F. H. GIBBS.

RAILWAY CAR.

APPLICATION FILED MAY 3, 1915.

1,164,601.

Patented Dec. 14, 1915.

2 SHEETS—SHEET 1.

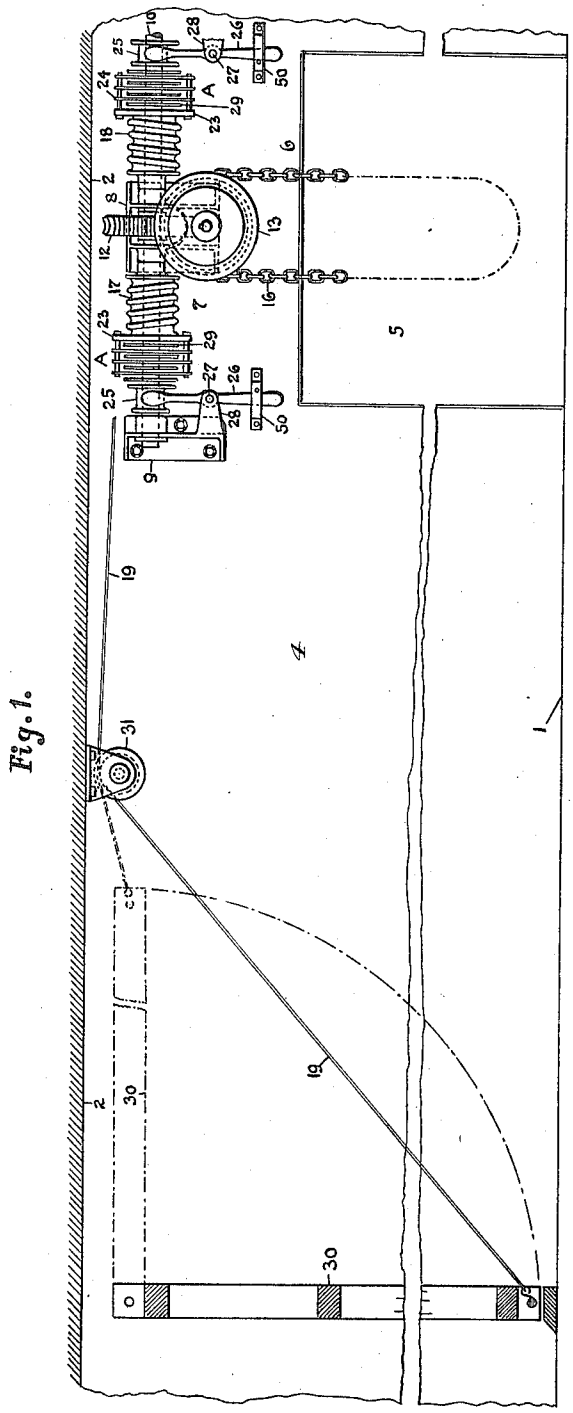


Fig. 1.

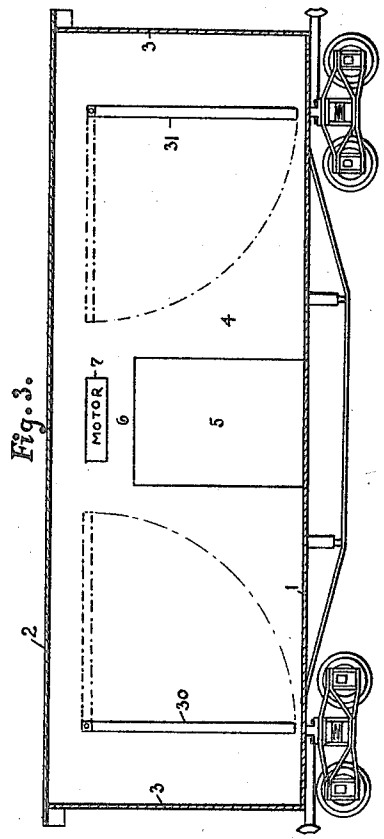


Fig. 3.

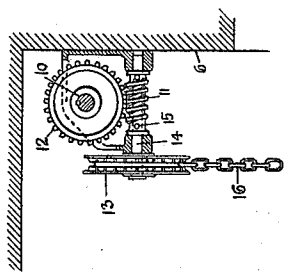


Fig. 2.

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2 SHEETS—SHEET 2.

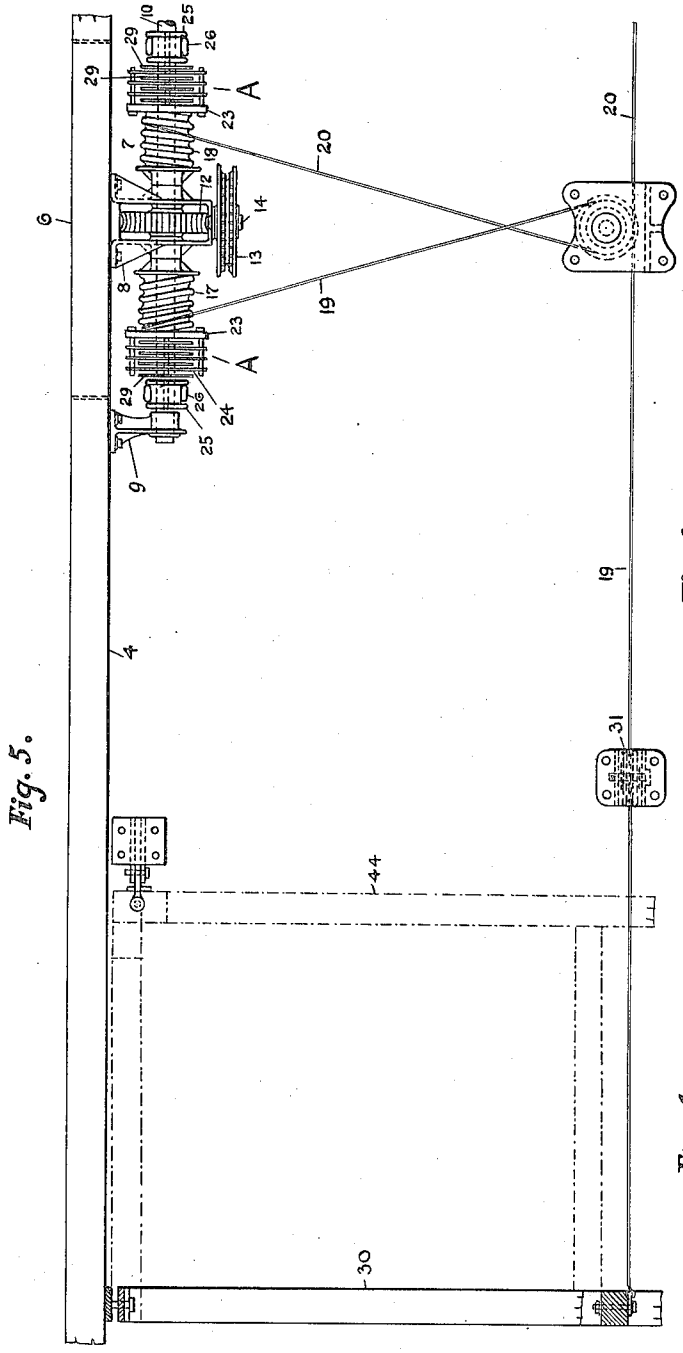


Fig. 5.

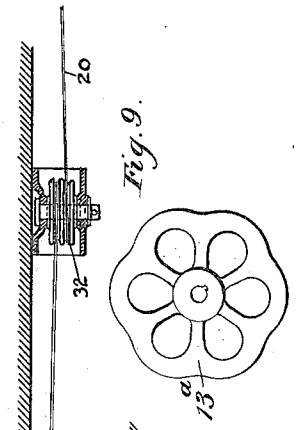


Fig. 6.

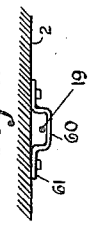


Fig. 7.

Fig. 9.

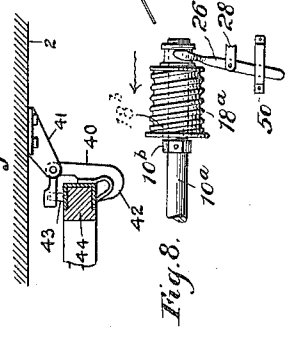


Fig. 4.

Fig. 8.

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FREDERICK H. GIBBS, OF NEW YORK, N. Y.

RAILWAY-CAR.

1,164,601. Specification of Letters Patent. Patented Dec. 14, 1915.

Application filed May 3, 1915. Serial No. 25,547.

To all whom it may concern:

Be it known that I, FREDERICK H. GIBBS, residing at 165 Broadway, New York city, New York, and being a citizen of the United States, have invented certain new and useful Improvements in Railway-Cars, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and to use the same, reference being had to the accompanying drawings, which illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof will occur to persons skilled in the art.

In said drawings: Figure 1 is an interior elevational view of a side wall of a box car equipped with the present invention. Fig. 2 is a transverse vertical sectional view, the section being taken on line 2—2 of Fig. 1. Fig. 3 is a view which is strictly diagrammatical and shows in outline a floor, roof, two end walls, a door opening with a motor space above said door opening and partitions extending transversely of a car body. Fig. 4 is a detail of a catch provided for securing the partitions hereinafter referred to in an elevated position. Fig. 5 is a plan view which shows a side wall of a car with the door opening in said side wall indicated, and with the motor hereinafter referred to positioned above said door opening and connected by flexible means with parts arranged diagrammatically as hereinafter described in detail. Fig. 6 is a fragmentary detail view showing parts hereinafter described. Fig. 7 is a transverse sectional view taken through the roof of the car showing the channel shaped cable runway hereinafter described in position. Figs. 8 and 9 are detail views of modifications.

The object of the invention is to provide a car body adapted to carry all kinds of movable commodities in which car body are disposed transversely extending partitions adapted to divide said car body into a plurality of compartments and to position in such car body, in a place not occupied by lading, suitable means adapted to actuate one or more of such partitions to merge two or more of the compartments separated by the partitions.

To form and to position the motor employed so that it may be installed over a side door opening in a car and thereby offer minimum obstruction to lading is another object and to provide means which can be employed to actuate partitions widely spaced apart, either singly or collectively, is another object.

The description and drawings, as well as the claims, are confined as near as may be to the specific invention and such parts as necessarily coöperate with it and for that reason the drawings illustrate more or less diagrammatically details which are well understood in the art.

It is well known that railway box and house cars are commonly provided with floors, roofs, end walls, side walls and door openings in such side walls, and in the drawings 1 indicates the floor, 2 the roof, 3 the end walls, 4 a side wall, 5 a door opening, 6 a space comprising a part of said side wall above the door opening and 7 indicates generally a motor, details of which will be hereinafter described, which motor is connected with said side wall and preferably above the door opening with its operating shaft extending longitudinally of the car body. The object in selecting space above the door opening for the motor is twofold. First, because such space is seldom occupied by lading and, second, where the motor is thus positioned it may be actuated by an operator without actually entering the car.

Attached to the side wall 4 and preferably within the space 6 above the door opening are suitable supporting brackets 8 and 9, the bracket 9 being duplicated on the opposite end of the shaft 10 which is shown. Supported by the brackets 8 and 9 is the motor 7, said motor comprising a worm 11 in mesh with a worm wheel 12 secured to the shaft 10 while a chain wheel 13 is secured on the shaft 14 to which the worm 11 is fastened by the pin 15, a chain 16 passing over the chain wheel 13 to actuate said chain wheel and worm 11, thereby driving the worm wheel 12 and shaft 10 to which the worm wheel is keyed.

Rotatably mounted on the shaft 10 are drums 17 and 18 on which may be wound the cables 19 and 20 respectively. Secured to the shaft 10 are friction disk clutches indicated generally by the reference characters A, said clutches comprising yokes 23, carrying disks 24, and a shifting spool 25.

A shifting arm 26 is pivoted at 27 in the bracket 28, and movable with the spool 25 is a series of disks 29 adapted to frictionally engage with the disks 24 when the shifting arm 26 is moved in the proper direction. Said drums 17 and 18 are connected with the yokes 23 so that when the friction disks are in contact and the shaft 10 is rotating the drums 17 and 18, either or both, as may be desired, will rotate with said shaft 10, thereby winding on said drums the cables 19 and 20 or the selected cable of said pair of cables.

Extending transversely of the car body are partitions 30 and 31, two of which are shown, though it is obvious that the shaft 10 before referred to may be provided with any number of winding drums and such drums may be connected by means of cables with the individual partitions.

In the example shown the partition 30 of Fig. 1 is connected by means of the cable 19 with the drum 17, said cable 19 extending over the sheave 31 and winding the sheave 32, thence to the said drum 17. Likewise the cable 20, shown in Fig. 5, would extend first around the sheaves 32, thence horizontally substantially parallel with the roof 2 of the car to a sheave similar to 31 and thence to the partition at the opposite end of the car.

The drums 17 and 18 being connected by the flexible cables 19 and 20 with the partitions 30 and 31, either or both of said partitions may be lifted by the motor comprising the chain wheel, worm, worm wheel, shaft, drums and associated parts, and it is to be noted that the clutches may be omitted if desired and the motor employed to simultaneously lift both partitions 30 and 31, in which case the drums 17 and 18 would be secured fast to the shaft 10 instead of being rotatable thereon, but due to the weight of such partitions it is preferred that a clutch shall be used so that but one winding drum shall be actuated at a time. For the purpose of locking the partitions 30 and 31 in the horizontal position indicated by dot and dash lines in Fig. 1, I provide a hook 40 which is supported by the bracket 41 from the roof 2 of the car, said hook providing a pendant hooked end 42 and a movable spring actuated plunger 43, which plunger is adapted to be engaged by the lower end 44 of the partition 30, thereby driving the plunger 43 upwardly and swinging the hooked end 42 under the partition, as shown in Fig. 4, so as to support the partition in its elevated position.

Connected with the side wall 4 are racks 50 provided with ratchet teeth adapted to engage the actuating handles 26 of the clutch assembly when it is desired to lock the disk of the clutches in engagement.

It is obvious that the details of construction of a clutch employed in the position in which the clutches shown are illustrated is unimportant, but the disk clutch is selected because the friction disk of that type of clutch may be utilized as a brake when the partitions are being lowered from the dot and dash positions in Fig. 1 to the full line position in which the partition 30 is shown in that figure. Likewise the clutches may be employed when locked in frictional engagement to support the partitions 30 and 31 in their elevated positions without utilizing the hook shown in Fig. 4, and it will be obvious that the friction of the clutches plus the friction incidental to the worm and worm wheel of the lifting motor will be sufficient to support the weight of said partitions.

The detail of Fig. 7 may be employed if desired in which detail is shown a pressed metal channel member 60 provided with outstanding flanges 61 which are suitably secured to the roof 2 and in the channel 60 the cables 19 and 20 may extend, if desired, thereby supporting the cables in their elevated position regardless of their length between their supports.

Many changes in detail construction and arrangement of parts may be employed within the scope of the invention without affecting the general result. For example, a single large hand-wheel of the type shown detached in Fig. 9 may be substituted for the chain-wheel, 13 in which case such alternate wheel 13^a may be of greater diameter than said wheel 13 and should be less expensive than the smaller chain wheel 13 and the chain 16 employed therewith. Likewise the shifting drum 18^a of Fig. 8 may be associated with a shaft 10^a which is provided with a non-circular portion 10^b adapted to engage a correspondingly non-circular recess 18^b in the contiguous face of the drum 18^a and the type of drum 18^a may be substituted for the drums 17 and 18 and the disk clutches A associated therewith, if desired.

What I claim is:

1. In a railway car, side and end walls, a plurality of partitions extending transversely of said car, a single motor attached to one of said walls and means connecting the motor and said partitions whereby the motor can be made to actuate either of said partitions at the will of the operator.

2. In a railway car, a side wall having a door opening therein with a wall space above said door, a lifting motor above said door, partitions extending transversely of said car at each side of said door opening, flexible connections from said partitions to said motor and means operable to cause said motor to actuate either of said partitions at the will of the operator.

3. In a railway car, a plurality of partitions extending vertically and transversely

thereof, a lifting motor extending longitudinally of said car and flexible means connecting the motor and partitions whereby either of the partitions may be moved to a relatively horizontal position by a single motor.

4. In a railway car, a plurality of partitions extending vertically and transversely thereof, a lifting motor extending longitudinally of said car and flexible means connecting the motor and partitions whereby both of the partitions may be moved to a relatively horizontal position by a single motor.

5. In a railway car, a movable partition extending transversely of said car, a lifting motor including a winding shaft extending longitudinally of said car and flexible connecting means from said shaft to said partition.

6. In combination, car side walls, partitions extending transversely of the car between said walls, a single motor adapted to lift said partitions, a plurality of cables extending from said motor to said partitions and means adapted to cause said motor to lift each of said partitions.

7. In combination, car side walls, a plurality of transverse partitions therebetween, and a single motor with connections adapted to lift each of said partitions.

8. In combination, side and end walls of a box car having a door opening, partitions extending transversely of said car and adapted to be lifted toward a roof of said car, a lifting motor positioned over said door opening and means connecting the motor with the partitions whereby the motor can be employed to lift the partitions.

9. In a railway car, a side wall having a door opening therein with a wall space above said door, a lifting motor above said door, winding drums actuated by said motor, clutches between the motor and drums partitions extending transversely of said car at each side of said door opening, flexible connections from said partitions to said motor and means operable to cause said motor to actuate either of said partitions at the will of the operator.

10. In a railway car, a partition extending vertically and transversely thereof, a lifting motor having a shaft extending longitudinally of said car and releasable means connecting the motor and said partition whereby the partition may be moved to a relatively horizontal position upon actuation of said motor.

11. In a railway car, a partition extending vertically and transversely thereof, a lifting motor having a driven shaft extending longitudinally of said car and friction actuated means connecting the motor and the partition whereby the partition may be moved to a relatively horizontal position by said motor.

12. In a railway car having a side door opening, a movable partition extending transversely of said car, a lifting motor adapted to lift said partition, the motor being supported immediately above said door opening and means connecting the motor and said partition.

13. In combination, car side walls, partitions extending transversely of the car between said walls, a single motor adapted to lift said partitions, a plurality of cables extending from said motor to said partitions and friction actuated means adapted to cause said motor to lift said partitions.

14. In combination, car side walls, a plurality of transverse partitions therebetween, and a single motor with friction driven connections from the motor to said partitions adapted to lift said partitions.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

FREDERICK H. GIBBS.

Witnesses:
JANE M. BARRETT,
M. F. PHELPS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."