F. G. MILLER.

FREIGHT CAR.

APPLICATION FILED SEPT. 11, 1913.

1,081,853.

Patented Dec. 16, 1913.

2 SHEETS—SHEET 1.

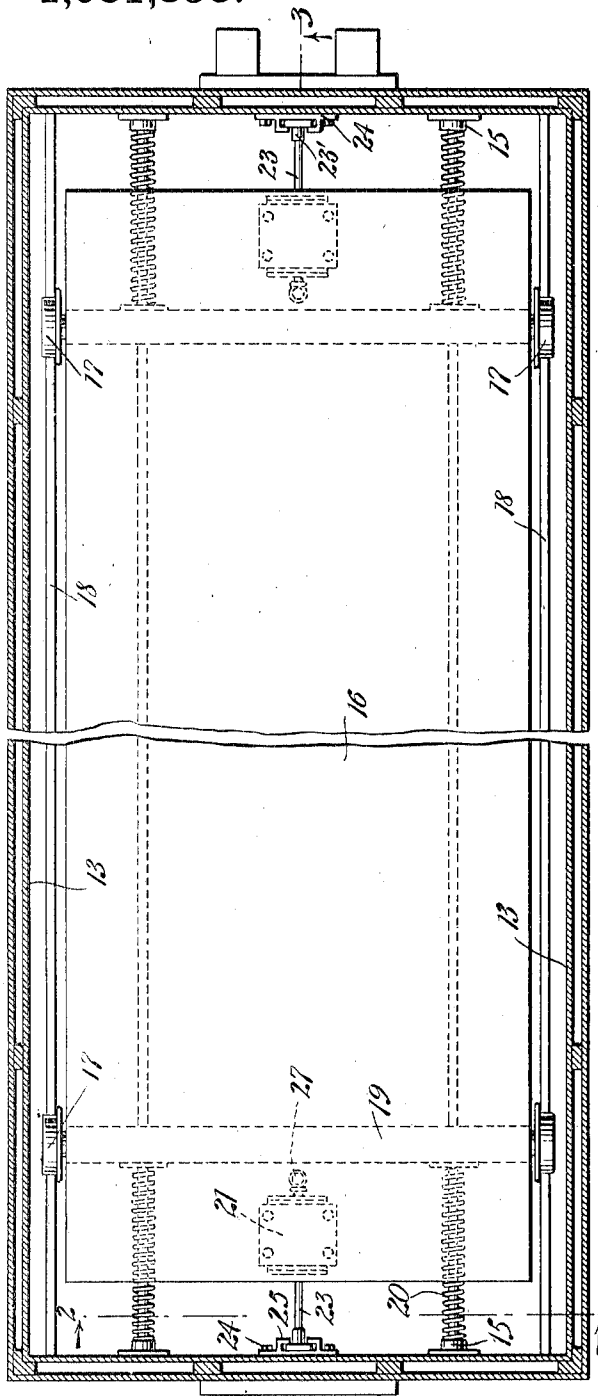


Fig. 1.

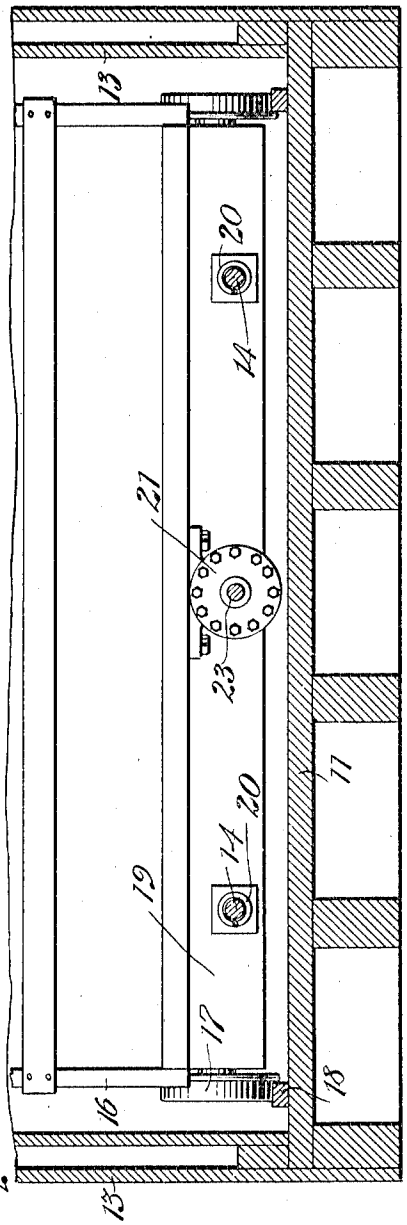


Fig. 2.

WITNESSES

Edw. Thorpe

Geo. L. Beeler

INVENTOR

Frank G. Miller

BY

ATTORNEYS

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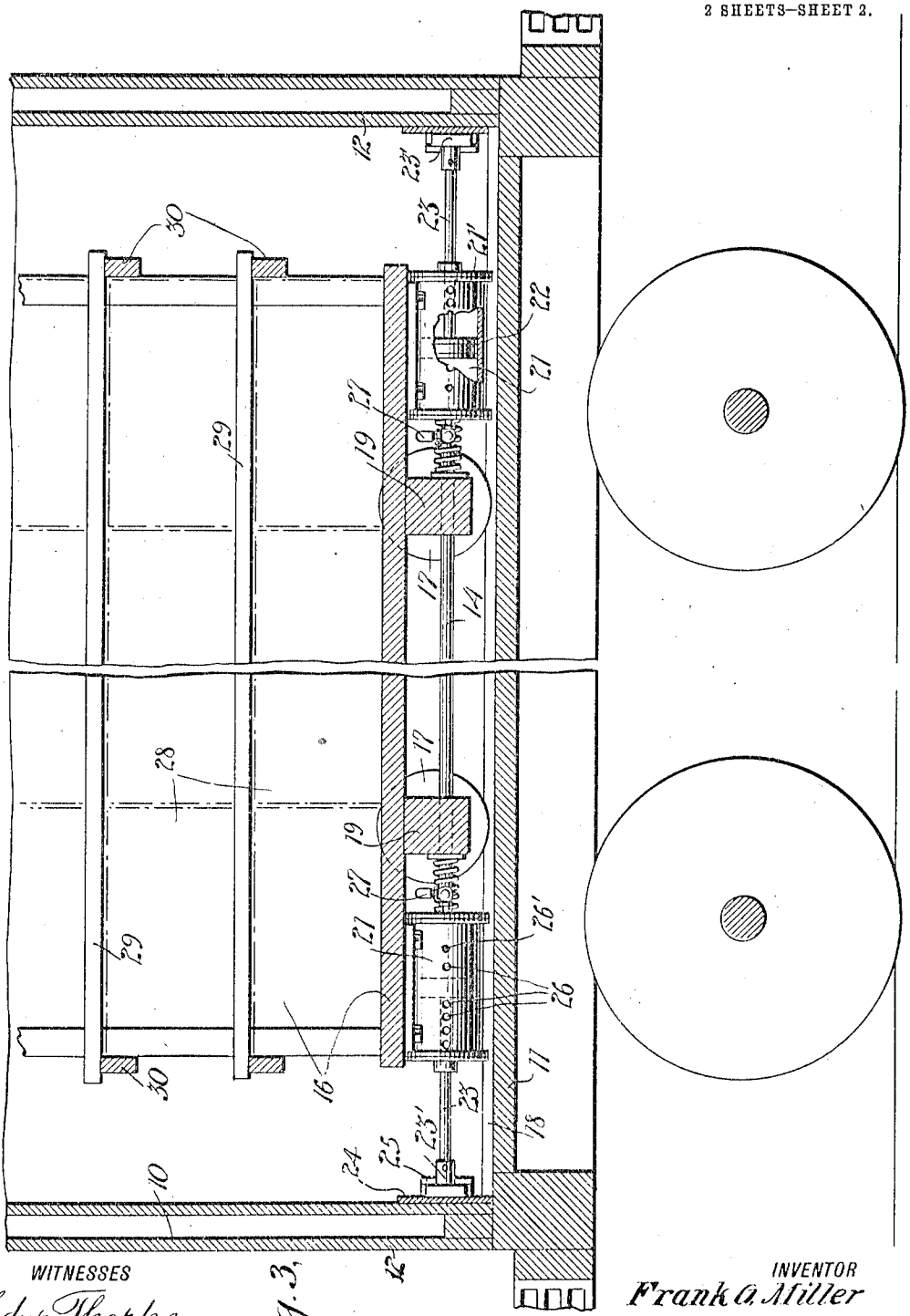


Fig. 3.

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UNITED STATES PATENT OFFICE.

FRANK G. MILLER, OF DEFIANCE, OHIO.

FREIGHT-CAR.

1,081,853. Specification of Letters Patent. Patented Dec. 16, 1913.

Application filed September 11, 1913. Serial No. 789,334.

To all whom it may concern:

Be it known that I, FRANK G. MILLER, a citizen of the United States, and a resident of Defiance, in the county of Defiance and State of Ohio, have invented a new and Improved Freight-Car, of which the following is a full, clear, and exact description.

This invention relates to railway car construction and has particular reference to cars for carrying freight or express, but I would have it understood that the invention is not to be limited to any particular use to which it may be applied.

Among the objects of the invention is to so arrange a freight car as to support the freight or articles being carried by it so as to prevent damage due to shocks or jolts such as are commonly incident to freight traffic.

More definitely stated, my invention relates to a platform or cage of any suitable nature depending upon the commodity to be carried therein, such platform or cage being mounted for movement relatively to the floor of the car, and certain cushioning devices, either in the nature of springs or dashpots, being introduced between the movable platform and the other parts of the car so as to equalize the relative movements and tend to keep the movable device in mid position.

The foregoing and other objects of the invention will hereinafter be more fully described and claimed and illustrated in the drawings forming a part of this specification in which like characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a horizontal sectional view through a freight car showing my invention applied thereto; Fig. 2 is a transverse section on the line 2—2 of Fig. 1; and Fig. 3 is a longitudinal section on the line 3—3 of Fig. 1.

The several parts of the device may be made of any suitable materials, and the relative sizes and proportions, as well as the general design thereof, may be varied to a considerable extent without departing from the spirit of the invention hereinafter more fully set forth and specifically claimed.

At 10 I show a freight car of conventional form or such as are commonly called box cars. This car is provided with the usual bottom 11, ends 12 and side walls 13.

At 14 I show a plurality of bars extending from one end of the car to the other in parallel relation to each other and to the side walls and spaced a short distance from the bottom 11 of the car. Said bars 14 are secured in place in socket pieces 15 and constitute a permanent or fixed part of the improvement.

At 16 I provide a platform or crate, hereinafter for convenience termed a platform, and the same is movable along the bottom 11 of the car. In other words, the platform is adapted to reciprocate within certain limits between the ends 12 of the car, but is spaced in its normal or mid position as much as a foot or two from each end. In practice, however, the platform closely approximates the full width of the inside of the car. This platform 16 is preferably mounted on anti-friction wheels or rollers 17 bearing upon longitudinal rails 18 upon the car floor.

The construction of the platform includes a plurality of cross bars or beams 19 which may constitute the axles for the wheels 17 and through these cross beams the bars 14 are adapted to extend, as shown in Figs. 2 and 3. That portion of each rod 14 between the end 12 of the car and the cross piece 19 is surrounded by a coil spring 20 constituting one form of cushioning device which may be employed to resist the movement of the platform toward that end of the car. I also provide at each end of the platform a pneumatic cushion or dashpot shown as comprising a cylinder 21 having a piston 22 connected by means of a piston rod 23 with the adjacent end of the car. The piston rod preferably is fitted substantially air-tight with the end 21′ of the cylinder, and in order to make allowance for the lateral vibrations of the platform with respect to the car body, some suitable means must be provided whereby cramping or binding of the dashpot connection will be prevented. One simple and effective means for accomplishing this is to connect the head 23′ of the piston rod with a socket 24. The socket 24 is secured rigidly to one end and is provided with vertically arranged spaced lips 25, the spaces between the lips being wider than the thickness of the piston rod head which lies between them, whereby the platform with all of its connected parts may vibrate slightly laterally. With reference to the effect of the vibrations upon the rods 14, it may be stated that such rods may bend

sufficiently for such purpose, or the openings between the lips may be large enough to permit the vibrations to be taken care of by the wheels 17 and rails 18 in connection with the cushioning devices just described.

The dashpot is preferably provided with means to graduate the exit of air from its cylinder 21. Any suitable means to accomplish this result may be employed though I show for the purpose a series of holes 26, the spaces between the holes being greater toward the effective end of the cylinder and the last hole being smaller than the others. In other words, as the piston 22 is forced toward the closed end of the cylinder the air will be forced out through the holes 26 comparatively freely until it approaches the last hole, when finally the trapped air will constitute an air cushion, except, however, as may be modified by the operation of an adjustable air valve 27. The air valve may be set to discharge at any desired amount of pressure as required by the nature of the equipment.

As suggested in Fig. 3 especially, the platform is designed for the transportation of crates of eggs shown in broken lines at 28. The platform construction may include therefore any desired number of permanent side and end rails 29 and 30 respectively, which serve to hold the egg crates in position.

From the foregoing description it will be understood that a load of freight or breakable commodities carried by the platform 16 will be relieved from the shocks or jamming effect of the starting and switching or the like of freight cars as they are usually handled. In other words, the platform and its load will be given a resilient cushioned endwise connection with the ends of the freight cars whereby the danger of breakage or loss will be reduced to a minimum.

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

1. In a freight car, the combination with the car body, of a platform adapted to reciprocate longitudinally within the car body and toward the opposite ends thereof in alternation, anti-friction means to support the platform upon the car floor, a pair of rods extending from one end of the car to the other end and there secured in position, said rods extending through portions of the platform, and cushioning means associated with said rods and serving to relieve the shock between the car and the platform.

2. In a device of the character set forth, the combination of a car body including a floor and ends, a platform within the car, rails and wheels supporting the platform upon said floor and providing for longitudinal reciprocation of the platform between the ends of the car, means auxiliary to the rails and wheels to control the lateral vibrations of the platform, and cushioning means between the ends of the platform and the ends of the car, said cushioning means including dashpots, each dashpot comprising a cylinder, a piston, a piston rod and a socket piece for the end of the piston rod, said socket piece having vertically arranged parallel lips spaced from each other at a distance slightly greater than the width of the end of the piston rod, said dashpot also including means to control the exit of air from the cylinder, said controlling means including an adjustable valve.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK G. MILLER.

Witnesses:
E. W. COSTELLO,
MILLIE PESSIFALL.