

(No Model.)

W. T. BUTLER & G. H. HATHAWAY.

APPARATUS FOR SANDING CAR TRACKS.

No. 350,865.

Patented Oct. 12, 1886.

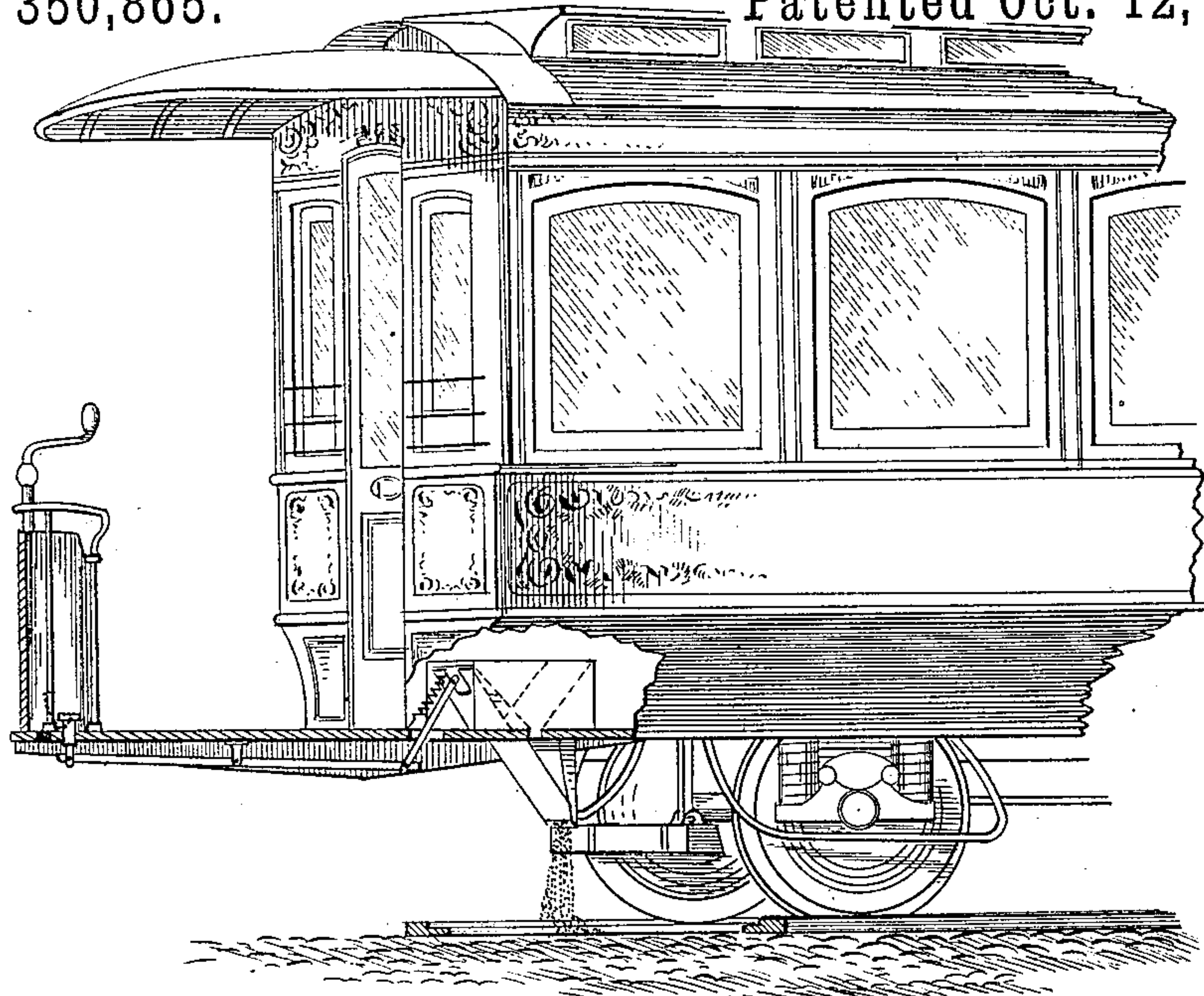


Fig. 1.

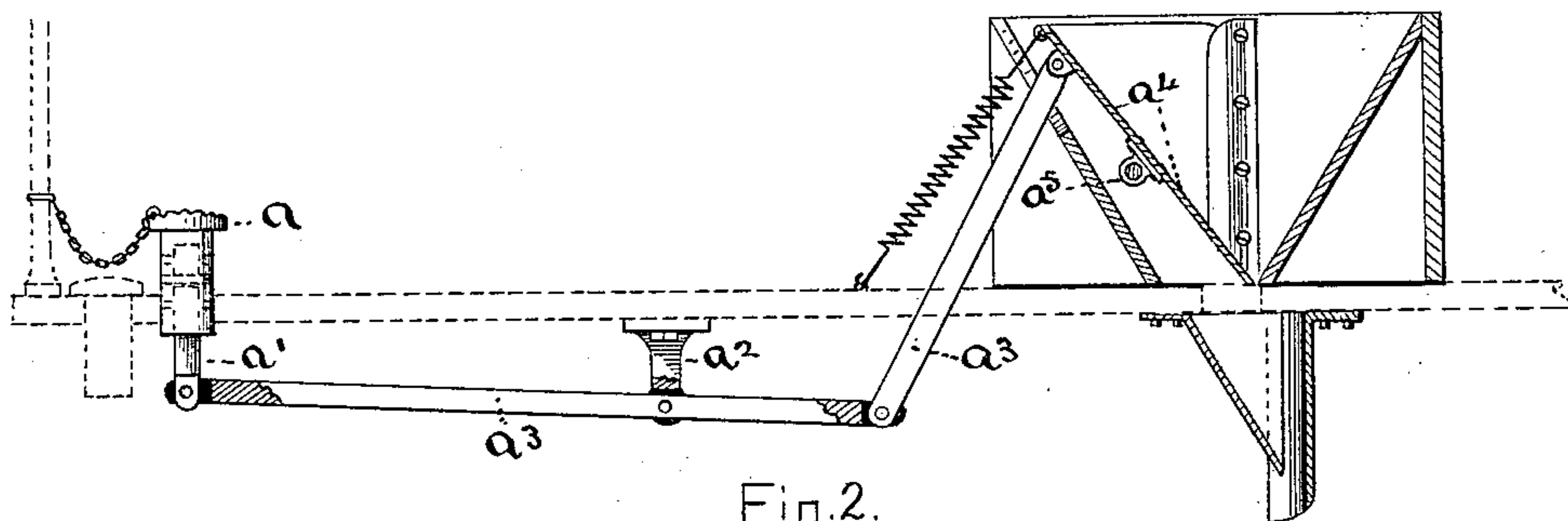


Fig. 2.

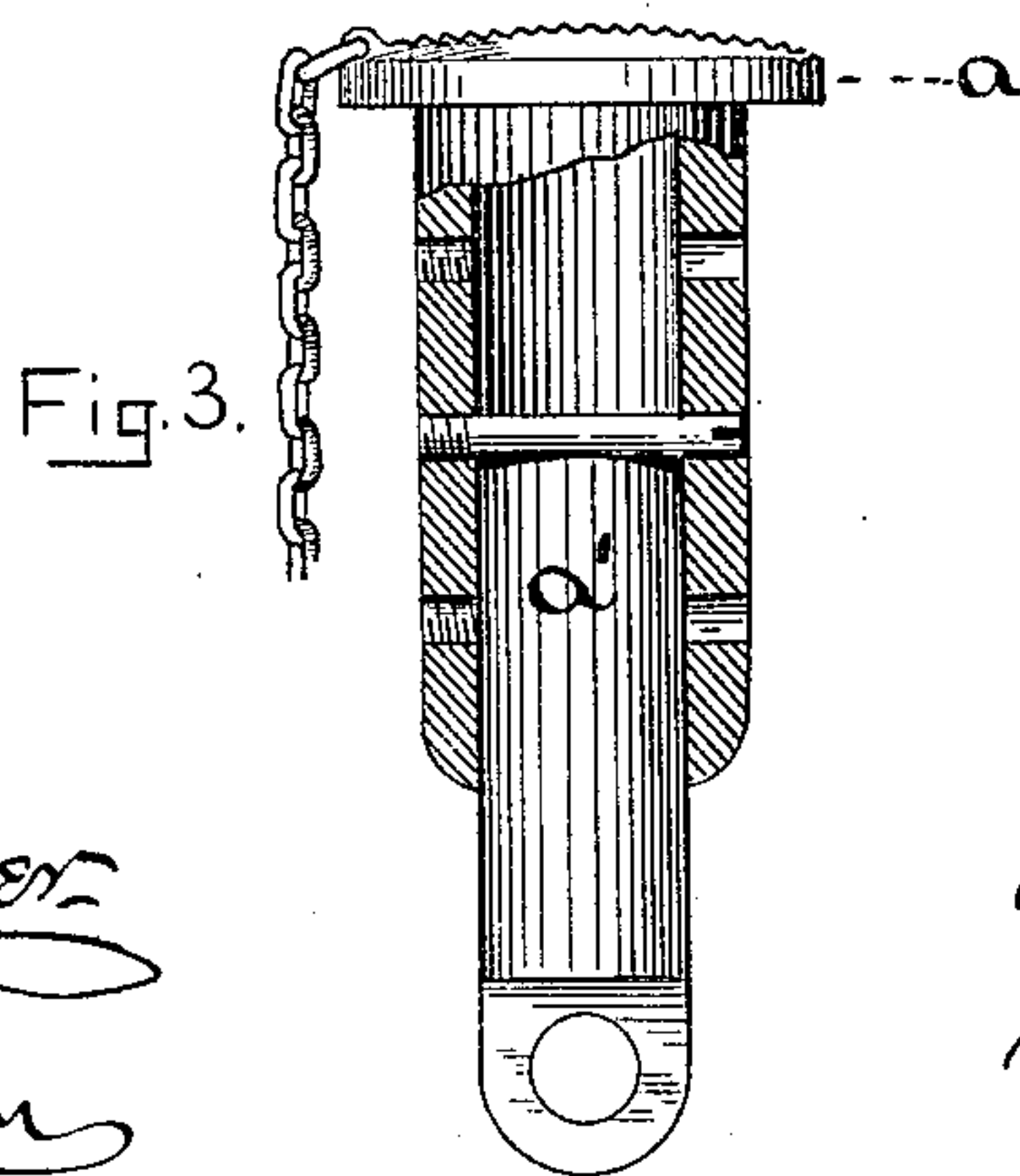


Fig. 3.

Witnesses.  
*L. Henry Cooper*  
*Ch. Houghton*

Inventor.  
*Warren T. Butler*  
*George H. Hathaway*



# UNITED STATES PATENT OFFICE.

WARREN T. BUTLER, OF CHELSEA, AND GEORGE H. HATHAWAY, OF  
BOSTON, MASSACHUSETTS.

## APPARATUS FOR SANDING CAR-TRACKS.

SPECIFICATION forming part of Letters Patent No. 350,865, dated October 12, 1886.

Application filed July 3, 1886. Serial No. 207,059. (No model.)

*To all whom it may concern:*

Be it known that we, WARREN T. BUTLER, of Chelsea, in the county of Suffolk and Commonwealth of Massachusetts, and GEORGE H. HATHAWAY, of Boston, in said county and State, have invented a new and useful Improvement in Apparatus for Discharging Sand on a Track-Rail from a Car or other Vehicle Moving on the Track, of which the following is a specification.

This invention is an improvement upon that patented to us March 2, 1886, No. 336,891, and relates to means of opening the gate at the lower end of the sand-hopper to permit the flow of sand downward, the object of it being to provide a system of levers whereby the driver of a car can open the gate of the sand-hopper by a downward pressure of the foot; and it consists in the devices and combination of devices described below.

In the patent referred to the devices for opening the gate of the sand-hopper were to be actuated by the driver pressing with his knee. It was found that serious objections to such a method existed, as that frequent use of the knee for such a movement would cause inflammation of the ligaments and muscles of the knee, and that the system of levers had too many working-joints and consequent loss of power.

In the present invention a vertically-vibrating stud with a movable cap on the top of it rises and falls through the floor of the platform on which the driver stands, in a place where it is convenient for him to put his foot on the top of the cap without changing his position, the bottom end of the stud resting upon and hinged to the ends of a jointed lever, supported by and worked on a fulcrum below the platform, which is supported by a suitable stud affixed on the under side of it. A portion of this lever, from the vibrating stud to a point beyond the fulcrum where it is jointed, lies nearly in plane with the floor of the car, and from this point it extends upward at an angle of about forty-five degrees to a joint on the outside of the sand-hopper, near the top of it, to which it is connected. The sand box and hopper and all the other parts are identical with the same parts described and shown in the patent above referred to.

In the drawings annexed, Figure 1 shows a partial side and end view of a horse-car with the outer shell of the walls removed to show the sand-box, hopper, lever, and spring. Fig. 2 shows a detached side view of the sand-box, hopper, lever, fulcrum, and vertically-vibrating stud, with the cap, and their positions relative to the floor of the car and each other. Fig. 3 shows a side view of the vertically-vibrating stud and a vertical section of the cap on it, and devices for regulating the extent of vertical motion of the stud.

We will mark by letters and describe only the parts which constitute or relate to the present invention.

$a$  is a movable cap on the top end of the vertically-vibrating stud, upon which the driver's foot will press when he wishes to deliver sand on the track. Holes through the shell of this cap, corresponding with holes through the vertically-vibrating stud, admit a pin by which the height of the top of the cap above the floor of the platform, and the motion communicated to the lever and the gate of the sand-hopper, can be regulated. When the sanding apparatus is not required to be in use, this cap is lifted off the vertically-vibrating stud and dropped into a hole in the floor of the platform made to receive it. Dotted lines show this.

$a'$  is a vertically-vibrating stud standing upon and jointed to the outer end of the working-lever below the floor of the platform of the car, and rising through and above the floor of the platform, over the top end of which the cap  $a$  is placed.

$a''$  is a vertical supporting-stud affixed to the under side of the bottom of the car, and extending downward about six to eight inches, having a transverse bolt through the lower end of it, through which, and upon the transverse bolt, the working-lever is supported and vibrated.

$a'''$  is a lever of two parts or members jointed together, one part being in a horizontal position below the floor of the car and the other part standing at an angle of about fifty degrees, the whole suspended from and supported by a stud affixed to and projecting downward from the under side of the floor of the car, through the lower end of which a transverse



bolt serves as a fulcrum for the lever. The forward end of this lever is hinged to and supports the vertically-vibrating stud  $a'$ . The elevated end of this jointed lever reaches to  
 5 and is connected with a hinge-joint on the outside of the sand-hopper gate above its fulcrum, and near the top of it.

$a^4$  is the gate of the sand-hopper, supported by and vibrating upon a fulcrum upon the  
 10 middle of the outer and lower side of it.

$a^5$  is the fulcrum of the gate of the sand-hopper.

$a^6$  is a spring, which closes the gate of the sand-hopper when the pressure of the driver's  
 15 foot upon the cap is removed.

It is obvious that when the driver of a car presses with his foot upon the cap  $a$ , forcing the stud  $a'$  downward, the lever  $a^3$  will be actuated, and by its motion the gate of the sand-  
 20 hopper will be opened by its forcing the upper end of it inward, while by its vibration on the fulcrum  $a^5$  the lower end of the gate is thrown outward, making an opening through

which the sand falls into the chute which conducts it to the top of the rail. 25

We claim as new and our invention—

1. In a car-track-sanding apparatus, in combination, the cap  $a$ , the vertically-vibrating stud  $a'$ , the supporting-stud  $a^2$ , and the jointed lever  $a^3$ , all substantially as described, for the  
 30 purpose specified.

2. In a car-track-sanding apparatus, in combination, the vertically-vibrating stud  $a'$ , the supporting-stud  $a^2$ , and the jointed lever  $a^3$ , all substantially as described, for the purpose  
 35 specified.

3. In a car-track-sanding apparatus, in combination, an oscillating gate which forms one side of a sand-hopper, a lever,  $a^3$ , a supporting-stud,  $a^2$ , and a vertically-vibrating stud,  $a'$ ,  
 40 all substantially as described.

WARREN T. BUTLER.

GEORGE H. HATHAWAY.

Witnesses:

S. HENRY HOOPER,  
 CHS. HOUGHTON.