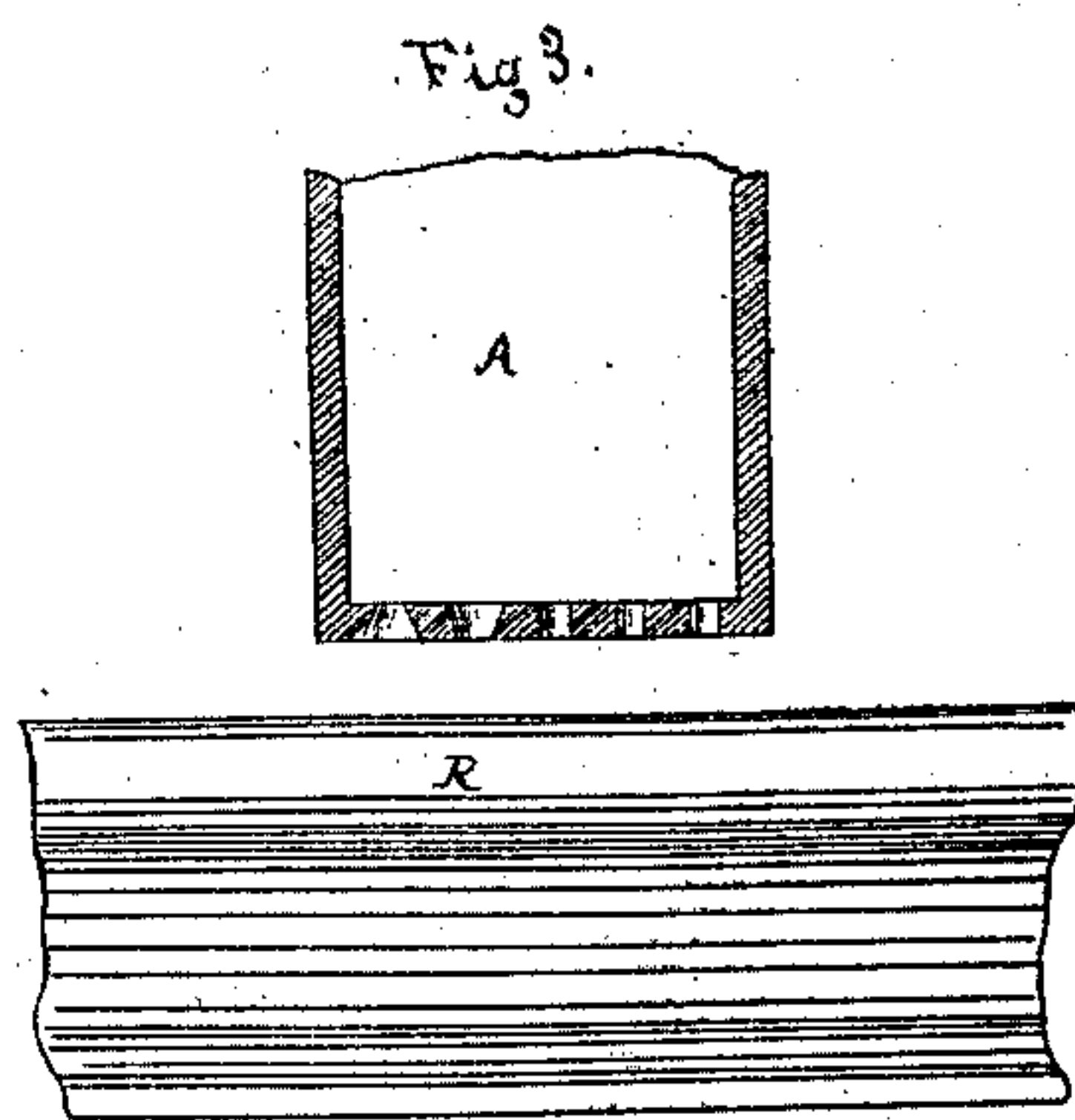
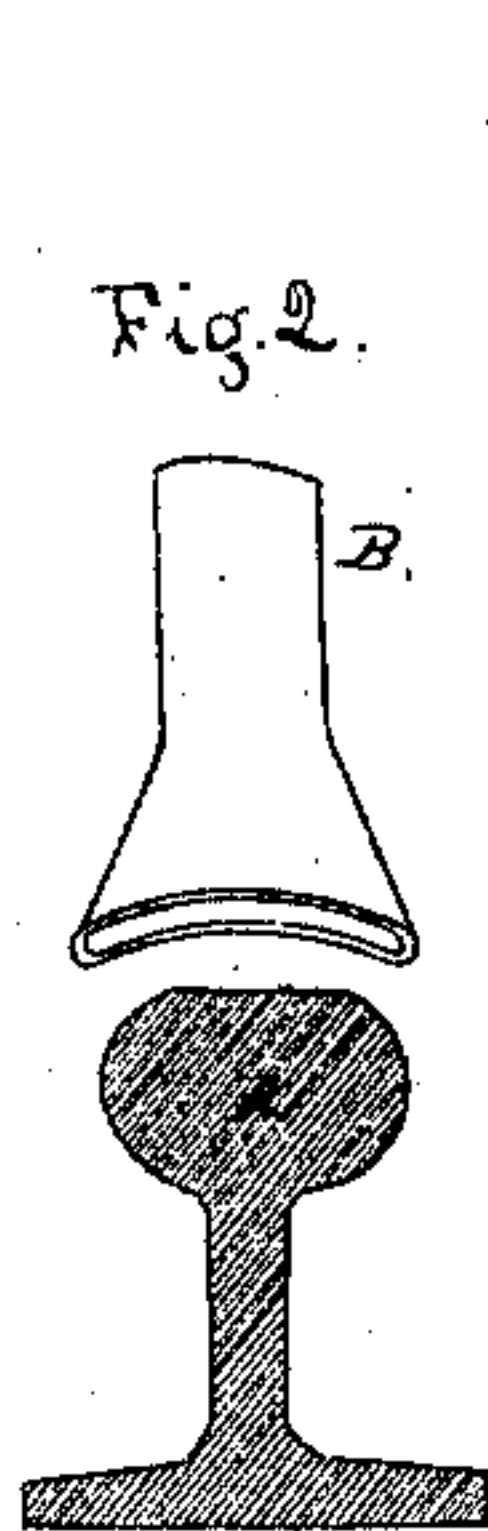
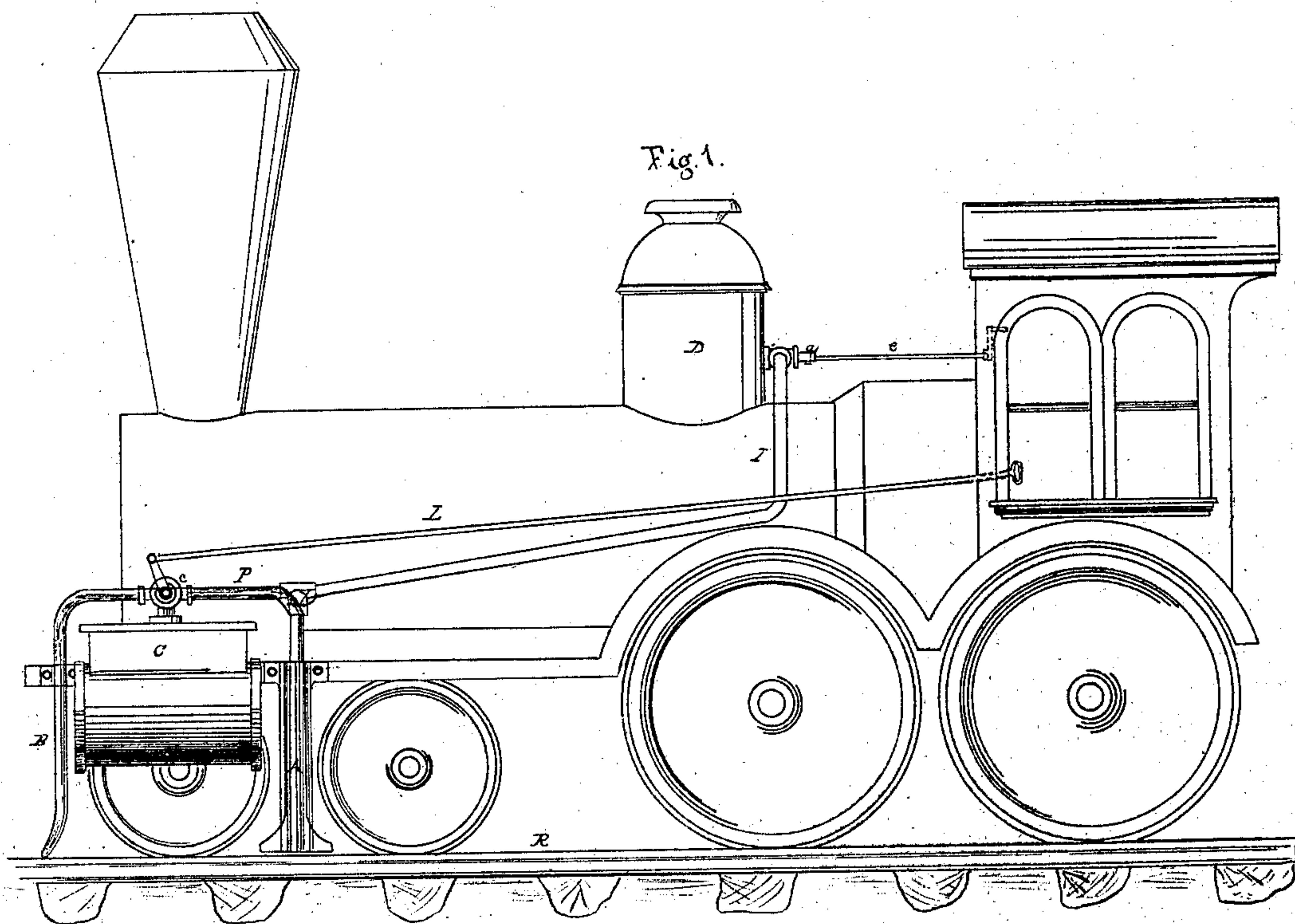


*S. G. Cabell.*  
*Track Cleaner for Railroad.*  
*N<sup>o</sup> 80450* *Patented Jul. 28, 1868.*



Witnesses:  
*L. Hailer*  
*P. T. Dodge*

Inventor:  
*S. G. Cabell*  
*by Dodge & Munroe*  
*his attys.*



# United States Patent Office.

S. G. CABELL, OF QUINCY, ILLINOIS, ASSIGNOR TO HIMSELF AND PETER  
T. ABELL, OF ATCHISON, KANSAS.

*Letters Patent No. 80,450, dated July 28, 1868.*

## IMPROVED TRACK-CLEARER FOR RAILROADS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, S. G. CABELL, of Quincy, in the county of Adams, and State of Illinois, have invented certain new and useful Improvements in Railway-Clearers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

My invention relates to a new and improved method of clearing railway-rails of snow, ice, insects, grease, and similar obstructions; and it consists in a novel arrangement of devices, whereby the steam from the locomotive is used for that purpose.

Figure 1 is a side elevation of a locomotive-engine, with my improvements applied.

Figures 2 and 3 are views of portions detached, and shown more in detail.

It is well known to engineers and others that railway-trains are often stopped or greatly retarded by the slipping of the driving-wheels of the engine upon the rails of the track. This is caused sometimes by snow, sleet, or ice; more frequently by the oil that drips from standing cars at and about the stations; and of late, particularly at the West, by the swarms of insects, known as grasshoppers, army-worms, and the like, these insects existing in enormous numbers, so that when crushed by the wheels of the forward truck, they form a slimy, slippery mass, so coating the rails and wheels as to destroy the hold of the driving-wheels upon the rails, and thus stop the train. On the western prairies, it is found also that the grass growing alongside of the rails serves as an obstacle, by being crushed, and rendering the rails slippery, especially in those places where it grows rapidly and is rank and full of juice.

Heretofore it has been customary to provide each engine with a box of sand, to be strewn upon the rails, to obviate these difficulties, but this is objectionable, for several reasons. In the first place, the sand has to be sifted and dried, in order to enable it to be fed with facility through the pipes that conduct it from the sand-box to the rails; second, it is liable to work into the bearings and working parts of the engine, thus cutting or grinding them away, and injuring the machinery. Its use also constantly tends to grind and wear away the tires of the drivers, and also the rail, and when exhausted, as it frequently is, at a distance from the station, or any point where it can be replaced, the train or engine is rendered helpless.

To remedy these difficulties, and provide a means that is more effectual and always at hand, I provide the following means for using steam from the locomotive for this purpose, instead of sand.

To the frame of the forward truck of the locomotive, between the front pair of wheels on each side, I secure a cast-iron box, A, with its lower end as near the rail as will be safe, as shown in fig. 1. The lower end of this box is perforated with a series of small holes, as represented in fig. 3, and its upper end I connect, by a pipe, P, to the steam-chest C, by means of a cock, c, as represented in fig. 1.

From the steam-chest I also extend a pipe, B, down in front of the front wheel, with its lower end curved slightly forward, and terminating directly over and as near the rail as is safe. The point of this tube B, I shape so as to form a curved mouth, corresponding in form to the top of the rail, as represented in fig. 2.

The cock c is what is termed a two-way cock, so that when opened, it will admit steam from the chest C into both the pipe B and the box A at the same time. The steam thus admitted to the pipe and the box will be ejected upon the rail with a force corresponding to the pressure in the steam-chest, and will blow off from the rail any loose material, such as light snow, insects, &c. At the same time, the steam from the pipe B will also tend to melt any adhering snow or ice that may be upon the rail; and in case it should not entirely clear the rail, and there should be left any adhering ice, the latter would be crushed and loosened by the passage over it of the forward wheel, when the steam from the box A will remove the particles, and thus leave a clean rail for the driving-wheels, as they advance.

In the case of insects, the pipe B would probably be sufficient alone, without the box; and if desired, the

cock *c* may be so arranged as to admit steam to either one alone, or to both at one, as may be found necessary in practice. Where oil or grease is the cause of the difficulty, the box *A* is the most efficient, as the steam from it impinges directly upon the rail in numerous small jets, with great force, and thereby effectually cleans it.

By making the box *A* of cast iron, I obtain a sufficient body of metal to retain heat enough, after the steam is shut off, to dry up all moisture formed by the condensation of the steam in the pipe, and thus prevent the formation of ice, that would otherwise fill up the perforations in very cold weather.

The cock *c* may be operated by the engineer, by means of a rod, *L*, as shown in fig. 1.

Instead of taking the steam from the steam-chest *C*, it may be taken from the steam-dome *D*, by means of a branch-pipe, *I*, on each side, as shown in red in fig. 1. In that case, a two-way cock, *a*, will be used, and operated by a rod, *e*, as shown.

This plan, for some reasons, is preferred, as a single cock and rod will suffice to admit the steam on both sides at once.

In all cases, the pipes should be protected by some non-conducting covering, to prevent radiation of the heat, and condensation of the steam in the pipes.

By these means, I provide a very simple and efficient method of clearing the rails, and one that is ever ready for use when there is steam in the boiler.

I am aware that devices exist and have been patented for removing snow, ice, grease, &c., from railroad-tracks, by forcing jets of steam through tubes upon the rails, and therefore I do not claim broadly this means or method of accomplishing such results, but that my invention is an improvement upon existing devices; and therefore

What I claim, is—

The arrangement of the steam-box *A* and the pipe *B*, with the two-way cock *c* and rod *L*, constructed substantially as and for the purpose herein set forth.

S. G. CABELL.

Witnesses:

H. B. MUNN,

W. C. DODGE.