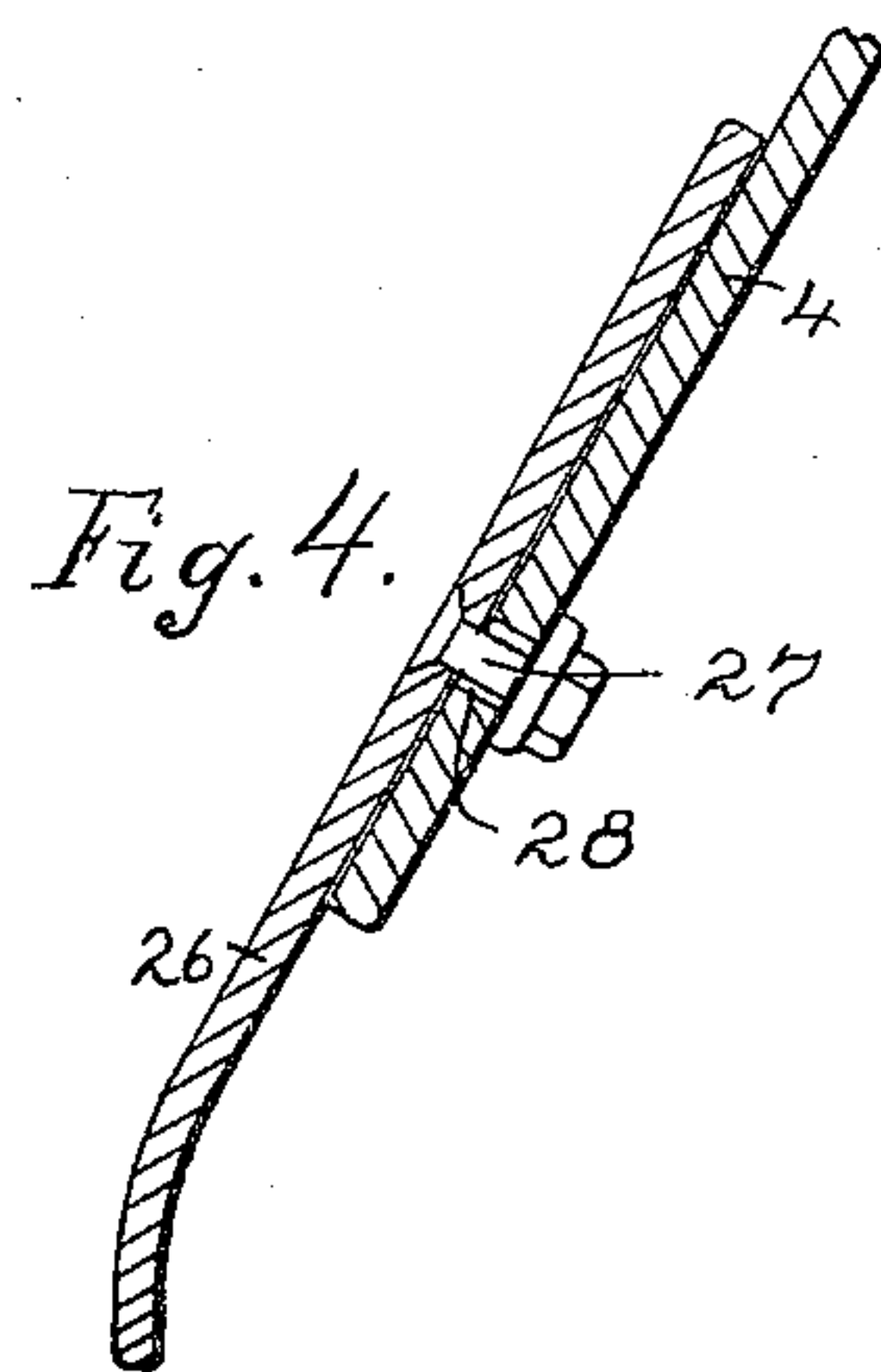
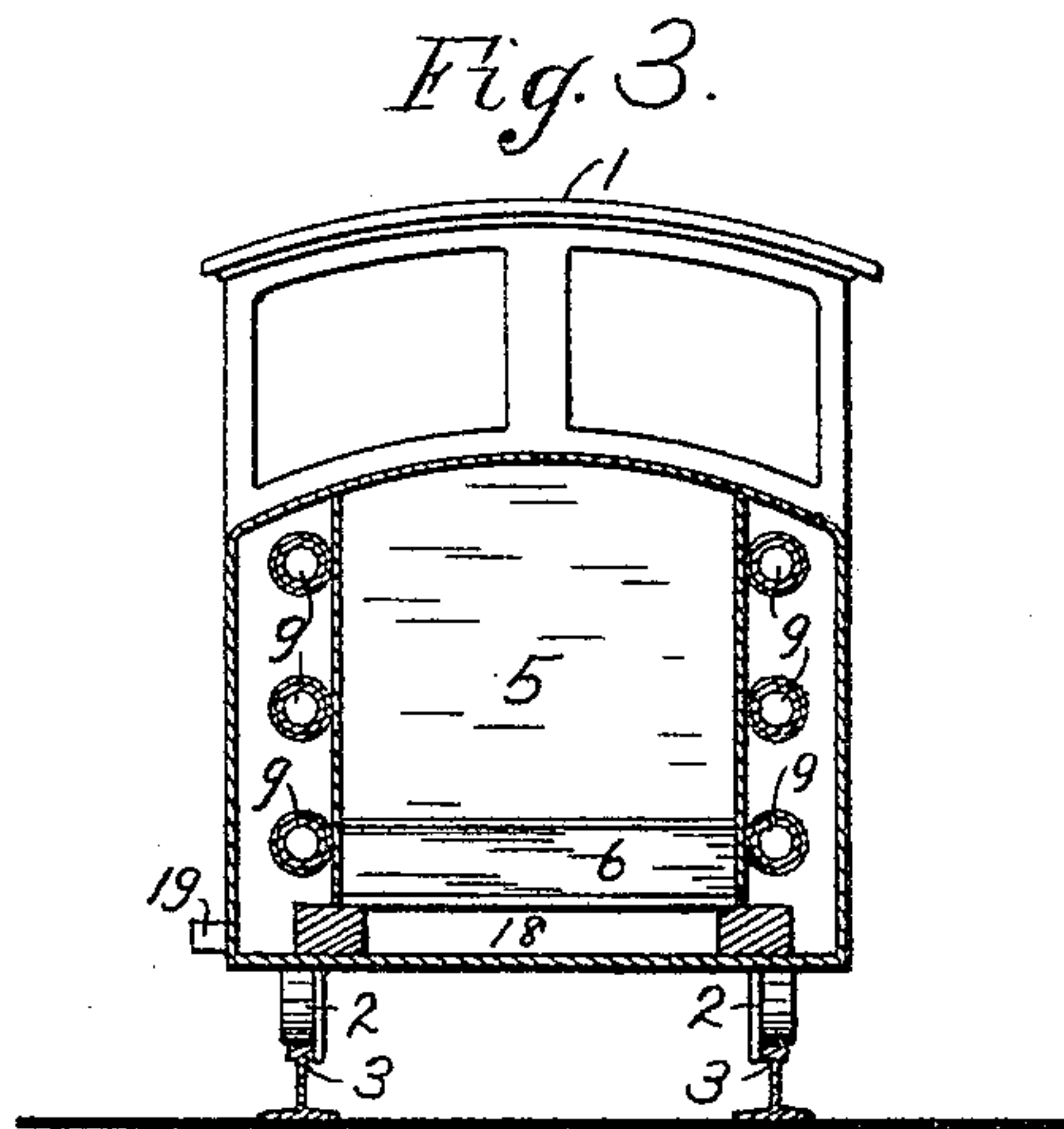
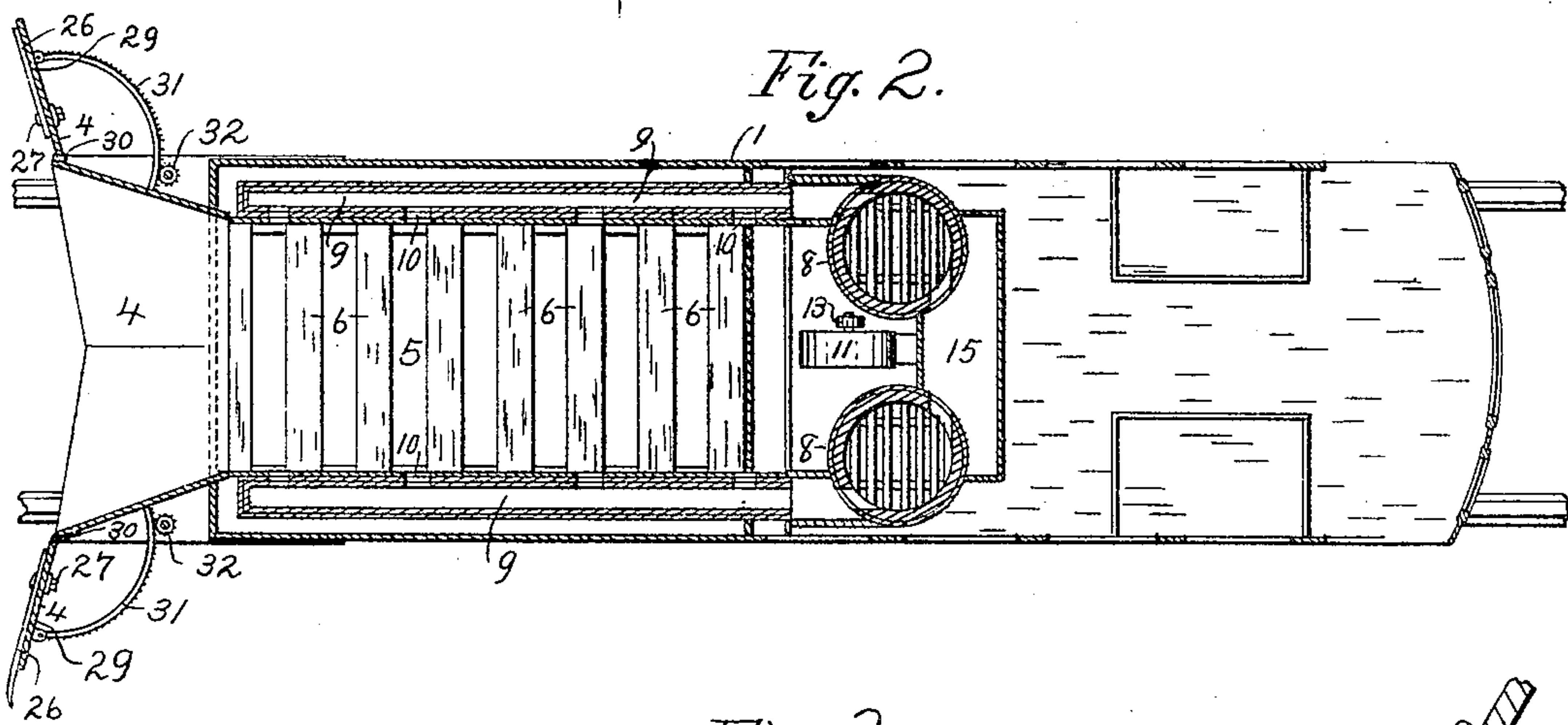
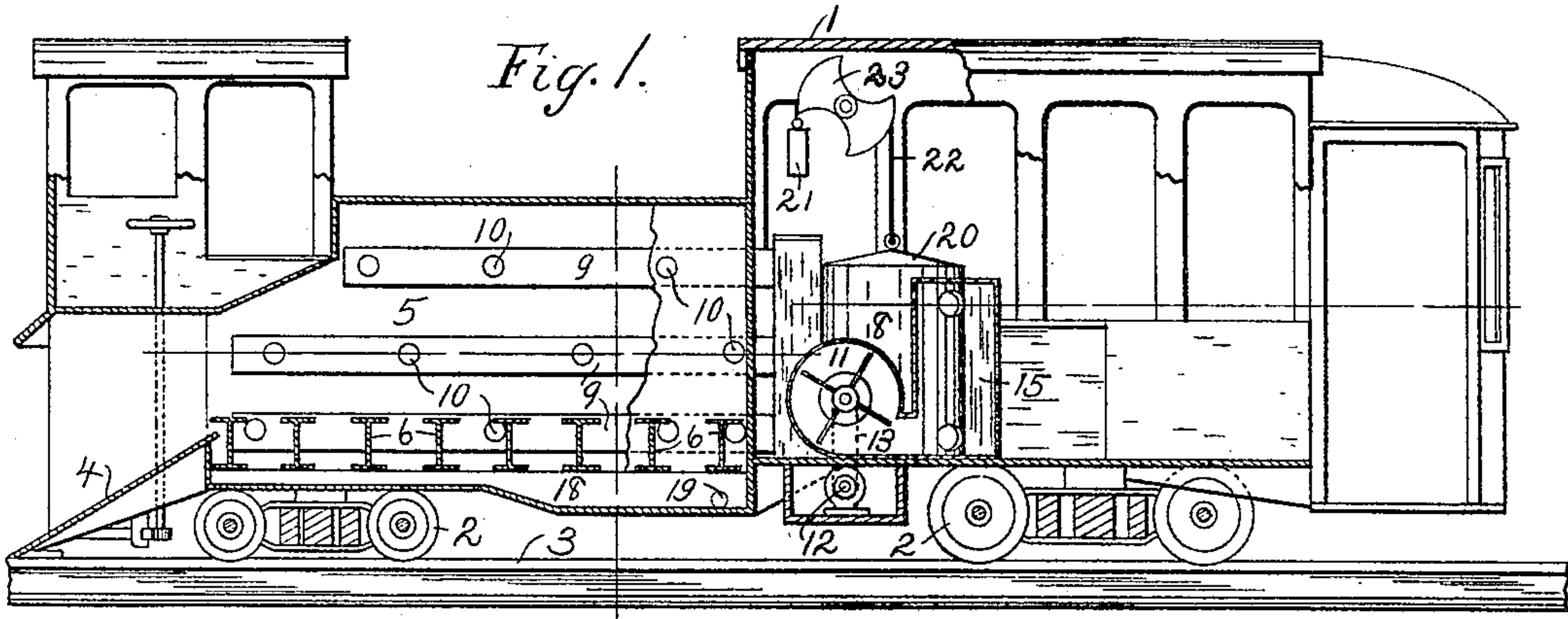


No. 801,370.

PATENTED OCT. 10, 1905.

J. ELSNER.  
SNOW MELTER.

APPLICATION FILED JUNE 6, 1904.



WITNESSES:  
*F. Otto*  
*N. J. Taucher*

INVENTOR  
*Joseph Elsner*  
BY *Erwin & Wheeler*  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

JOSEPH ELSNER, OF MILWAUKEE, WISCONSIN.

## SNOW-MELTER.

No. 801,370.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed June 6, 1904. Serial No. 211,299.

*To all whom it may concern:*

Be it known that I, JOSEPH ELSNER, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Snow-Melters, of which the following is a specification.

My invention relates to improvements in snow-melters.

10 The object of my invention is to provide means whereby snow may be lifted from a track or roadway by a traveling car and melted with sufficient rapidity, so that all the snow in the path of the car may be disposed of as rapidly as the car travels.

In the following description reference is had to the accompanying drawings, in which—

20 Figure 1 is a vertical longitudinal sectional view of my invention. Fig. 2 is a horizontal sectional view of the same. Fig. 3 is a cross-sectional view drawn through the blast-pipes and melting-chamber. Fig. 4 is a detail view of the adjustable scraper.

25 Like parts are identified by the same reference characters throughout the several views.

1 represents the body of the car, provided with wheels 2, which are illustrated as traveling upon the track 3. The front of the car is provided with a scoop 4, which lifts the snow and directs it into a melting-chamber 5 in the rear of the scoop. The lower portion of the melting-chamber 5 is provided with an open grate formed of bars 6, of sheet metal, preferably having the shape of I-beams and extending transversely of the chamber. In the rear of the melting-chamber 5 furnaces 8 are provided one on each side of the car. From each of these furnaces pipes 9 extend forwardly along the side of the melting-chamber and are provided with apertures 10, leading inwardly to the melting-chamber. In the construction shown three of these pipes 9 are provided for each furnace, and the lower pipe of each set is located opposite the ends of the grate-bars 6, whereby the hot air from this pipe is discharged between the grate-bars. A rotary fan 11 is located between the furnaces and is driven from a motor 12 by means of a chain or belt 13. The air from the fan is delivered into a chamber 15, which communicates with both furnaces, as best shown in Fig. 2, whereby a blast of air is delivered through the furnaces and pipes 9 into the melting-chamber through the apertures 10.

55 The water from the melting snow passes downwardly between the grate-bars into a chamber

18, from which it is drawn off at the side of the track through an aperture 19.

The furnaces may be of any ordinary construction and are preferably provided with removable lids or covers 20, which are provided with a counterbalance-weight 21, connected with the covers by a chain 22 and pulley 23, so that the covers 20 may be easily lifted to charge the furnaces with fuel. The scoop 4 is preferably provided with a movable section 26, connected with the main portion of the scoop by means of a bolt 27, which passes through a slot 28 in the part 4, and thus permits the movable section 26 to conform to the surface over which it passes. The scoop 4 is also preferably provided with a laterally-extending wing 29, which is hinged to a post 30 at the side of the scoop and supported in any desired position of adjustment by a segmental rack 31 and pinion 32. This wing can be used to gather the snow at one side of the direct path of the car and deliver the same upon the scoop 4.

I attach great importance to the fact that by my construction I am enabled to deliver a blast of hot air and the products of combustion into the melting-chamber below the snow-supporting surface of the grate-bars, the hot air and gases of combustion being thus brought into intimate contact with the snow and being enabled to take up and carry off a large quantity of vapor without necessarily converting the snow first into water and then into steam, a considerable amount of vapor being absorbed while still at a comparatively low temperature. This action of my apparatus is materially aided by providing auxiliary blast-tubes above the grating, for the snow is thrown into the melting-chamber by the scoop in the form of a spray, through which the blast from the auxiliary tubes passes and acts upon the snow before it reaches the grating.

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

1. In a device of the described class, the combination of a vehicle provided with a melting-chamber; a furnace mounted on said vehicle and provided with blast-tubes extending along the sides of the melting-chamber and having openings communicating laterally therewith; a snow-supporting grating adapted to receive and support unmelted snow between the upper and lower blast-tubes; means for throwing snow in a loose condition into



the upper portion of said melting-chamber and means for directing a blast of air through the furnace and blast-tubes; said blast-tubes being provided with openings communicating  
5 with said melting-chamber above and below the surfaces of the grating.

2. In a device of the described class, the combination of a vehicle provided with a melting-chamber; a series of channeled beams arranged to form a snow-supporting grating in  
10 said chamber; a furnace mounted on said vehicle and provided with a blast-tube extending along the ends of said beams, said blast-tube being provided with apertures communicating  
15 laterally with the space between said beams below the overhanging top portions thereof; means for delivering a blast of air into said furnace and means for delivering snow into the melting-chamber.

20 3. In a device of the described class, the combination of a vehicle provided with a melting-chamber; a series of grate-bars located in said chamber; a furnace mounted on said vehicle and provided with a blast-tube communicating with said chamber below the  
25 snow-supporting surface of said grate-bars; means for delivering a blast of air into said furnace and means for delivering snow to the melting-chamber above the grate-bars.

30 4. In a device of the described class, the combination of a vehicle provided with a melting-chamber; a series of grate-bars located in said chamber; a furnace mounted on said ve-

hicle and provided with a blast-tube communicating with said chamber below the  
35 snow-supporting surface of said grate-bars; means for delivering a blast of air into said furnace and means for delivering snow to the melting-chamber above the grate-bars, said chamber being provided with a drainage-  
40 aperture in its lower portion adapted to prevent the accumulation of water around the grate-bars and blast-tubes.

5. In a device of the described class, the combination of a wheeled vehicle provided  
45 with a melting-chamber; grate-bars located in said melting-chamber; furnaces mounted on said vehicle and having blast-tubes extending along the sides of the melting-chamber; said blast-tubes being provided with  
50 apertures communicating with said melting-chamber and with the space above and below the snow-supporting surface of the grate-bars; means for delivering a blast of air into said furnaces; and a scoop adapted to deliver  
55 snow to the melting-chamber, said vehicle being provided with a water-collecting chamber in communication with the lower portion of the melting-chamber.

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

JOSEPH ELSNER.

Witnesses:

LEVERETT C. WHEELER,  
JAS. B. ERWIN.