

No. 671,623.

Patented Apr. 9, 1901.

W. C. GOSS.  
RAILWAY SNOW PLOW.

(No Model.)

(Application filed Feb. 4, 1901.)

3 Sheets—Sheet 1.

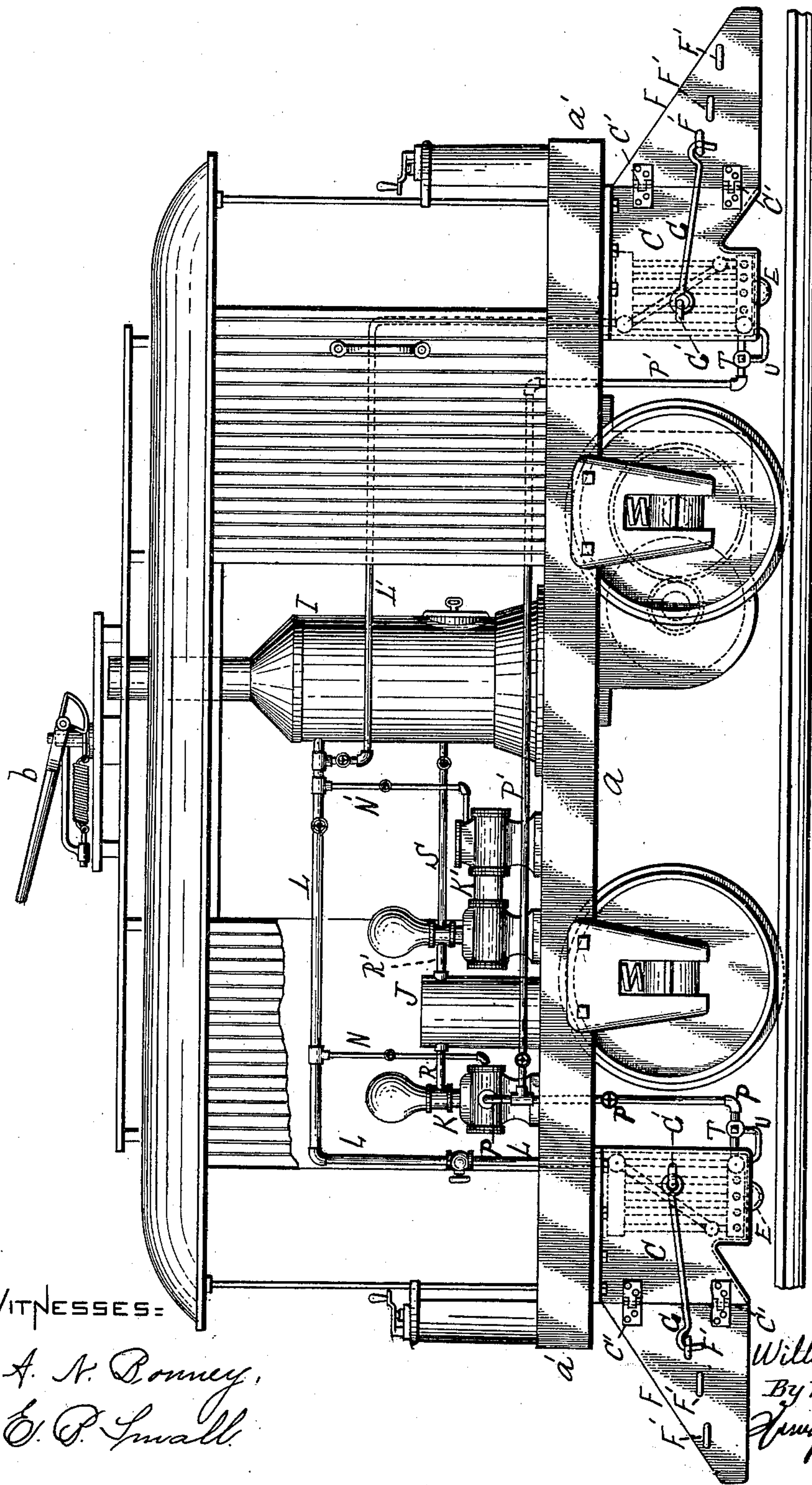


FIG. 1.

WITNESSES:

A. N. Bonney,  
E. P. Small.

INVENTOR=

William C. Goss

By his Atty.

Henry W. Williams

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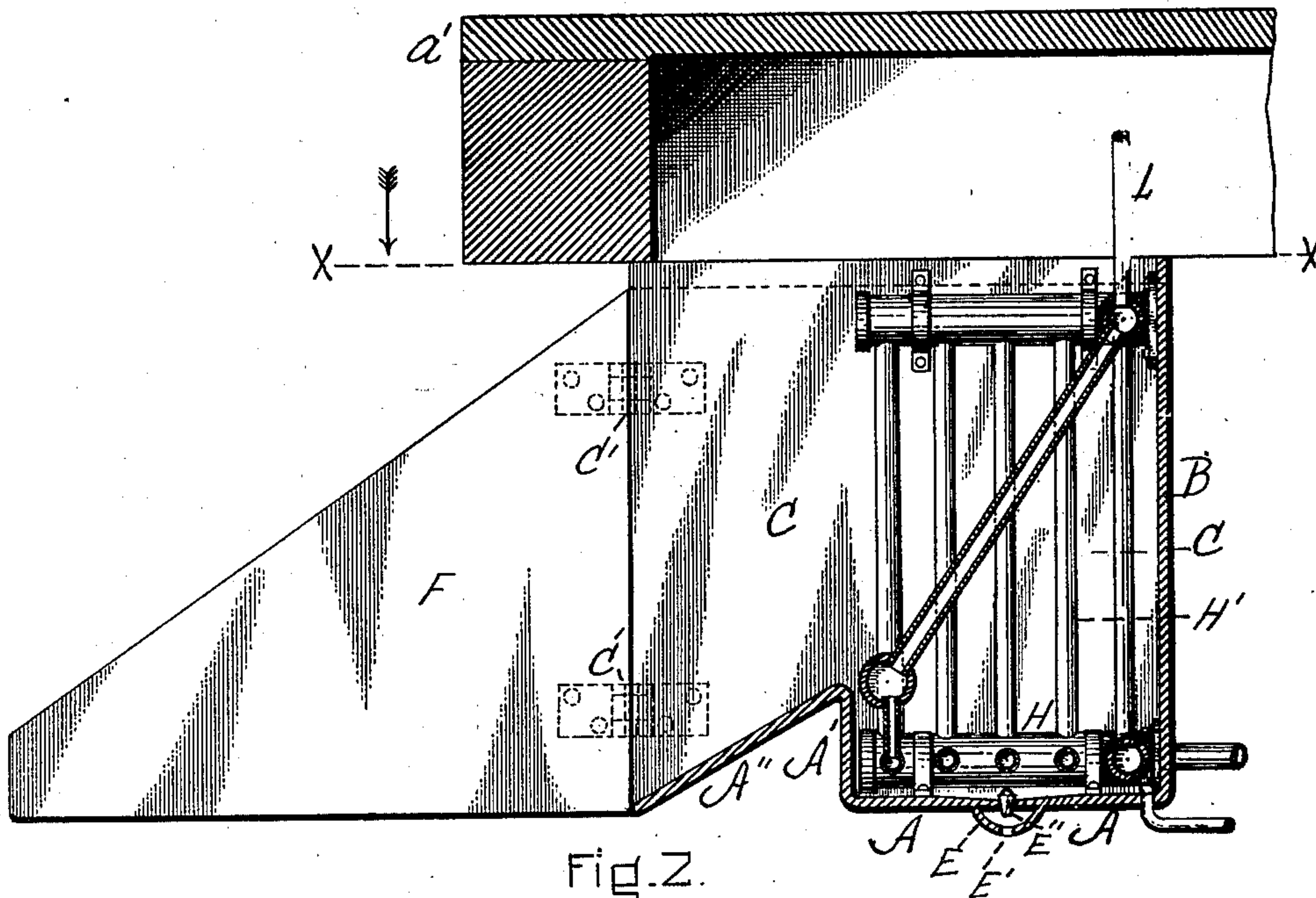


Fig. 2.

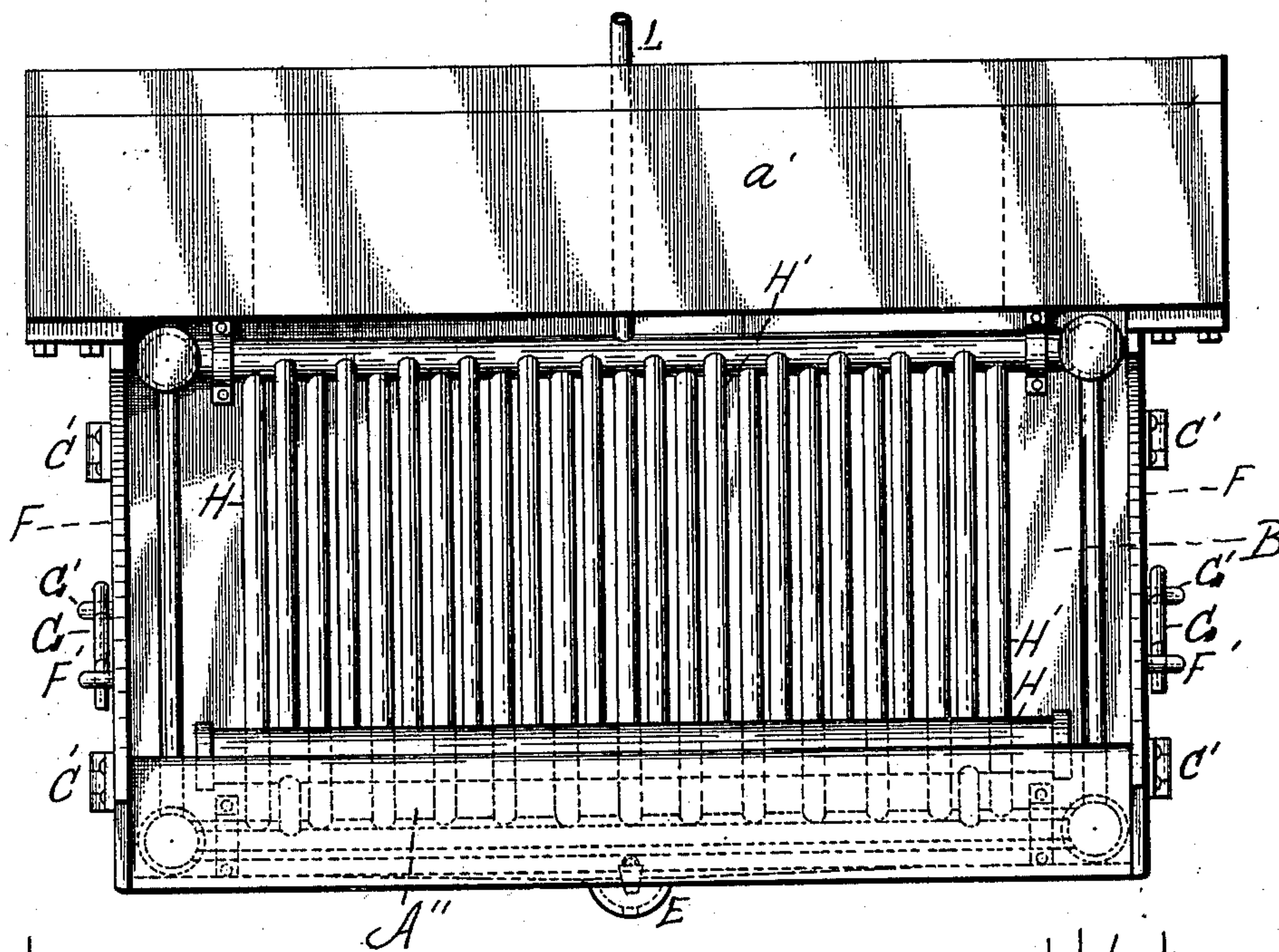


Fig. 3.

WITNESSES:

A. N. Bonney.  
E. P. Small.

INVENTOR:

William C. Goss,  
By his Atty  
Sperry Williams



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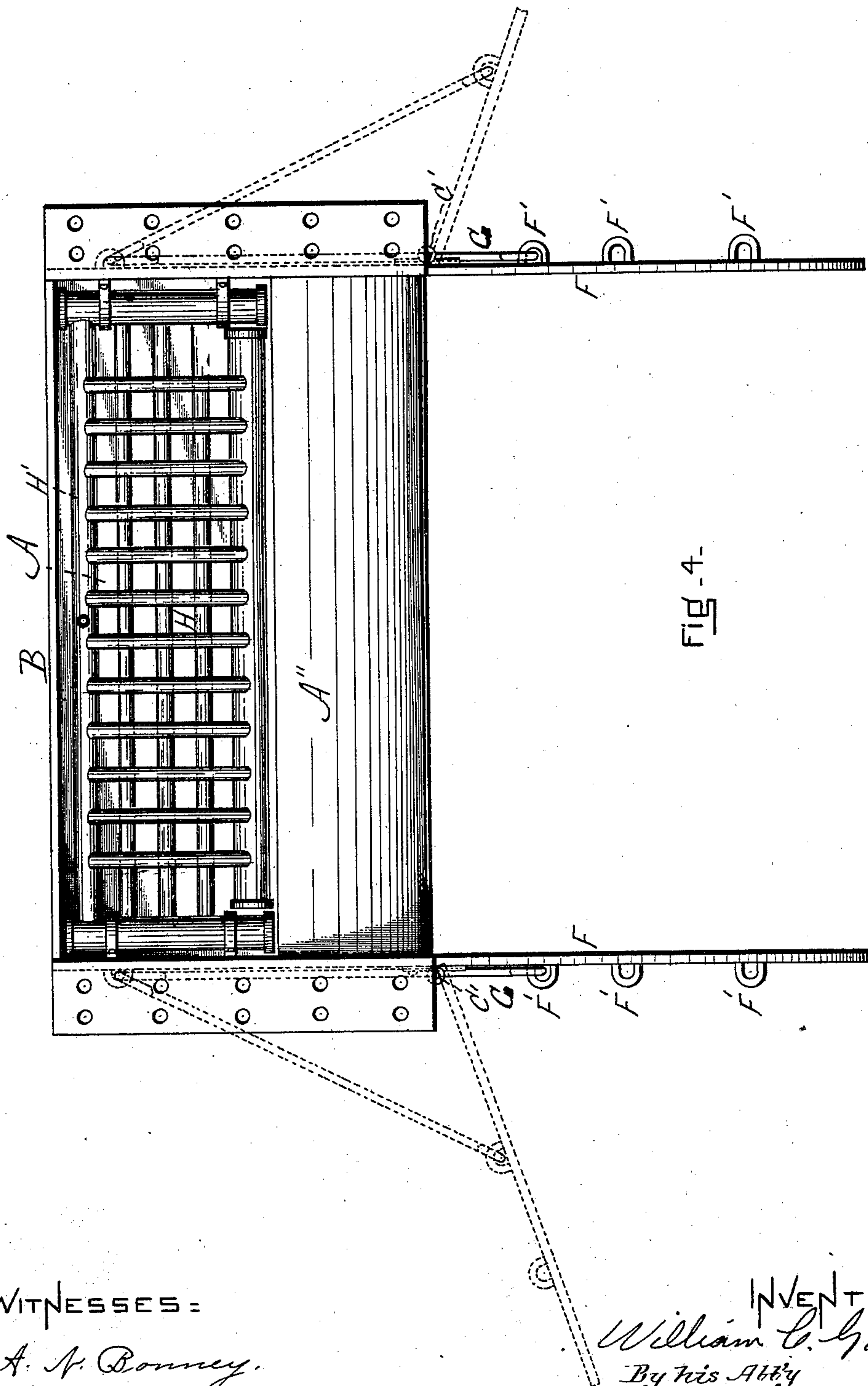
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A. N. Bonney.  
E. P. Small.

INVENTOR=

William C. Goss,

By his Atty

Henry Williams



# UNITED STATES PATENT OFFICE.

WILLIAM C. GOSS, OF LYNN, MASSACHUSETTS.

## RAILWAY SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 671,623, dated April 9, 1901.

Application filed February 4, 1901. Serial No. 45,873. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM C. GOSS, a citizen of the United States, residing in Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Railway Snow-Plows, of which the following is a specification.

This invention relates to that class of plows for removing snow and ice from the tracks of electric, cable, steam, or other railways in which the plow is self-propelling, being in itself a complete car or track-clearing contrivance independent of any car, in distinction from plows which are made a portion of or attached to a passenger-car.

The invention relates, moreover, to that class of track-clearers in which the snow is largely collected by and melted upon or within the clearing contrivance. The invention does not relate, however, to the means for propelling the car, but to the construction of the clearing contrivances at the opposite ends of said car in connection with the boiler and pumping mechanisms.

The nature of the invention is fully described in detail below and illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation of a self-propelling snow-plow or track-clearing machine, the motive power in this instance being electricity, portions being represented as broken out in order to show the invention. Fig. 2 is an enlarged longitudinal section and elevation taken through the plow at one end of the car. Fig. 3 is a front elevation of the same. Fig. 4 is a horizontal section taken on line X, Fig. 2, dotted lines showing the swinging gates or wings swung outward.

Similar letters of reference indicate corresponding parts.

*a* represents the floor, and *b* the trolley-pole, of an electric car provided at its opposite ends with track-clearers constructed in accordance with my improvement. Each of the track-clearers is secured to and hung from the car beneath the platform *a'* and comprises a box or receptacle, preferably metallic and having the horizontal floor or bottom *A*, the vertical rear wall *B*, and the vertical side walls *C*. The side and rear walls extend up to the frame of the car-body, so as to make a closed connection therewith, and the side walls fol-

low at their lower ends the shape of the bottom *A*. This bottom is formed upon a line parallel with and at a considerable distance in front of the rear wall *B* into a short vertical front wall *A'*, and from the upper end of this front wall an extension or inclined floor *A''* extends forward until its front edge is on a level with the main portion *A* of the floor. Thus a water-tight condensing chamber or receptacle is produced between the walls *A'* and *B*, extending horizontally across the contrivance. The bottom of this chamber is provided on its under side with a trough *E*, Fig. 2, having one or more perforations *E'*, and the wall *A* is suitably perforated above the trough and provided in said perforation with a stopple *E''*. The front edges of the side walls *C* have hinged to them at *C'* horizontally-swinging doors or wings *F*, each of which is provided with a series of eyes *F'* on its outer surface, into which a front end of a hook *G* can catch, said hook having its rear end secured to a suitable eye *G'* on the outer side of the wall *C*. When the wings *F* are parallel, as shown in Figs. 1, 2, and 4 in full lines, they make straight cuts into the snow and conduct a body of snow equal in width to the receptacle up the inclined floor *A''* and into the condensing-chamber behind it. In case it is desired to conduct a broader body of snow into the receptacle or to smooth the snow on the opposite sides of the track the wings are swung out, as indicated by dotted lines in Fig. 4, and secured at the desired angles by the hooks *G* and eyes *F'*.

The receptacle or condenser formed by the walls *A'*, *B*, and *C* and the bottom *A* is furnished with banks of horizontal steam-pipes *H*, which are connected with banks of vertical steam-pipes *H'*, which extend up along the side walls *C*, and, in fact, there may be any desired arrangement of banks of steam-pipes within the receptacle or condenser formed by the bottom *A* and walls *B* *C*.

*I* represents a boiler mounted substantially centrally in the car.

*J* is a tank supported by the car-body, and *K* *K'* are pumps similarly supported.

*L* represents a steam-pipe extending from the boiler down into the receptacle or condenser and connecting with the banks of pipe therein, whereby steam is fed from the boiler



into said banks or coils of pipe. Branch pipes N and N' extend, respectively; from the pipe L to the pumps K and K' and operate said pumps.

5 P is the return-pipe, extending from the coils in the condensing-chamber to the pump K. A pipe R connects the pump K with the tank J. A pipe R' connects the tank with the pump K', and a pipe S connects the pump K' with  
10 the boiler I. The various pipes are provided with suitable valves. The steam which has been forced into the banks of pipe in the condensing chamber or receptacle is returned to the boiler through the pipe P, pump K, pipe  
15 R, tank J, pipe R', pump K', and pipe S. The pumps K and K' are driven, respectively, by steam from the boiler through the pipes N and N'. A two-way cock T is provided at the junction of the pipe P with a pipe U, which  
20 extends from said pipe P to and opens into the condensing-chamber which receives the snow.

The snow is melted by the coils or banks of pipe H, the steam being circulated through  
25 them in the manner above described. When sufficient water has collected in the condensing-chamber, the cock T may be turned, so as to close the pipe P and open the pipe U, thus allowing the pumps to remove the water  
30 and convey it through the pipes U and P, pump K and pipe R to the tank J, whence it may be conveyed through the pipe R', pump K', and pipe S back to the boiler. The feed-pipe L has connected with it a feed-pipe L',  
35 which conveys steam to the coils in the track-clearer at the other end of the car, and the return-pipe P has connected with it a pipe P', which acts as a return from the clearer at the other end of the car.

40 Any mud or sediment which may have collected in the condenser can be removed by lifting out the plug E'' and allowing it to drop into the trough E and out through the hole E'.

45 Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a railway snow-plow or track-clearing contrivance of the character described, the  
50 receptacle or condenser consisting of the rear wall B, side walls C, and bottom A, said bot-

tom being formed with the short vertical front wall A' and forwardly-extending inclined floor A''; a bank or coil of steam-pipe in the condenser; a boiler suitably supported; steam-pipes L, P connecting the boiler with the pipes  
55 in the condensing-chamber; and pumps connected with the pipes L, P, substantially as described.

2. In a railway snow-plow or track-clearing contrivance of the character described, the  
60 receptacle or condenser consisting of the rear wall B, side walls C, and bottom A; a bank or coil of steam-pipe in the condensing-chamber; a boiler mounted on the car; the steam-feeding pipe L connecting the boiler and the pipe  
65 in the condensing-chamber; the return-pipe P; the tank T and pumps K, K' mounted on the car; the pipes N, N' connecting the feed-pipe L with the pumps K and K' respectively; the pipes R, R' connecting the tank with the  
70 pumps K and K' respectively; the pipe S connecting the pump K' with the boiler; the pipe U connecting the pipe P with the interior of the condensing-chamber; and a suitable cock at the junction of said pipes P and U, sub-  
75 stantially as set forth.

3. In a railway snow-plow or track-clearing contrivance of the character described, the receptacle or condenser consisting of the rear  
80 wall B, side walls C, and bottom A, said bottom being formed with the short vertical front wall A' and forwardly-extending inclined floor A''; a bank or coil of steam-pipe in the condenser; a boiler mounted on the car; steam-  
85 pipes L, P connecting the boiler with the pipes in the condensing-chamber; the outwardly-swinging gates or wings F hinged to swing horizontally from the front edges of the side  
90 walls C; eyes F on the outer surfaces of the gates; and hooks G swinging from the side walls and adapted to engage with the eyes, substantially as described.

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

WILLIAM C. GOSS.

Witnesses:

HENRY W. WILLIAMS,  
A. N. BONNEY.