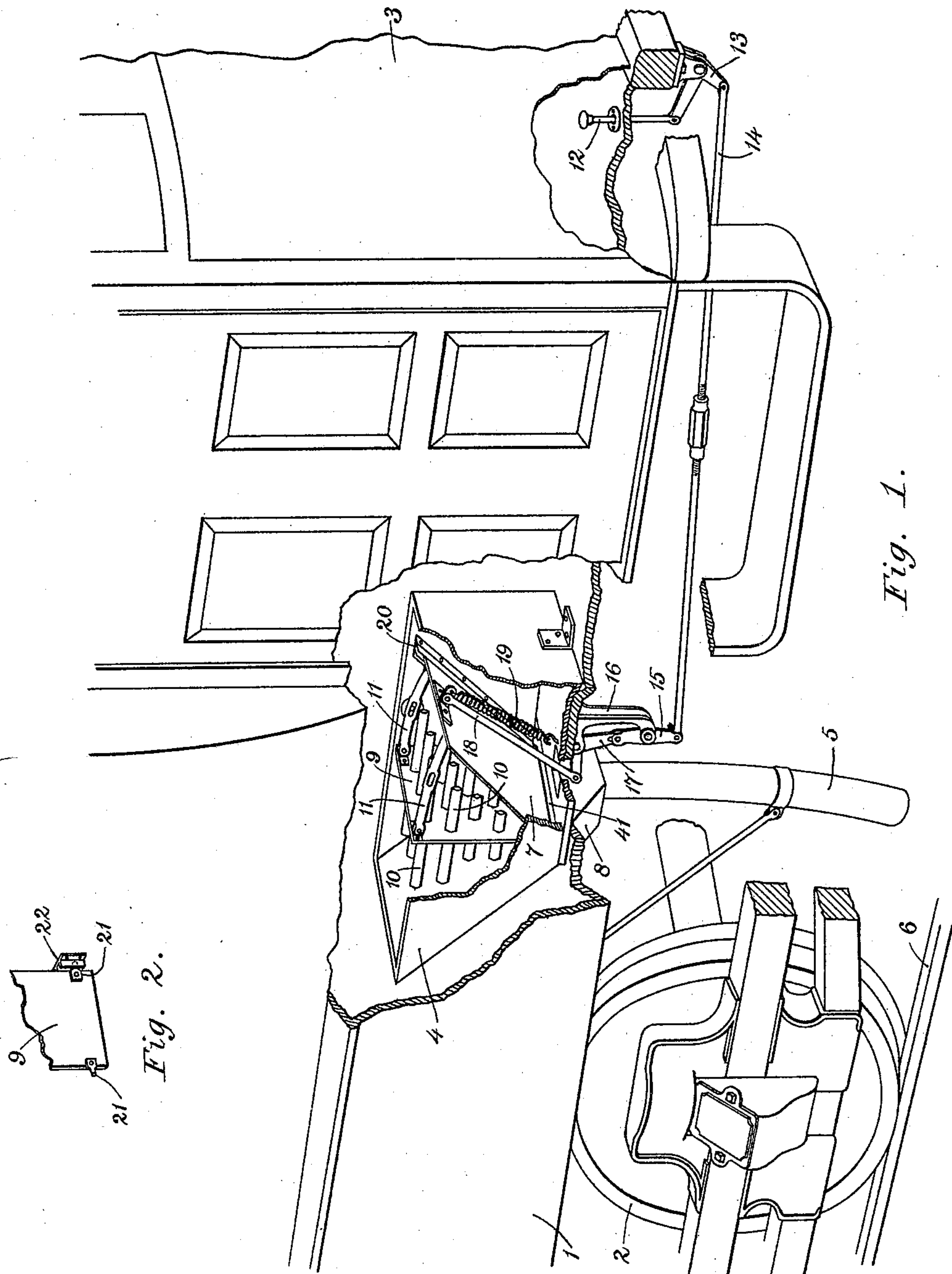


(No Model.)

F. S. BLISS.
SAND BOX FOR RAILWAY CARS.

No. 581,016.

Patented Apr. 20, 1897.



Witnesses.
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UNITED STATES PATENT OFFICE.

FRED S. BLISS, OF MANSFIELD, MASSACHUSETTS

SAND-BOX FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 581,016, dated April 20, 1897.

Application filed March 1, 1897. Serial No. 625,510. (No model.)

To all whom it may concern:

Be it known that I, FRED S. BLISS, a citizen of the United States, residing at Mansfield, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Sand-Boxes for Railway-Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention has for its object to provide an improved sand-box or sand-receptacle for electric cars and the like, from which sand may be discharged upon the car-tracks when required, and in which the danger of clogging will be reduced to a minimum.

My invention is fully set forth in the following description, and the novel features thereof are particularly pointed out and clearly defined in the claims at the end of this specification.

I have shown my invention in the best form now known to me in the accompanying drawings, in which—

Figure 1 is a perspective of one end of a street-railway car having the invention applied thereto, certain parts being broken away in order to show features of construction and arrangement which otherwise would be concealed. Fig. 2 is a detail of the lower portion of the agitator of the sand-box.

At 1 is shown part of the framework or body of the car, and at 2 one of the wheels.

At 3 is intended to be indicated the forward end of the car, or that end at which the motorman stands.

Of course it will be understood by those acquainted with street-railways that most cars are made double-ended or reversible, each end in turn becoming the front according to the direction in which the car is run. Therefore, usually, my invention will be applied to each of the ends of an ordinary car, but only the device which is at the leading end of the car during a given run will be in use during such run.

At 4 is a hopper-shaped box or receptacle, which preferably is contained in the space beneath a seat of the car, the said box having in its bottom a slit or opening 41 through which the sand discharges into a funnel-shaped casing 8.

At 5 is a pipe leading from the said casing

8 down in front of the wheel 2 to a point suitably adjacent to the rail 6 on which the said wheel runs. The sand which is to be used may be thrown into the hopper 4 and, as will be obvious, as it escapes from said hopper into the funnel-shaped casing 8 will pass down through the pipe 5 onto the rail 6.

At 7 is a sliding valve constituting one side of the sand-containing space within the hopper, the said valve and also the opposite side of the hopper being placed in inclined positions converging toward each other at their lower ends so as to guide the sand toward the delivery-opening 41 as it moves downwardly upon the same.

For the purpose of preventing caking and clogging of the sand within the hopper 4 I provide a breaking and stirring device consisting of a vertically-movable plate or bar 9, the latter being supplied with projections 10, which extend from the opposite faces or sides thereof and serve by their action upon the sand contained within the hopper to agitate or stir up the latter and prevent it from lodging or clogging within the hopper, thereby facilitating its free flow downward through the slit at the bottom of the hopper. In order to provide for moving the said agitating device, I preferably connect it with the valve 7, so as to be moved whenever said valve is raised or lowered. Thus I have shown the said agitator 9 as connected to the extremities of levers 11 11, which last are mounted pivotally upon the sides of the hopper 4, the opposite extremities of the said levers being connected pivotally to the valve 7. As the valve is raised to open the slit through which the sand escapes from the hopper the agitator is moved downwardly in the hopper, and in like manner as the valve is depressed to close the said slit the agitator is raised. Any suitable or convenient means of operating the valve may be employed as desired or according to the requirements of the case. In the drawings I have shown the said valve as adapted to be actuated at the will of the motorman through the agency of devices intended to receive the pressure of his foot whenever the valve is to be opened. Thus at 12 is shown a pin or plunger mounted suitably in a guide in the front platform of the car and connected pivotally at its lower end with one arm of a bell-crank 13, the

other arm of which has joined thereto one end of a rearwardly-extending rod 14, the opposite end of which is connected with the lever 15, the said lever being pivoted upon a bracket 5 16, supported suitably from the framework of the car. The upper arm of the lever 15 is in turn joined to one arm of the bell-crank 17, the said bell-crank 17 being conveniently mounted upon the same bracket 16 and having the other arm thereof joined by a link 18 10 to the valve 7. The pressure of the foot of the motorman upon the plunger-pin 12 causes the valve 7 to be raised in the hopper. The reverse movement of the parts is accomplished 15 by means of a spiral spring 19, which has one end thereof connected with the valve 7 and the other is connected with any suitable fixed part. Any suitable means of supporting and guiding the valve 7 and agitating device in 20 their movements may be adopted. I have shown in Fig. 1 one edge of the said valve 7 as sliding in a grooved guideway 20, and in practice both edges of the said valve will be thus guided. In Fig. 2 I have represented 25 one means of confining the agitator 9 to a vertical position. In the said figure pins 21 project from the opposite sides of the plate of the said agitator and are received in grooved guideways 22, only one of which is shown in

said figure, the said guideways being affixed 30 to the sides of the hopper.

I claim as my invention—

1. The improved sand-box having one side of the sand-receiving space thereof constituted by the sliding valve 7, and having within 35 the same the agitator or stirrer 9, and also provided with means to actuate said valve and agitator in unison, whereby whenever the valve is moved to start or arrest the flow of sand the agitator is caused to stir the sand, 40 substantially as described.

2. The improved sand-box having one side of the sand-receiving space thereof constituted by the sliding valve 7, the agitator or stirrer 9 within the said space, the levers con- 45 necting the said agitator or stirrer with the said valve, and means of applying power to one of said parts to start or arrest the flow of sand as and when desired and simultaneously therewith move the said agitator or stirrer, 50 substantially as described.

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

FRED S. BLISS.

Witnesses:

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