(No Model.)

E. E. PRATT.

FREIGHT CAR.

No. 503,874. Patented Aug. 22, 1893.

Fig. 1

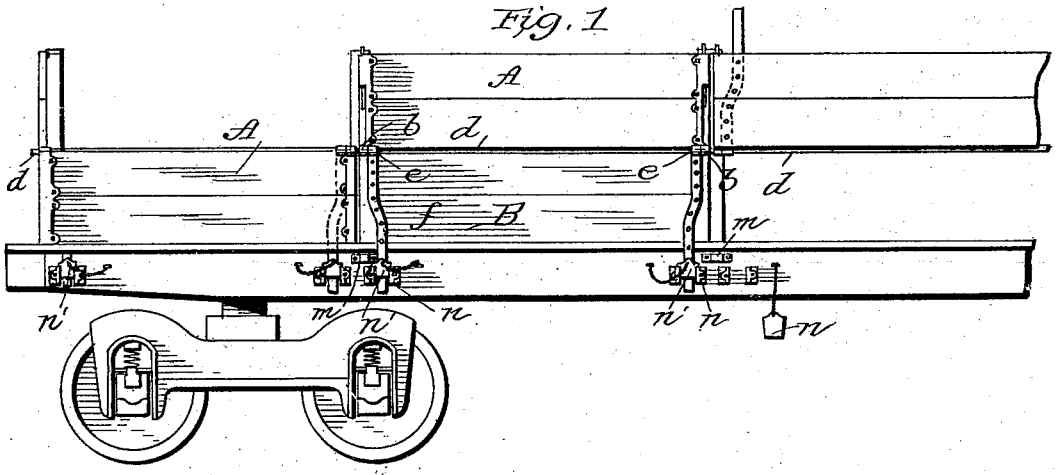


Fig. 2.

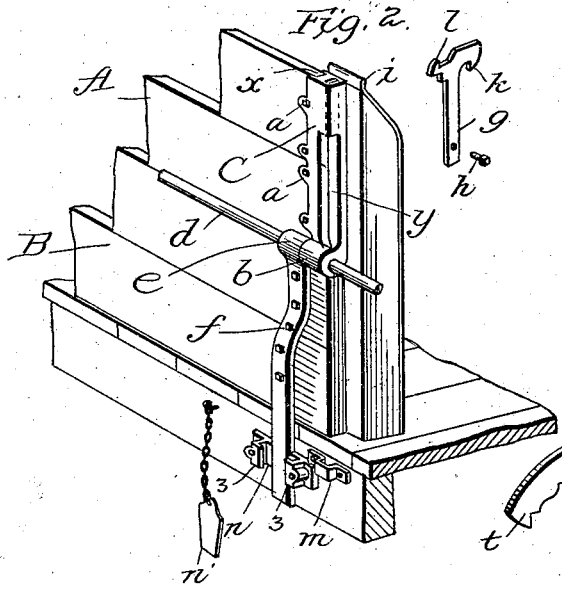


Fig. 3.

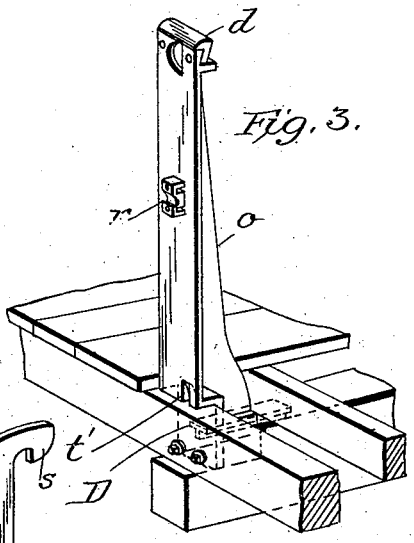


Fig. 4.

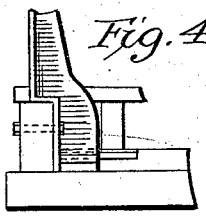
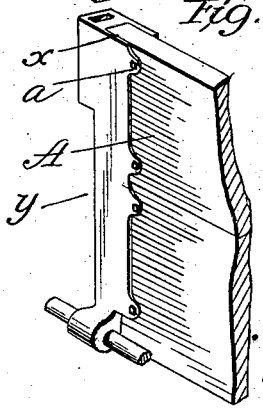


Fig. 5.



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FREIGHT-CAR.

SPECIFICATION forming part of Letters Patent No. 503,874, dated August 22, 1893.

Application filed May 13, 1893. Serial No. 474,117. (No model.)

To all whom it may concern:

Be it known that I, ELIAS E. PRATT, a citizen of the United States of America, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Freight-Cars, of which the following is a specification.

My invention relates to railway cars and particularly to freight cars, the object being to provide for the ready removal of the contents of the car by hinging or pivoting the sides thereof so as to adapt them to be raised or lowered as circumstances may require.

My invention consists in a railway car having the sides thereof preferably made in sections, each section consisting of an upper and lower part, and in so hinging or pivoting these parts as to enable the upper part to be easily swung down to reduce the height of the sides or to raise the lower part and thus form an opening between the upper part and the bottom of the car.

My invention also consists in the details of construction and in the devices used in carrying out the invention all of which I will more particularly refer to hereinafter.

In the accompanying drawings—Figure 1, is a side elevation of the car showing one section with the sides in normal position; another section with the upper part lowered and a third section with the lower part raised. Fig. 2, is a detail view showing one form of post and the two forms of latches. Fig. 3, represents a modified form of post, and Fig. 4, is a detail of the same. Fig. 5 represents the opposite end of the upper door from that shown in Fig. 2.

In the accompanying drawings I have represented an ordinary form of freight car to which my invention has been applied. It is of ordinary construction except in the respects indicated which relate to my invention.

In order to add to the strength of the structure I prefer to make the pivoted sections of a length which will enable them to be easily handled and at the same time provide for the use of a number of posts which will take up the strain upon the sides of the car and prevent undue pressure and the bulging of the sections. The sections may be of greater or less length than shown, but I prefer the general dimensions illustrated. The posts may be made of wood shod with metal so as to take up the wear as shown in Fig. 2, the post being firmly seated and secured to the car sills or as in Fig. 3 the post may be made of metal and securely seated in the car timbers so as to withstand the strain from the load.

Referring to Figs. 1 and 2, it will be seen that a series of posts are provided extending along the sides of the car and between these posts are sections composed of upper and lower hinged doors A, B, the ends of which abut against each other and bear against the outer face of the posts. These doors are preferably composed of plank and are shod upon their ends by a casting, as shown in Fig. 2, recessed at x upon one side to receive the ends of the plank and secured in place by means of bolts passing through ears a, in the casting C. These castings are preferably provided for the upper doors only, but the ends of the lower doors may be shod if found necessary or desirable. At the lower end of the shoes or casting C an eye or bearing is formed as at b and this encircles or is fitted to a rod d extending the length of the car and serving as a hinge upon which the doors pivot. The lower door is likewise hinged to the same rod by means of an eye or bearing e formed at the end of a strap f securely bolted to the lower door and having its end projecting below the lower ends of the door, as shown in Fig. 2, and for a purpose hereinafter described.

It is desirable to have the sections capable of being manipulated at will so as to gain access to the upper part of the load or to the lower part as may be desired and it is for this purpose that the two parts of the section are made capable of movement, the upper part to swing downwardly and the lower part to swing upwardly.

I provide simple forms of catches for holding the parts in their adjusted positions and these holding means I will now briefly describe.

The shoe C has one of its edges cut away to form an angular recess y for a part of its length and an opening is formed through the shoe from its upper end through to the recess and in this opening is fitted the shank g of a latch. The shank is longer than the opening through which it passes and projects into the

recess below. In order to prevent the displacement of the catch I screw a bolt into its lower end, as shown at *h*, and this serves to limit the movement and prevent the catch from becoming displaced when the upper part of the section is lowered. The recess in the corner of the shoe exposes the shank of the catch so that access can be had to it to unlatch it when it is desired to lower the upper door. As shown in Fig. 2, the upper end of the post is inclined and the metal covering extends over the inclined edge projecting upwardly to form a flange *i* and over this flange the hook *k* of the latch catches holding the door securely in place. In order to make the latching automatic the face of the hook is rounded so that it rises easily over the rounded edge of the flange on the post and drops down to engage the hook therewith. In order to hold the door securely when in its lower position I make the latch with a second catch or hook part as at *l*, and this is adapted to engage with the staple *m* secured to the side of the car below the floor thereof, as shown clearly in Fig. 2. This catch has also a curved face which permits it to rise easily over the edge of the staple until it comes in full engagement therewith and thus the door is locked in its lowered position.

The lower door is locked in its lower position by means of a recessed casting or block *n* secured to the sill of the car and adapted to receive the projecting end of the strap or hinge of the side or door. This casting has flanges 3 projecting inwardly and in the recesses formed by the flanges, the wedge piece *n'* is fitted which bears against the free end of strap piece and prevents movement of the lower door until the said piece is removed. This wedge piece is secured by a short section of chain to a staple driven in the sill of the car, and thus is always at hand.

In order to hold the lower door in raised position I provide a second latch at the opposite end of the upper door frame from that where the first latch is located as in Fig. 5 and this second latch has a hook at front and rear as shown at *s* and *t*, the hook *s* engaging the edge of the post to hold the upper door in place while the hook *t* receives the edge of the lower door when swung up against the upper door. As the hook *t* when the upper door is lowered extends below the lower edge of the lower door, I make a recess *t'* in the flooring and post as in Fig. 3, to receive the hook *t'* and thus allow the upper door to rest snugly against the lower so that its hook at the opposite end will engage the staple on the sill of the car. The second latch is made with a shorter shank or is permitted less movement and hence does not reach to the position of the first latch.

In Figs. 3 and 4 a metal post is shown in lieu of the wooden post and this is provided with an inwardly extending web *o* which tends to resist the inward strain, while the foot of the post is made angular and fits over the upper edge of one of the longitudinal beams of the car, the foot being also firmly bolted and anchored by means of a T-rail D which passes through the foot of the post and enters the adjacent beams. The post is of malleable iron preferably and to prevent the wear of the upper part I provide a steel catch plate *d* as shown, which receives the hooked end of the catch. In this form of post I provide a part of the bearing of the hinged rod on the post as shown at *r*, Fig. 3.

I claim—

1. A railway car having movable sides, said sides being composed of a series of pivoted sections and each section comprising two parts with their inner hinged edges abutting, substantially as described.

2. A railway car having movable sides, said sides being made up of a series of sections, a hinge rod extending centrally the length of the car said sections comprising upper and lower parts having their inner edges abutting and hinges connecting them with the said rod, substantially as described.

3. In combination with a car, a section comprising two parts, the upper part being movable, and a catch carried by the upper part and adapted to lock the same in its raised or lowered position, substantially as described.

4. In combination with a railway car, a section comprising two parts, both of which are movable and catches adapted to lock the upper part in its raised or lowered position and to lock the lower part in its raised position, substantially as described.

5. In combination in a railway car, movable sides comprising upper and lower parts and locking means for the lower part consisting of a projection thereon, engaging a recessed casting and a wedge piece for confining the same, substantially as described.

6. In combination with the movable sides of a car, a casting or shoe for the end thereof and secured thereto, having a recessed corner and a latch fitted to an opening therein and permitted a limited movement, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ELIAS E. PRATT.

Witnesses:
H. W. LUPTON,
N. W. MERWIN.