No. 641,887. Patented Jan. 23, 1900.

S. W. PHELPS.

SAND BOX FOR STREET RAILWAYS.

(Application filed Dec. 21, 1898.)

(No Model.)

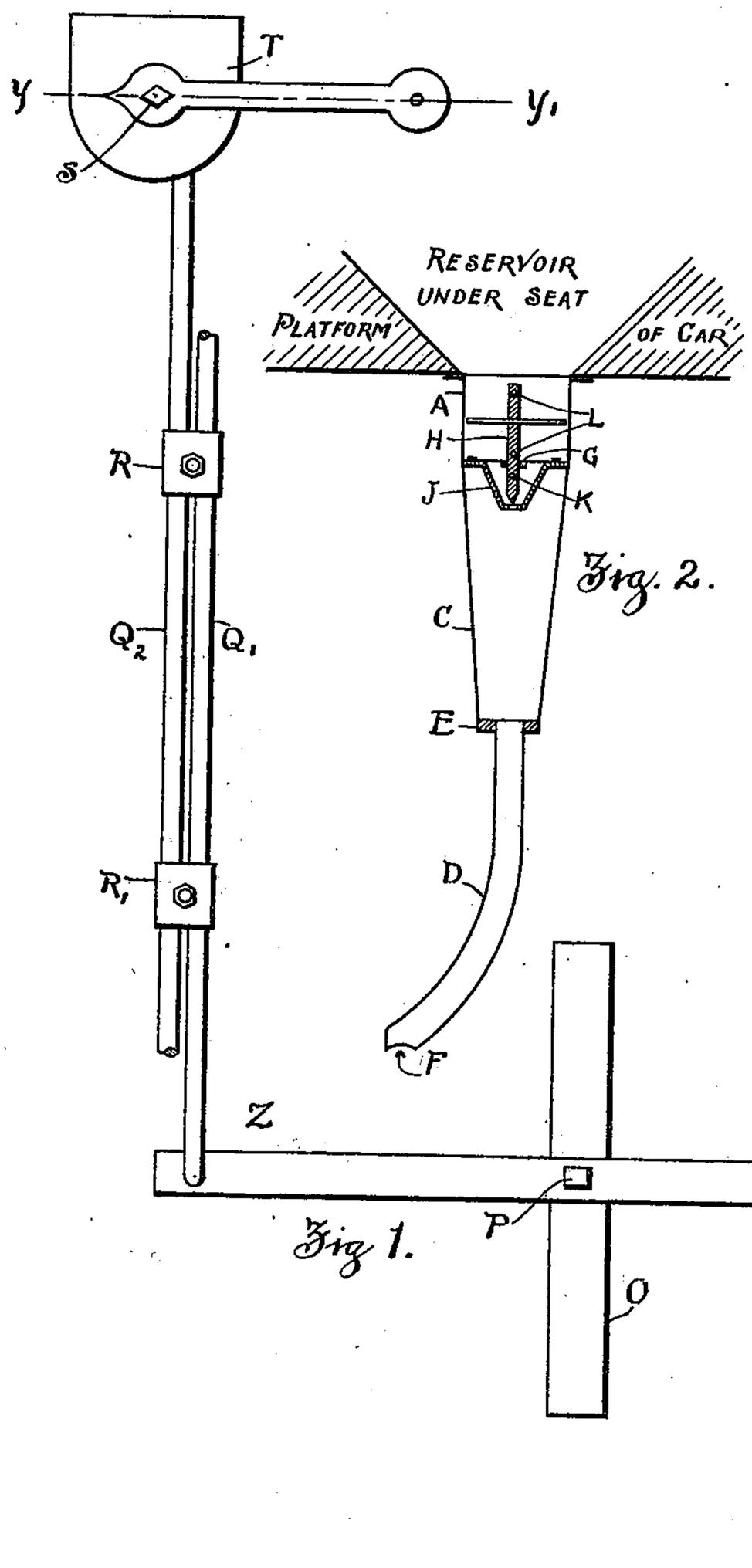

Fig. 2.

Fig 1.

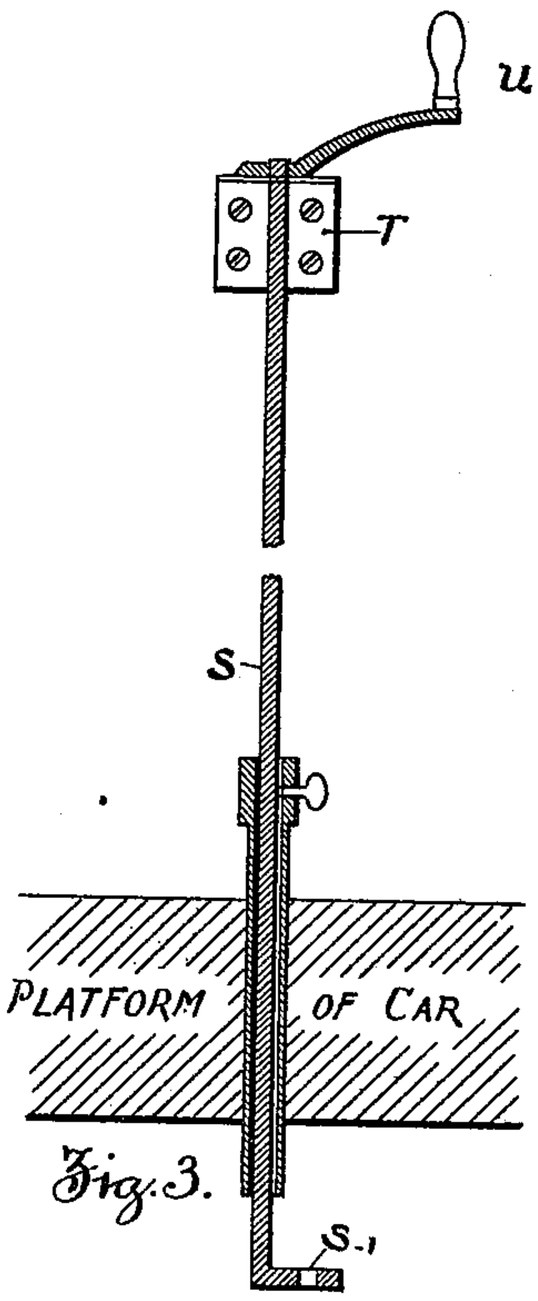

Fig. 3.

Witnesses
James Colquhoun
John A. Whittaker

Inventor
Sidney W Phelps

UNITED STATES PATENT OFFICE.

SIDNEY W. PHELPS, OF SOUTHBRIDGE, MASSACHUSETTS.

SAND-BOX FOR STREET-RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 641,887, dated January 23, 1900.

Application filed December 21, 1898. Serial No. 699,956. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY W. PHELPS, a citizen of the United States, residing at Southbridge, in the county of Worcester and State of Massachusetts, have invented new and useful Improvements in Sand-Boxes for Street-Cars, of which the following is a specification.

My invention relates to improvements in the manner of sanding rails of street-railways without regard to the power by which the cars are operated, and is specially adapted to use in the latest design of vestibule-cars, as well as the old-style open-end cars; and the object of the invention is to perfectly distribute sand on the rails and at all times to have the distribution under the control of the driver or motorman.

My invention consists of the distributing box or boxes and a set of levers leading to the driver's or motorman's station, and these parts are easily attached or separated from any car.

A more particular and accurate description may be had by referring to the drawings, of which—

Figure 1 is a plan of the apparatus for sanding one rail. The same arrangement of box and levers may be duplicated and attached to the controlling extension-lever Q′ and Q² at the point Z. Fig. 2 is a vertical section of the distributing-box on the line X X, and Fig. 3 is a vertical section on the line *y y* of the indicating-controller which is operated by the driver or motorman.

Similar letters refer to similar parts throughout the several views.

The distributing-box A is fastened to the under side of the car-body and a short distance in front of the car-wheel. In the car, over this box A and connected with it, is the reservoir for holding sand. In the bottom of the box A are two holes B, Fig. 1, through which the sand descends into the tunnel C, Fig. 2, and pipe D to the hole F in bottom side of a curved pipe which is directly over the rail to be sanded. The tunnel C is riveted to the box A, and the pipe D is attached to E by a pipe-union connection. Special beneficial results are attained by the position F in the manner specified. The outflow from the holes B is regulated by the shutter G, which in the views shown is represented as closed. This shutter G has a square hole through which passes the square post H, which fits into the yoke J, the shutter G being held in place by the small pin K, which fits in a hole in the post H directly under the shutter. Within the box A and the post H are inserted the pins or bars L for loosening the sand. When the shutter G is moved and opens the outflow-holes B, the post H is moved at the same time, thus causing the bars L to traverse in the arc of a circle through the sand, and thus start the sand in motion. The shutter G is connected with and operated by the levers M N (which are supported by the yoke O and rotate on the post P at the center of the yoke) and Q′ and Q², which are directly connected by the arm S′ to the upright shaft S, which passes through the floor of the car and the center of the controller-plate T. This plate is attached to the dasher of the front platform. This vertical shaft S is moved by the handle-arm U, which fits over the diamond-shaped head of the shaft S.

The parts R and R′ are clamps made to adjust the rods Q′ and Q² to the varying lengths of different sizes of cars or the different positions of the box A A in the same-sized cars.

The special merit of this design is in the system of levers, the curved pipe, and boxes described. In the present electric cars, on account of the variety of wires, beams, &c., under the car, it is not possible to place the box A in the same relative position on all cars, nor in the same relative position on opposite sides of the same car. This system of levers allows for raising, lowering, changing the length, or bending the levers. The curved pipe allows for the change in position of the box A and still brings the sand as close as possible to the wheel and rail. If possible to place the box directly over the rail, a straight pipe may be substituted.

I am aware that prior to my invention arrangements have been used for sanding car-rails, but not aware that they have been used in the manner set forth above.

What I claim is as follows:

1. The combination of the sand-box A A, having the holes B therein, with the closing shutter G, the pin K, post H, yoke J, and radial pins L, substantially as described.

2. The combination with the sand-box and

connected therewith by the shutter G, of levers M, N, Q′, Q², the supporting-yoke O, and the pin P, post S, and indicator-controller U, substantially as described.

3. The combination of the yoke J, the post H, the radial arms L, the shutter G, with the pin K, the levers M, N, Q′, Q², the yoke O, pin P, the post S, and the arm U, substantially as described and for the purpose specified.

4. The combination of the box A, provided with the holes B, the tunnel C, pipe D provided with the hole F, union E, shutter G, post H, yoke J, pin K, radial pins L, with the levers M, N, Q′, Q², yoke O, post P, clamps R and R′, shaft S, arm S′, and controller U for holding and distributing sand to rails substantially as described.

SIDNEY W. PHELPS.

Witnesses:
JOHN A. WHITTAKER,
JAMES A. COLQUHOUN.