and horizontal bars of spring material connecting the end bars, the outer end bars of the two sections being provided with locking devices, and the inner end bars with means for attachment to a car, the said sections being provided with a cushioned outer face, as and for the purpose specified.

4. A car fender constructed in two sections, each section comprising an inner and an outer end bar, the outer edge of the outer end bar being beveled, spring connecting bars uniting the inner and the outer end bars, and a cushion covering the spring section of the frame, a locking device carried by the outer end bar of one section and adapted for locking engagement with the corresponding bar of the opposing frame section, and means, substantially as described, for operating the said locking device at a distance from the fender, whereby when the sections of the fender are disconnected the spring portions of their frames will carry them outward substantially to the side portions of the car, as and for the purpose specified.

5. The combination, with a car and fixtures secured to the platform of the car, of a fender constructed in two sections, each section comprising a frame and a cushion upon the outer face of the frame, the said frames consisting of two end bars, and spring bars connecting the said end bars, means, substantially as described, for locking the forward ends of the frames together, means, substantially as described, for releasing the said lock, and fastening devices whereby the said frames are attached to the said fixtures in a removable manner, as and for the purpose specified.

6. In a car fender an inflatable cushion of a shape corresponding to that of the fender and divided into closed compartments, said cushions fitting upon and covering the outer surface of the fender as and for the purpose set forth.

7. In a car fender, the combination of two spring sections secured to opposite sides of a car, and having their forward ends held in locked engagement, and means for releasing the sections from the platform of the car, substantially as described.

8. In a car fender, the combination of two spring sections secured to opposite sides of the car and having their forward ends constructed to engage each other, a latch hinged to the forward end of one section and engaging a keeper on the other section, and means for disengaging the latch from its keeper, substantially as described.

9. In a car fender, the combination with uprights secured to the platform of the car on opposite sides, of a fender formed of two spring sections, having their rear ends loosely connected with the said uprights, and buttons on the uprights and engaging the sections of the fender, substantially as described.

10. In a car fender, the combination with uprights secured to the opposite sides of the platform of a car and provided with projecting recessed lugs, of a fender formed of two spring sections provided with openings to receive the lugs of the uprights and with recesses in their rear edges, and buttons secured to the uprights and engaging the recesses of the fender sections, substantially as described.

RAFAEL MAYOLINI.

Witnesses:

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F. W. HANAFORD.