

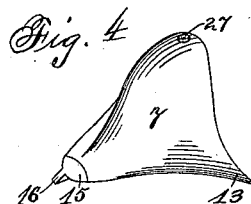
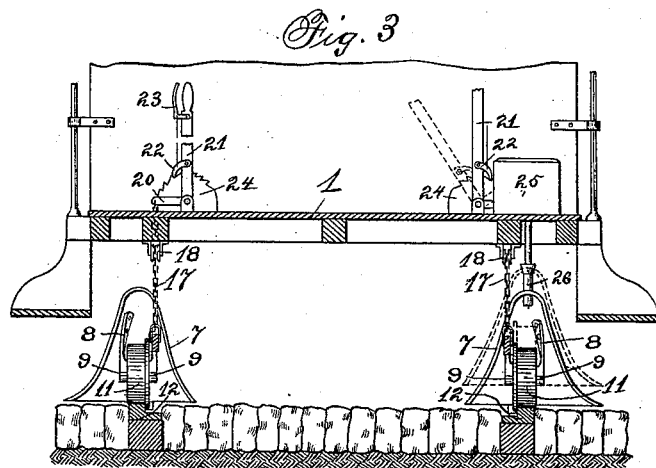
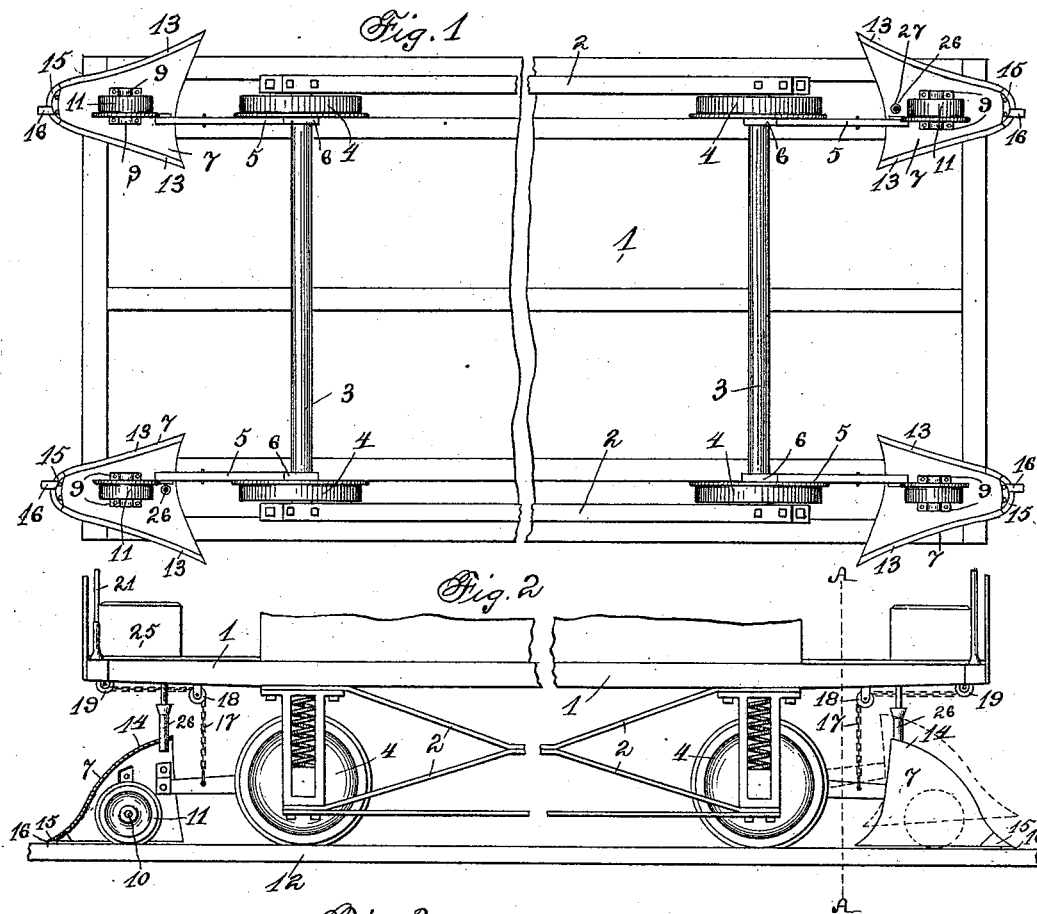
(No Model.)

2 Sheets—Sheet 1.

J. KALLAUNER.
SNOW PLOW FOR RAILWAYS.

No. 523,208.

Patented July 17, 1894.



Witnesses,
W. J. Sankley.
Herbert T. Robinson.

Inventor,
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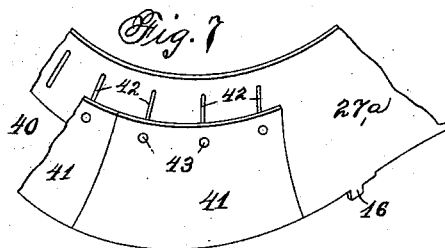
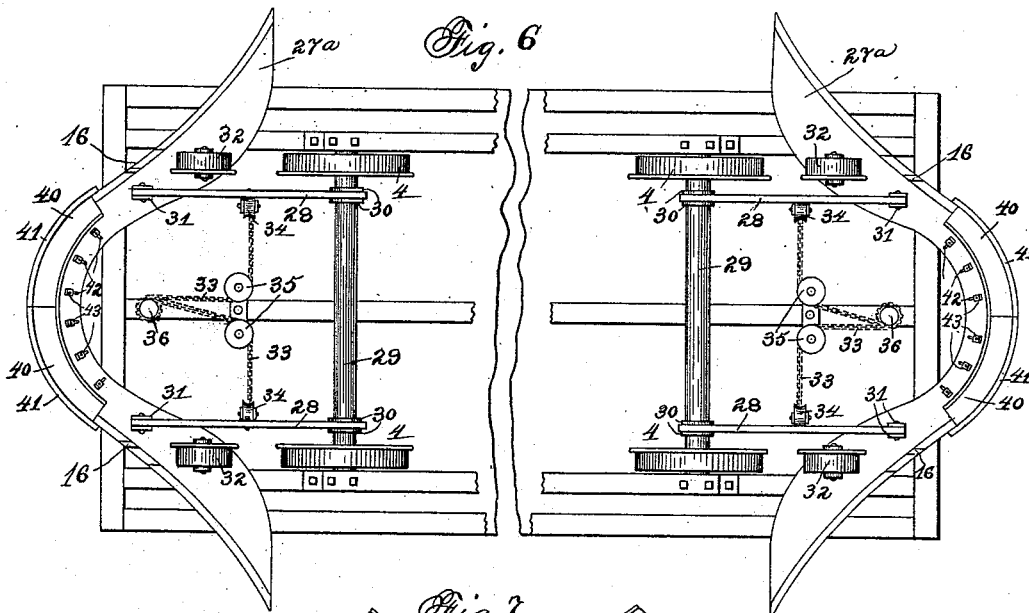
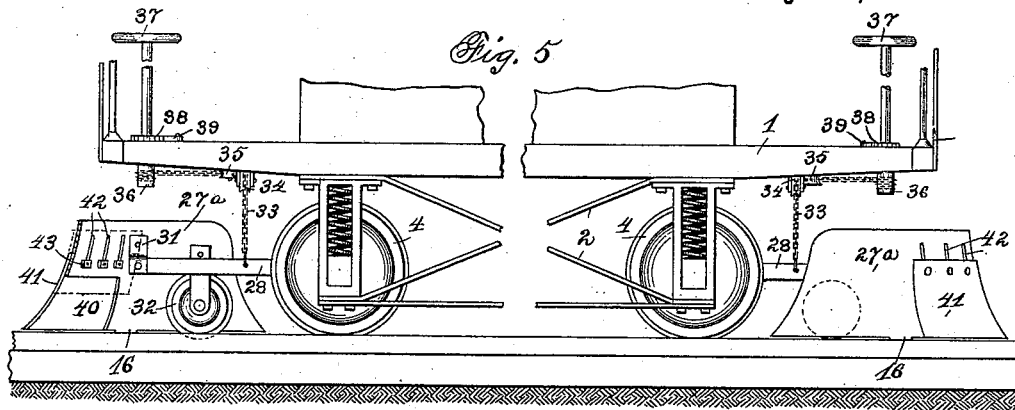
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2 Sheets—Sheet 2.

J. KALLAUNER.
SNOW PLOW FOR RAILWAYS.

No. 523,208.

Patented July 17, 1894.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN KALLAUNER, OF TOPEKA, KANSAS.

SNOW-PLOW FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 523,208, dated July 17, 1894.

Application filed April 17, 1893. Serial No. 470,641. (No model.)

To all whom it may concern:

Be it known that I, JOHN KALLAUNER, of the city of Topeka, Shawnee county, and State of Kansas, have invented certain new and useful Improvements in Snow-Plows for Railways, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

10 My invention relates to improvements in "railway snow plows" and consists in the novel arrangement and combination of parts, as will be more fully hereinafter described and designated in the claims.

15 The object of my improvement is to construct an improved snow plow especially adapted for application to street railway cars, but also applicable to any other railways or tram-ways.

20 The device is constructed to be carried by the car in the front of each wheel, so that a car when running in either direction, has the plow in position ready for operation.

The devices can be removed during the warmer months of the year when there would be no use for the same on account of the absence of snow. However the devices can be used not only for clearing snow and ice from the tracks, but also for removing mud from the rails, this feature being especially adapted for electric railways, where the moist earth sometimes proves a detriment to the successful operation of the road.

35 In the drawings: Figure 1 is an inverted plan view of a car with my invention applied thereto. Fig. 2 is a side elevation of a portion of the body and platform of the car, showing one of the plows in section and also the alternate position of the plow when not in use. Fig. 3 is an end transverse sectional view of the construction, taken on a line A—A in Fig. 2. Fig. 4 is a perspective view of one of the plow-shares. Fig. 5 is a detail enlarged sectional view of a portion of the car with a modified form of plow attached thereto. Fig. 40 6 is an inverted plan view of the car, showing the detail arrangement of the shares.

Referring to the drawings: 1 indicates the platform of a car, the same being mounted upon truck-frames 2 carrying axles 3 and wheels 4. A bar 5 is provided with an enlarged inner end 6 which is loosely mounted

upon the axle 3 adjacent the inner side of the wheel 4. The outer end of said bar 5 is secured to the inner side of the plow-share 7 55 in a fixed manner.

Secured to the sides of the plow share 7 and depending within the same, are brackets 8 which support in bearings 9 a horizontal shaft 10 upon which is mounted a surface 60 roller 11 adapted to engage the tread of the rail 12 and guide and control the movement of said plow share upon the same.

The form of the plow share is rather peculiar. Viewing it in inverted plan, it assumes 65 somewhat the form of a conical shaped figure and with distending sides 13 which project both ways from the rail, and the share tapers both from the upper extremity 14 of the same and laterally from the point 15. 70

The share itself may be made of any desirable and malleable material, while the point 15 is preferably made of some tempered metal and riveted thereto. The point 15 has a projecting lug 16 adapted to engage the tread- 75 flange of the rail to assist the roller 11 in keeping the plow share in alignment.

In order to keep the plow share 7 above and out of contact with the rail when not used to carry out its function I have provided a chain 80 17, the lower end of which is secured to the bar 5, thence passing upward in a vertical line over a pulley 18 and under a pulley 19 in a horizontal direction. Said chain passing up through the platform of the car is secured 85 to the arm 20 of a bell-crank lever 21. Said lever 21 is provided with a pawl 22 operative by a spring-controlled pawl-rod, and handle 23, said pawl engaging in the teeth upon the quadrant 24 secured to the platform of the 90 car. By means of this construction I am enabled to raise or lower the plow share at will, and when raised and out of contact with the rail it assumes a position as shown by dotted lines in several of the figures. I also provide 95 a sand-box 25 located on the platform of the car and having a pipe 26 leading downwardly through an opening 27 in the upper side of the plow share and allowing the distribution of the sand, salt or other like material upon 100 the rail before the wheels 4 engage the same.

Preferably four of the plow-shares with attachments complete are separately applied to each car, two of the same opening in one di-

rection from one end of the car and the other two in the other direction from the opposite end of the car, thus enabling the operation of the device when the car is running in either direction.

In Figs. 5 and 6 is shown a similar principle applied to the car, with the exception that the plow-shares 27^a are large enough to extend to the middle of the track and are therefore somewhat different in form. The bars 28 are loosely mounted upon the axle 29 and held in position by collars 30 placed each side thereof and fastened upon said axle 29, the outer end of said bars 28 being secured fixedly between lugs 31 preferably formed integral with a plow share 27. Bearings are provided for the surface rollers 32 and the operation of the plow share and attachments thus constructed, is similar to that of the construction above described. A continuous chain 33 is fixed to the bars 28 upon each side of the car and passes upwardly over pulleys 34 and around pulleys 35 located at the center of the car. The chain then passes over the lower end of vertical rod 36 upon the upper end of which is located an operating hand wheel 37 which is located above the platform of the car and desired to be set in any desired position by the use of a ratchet 38 mounted thereon and engaged by a pawl 39 secured to the platform of the car.

The difference in the scope of work performed by the latter construction differs somewhat from that of the first, in that the plow shares 27 clean the track entirely from rail to rail, while the first described shares are only adapted to clear the rail.

The form of the plow shares is not an essential matter in the operation of my invention, as my idea covers any desired form which might be used.

The plow shares 27^a extend obliquely across the track and project a suitable distance on the outside of each rail to clear away a space outside of each rail. They are each provided with a recess 40 at about the middle of their length which cuts away the under edge for a considerable distance between the rails. The object of this will be stated farther on.

A scraper 41 is loosely mounted, to be adjusted up and down in advance of the plow shares 27^a, so as to project in front of the recess 40, and cover and uncover same during use.

42 indicates a series of vertical slots formed in the plow shares 27^a, above the recess 40, and the scraper 41 is adjustably secured to the plow share by means of bolts 43 passing through the upper edge of the scraper and the slots 42. By loosening the bolts 43 the scraper 41 may be adjusted up or down with relation to the plow share which carries it.

In Fig. 7 I show a scraper at the limit of its downward movement, and covering the recess 40 in the plow share, with its lower edge in alignment with the lower edge of said plow share.

In case it is not desired to clear the track of snow or other obstructions, between the rails, it is only necessary to adjust the scrapers 41 upon said plow shares, so that the lower edges of said scrapers will be raised above the lower edges of said plow shares and thereby uncover more or less the recesses 40, which will permit the plow shares to pass over the snow between the rails without moving it.

When it is desired to remove the snow from between the rails the scrapers 41 are lowered to a position indicated in Figs. 5, 6 and 7.

Having fully described my invention, what I claim is—

1. The combination with a car, of an adjustable plow-share separately mounted and independent of the share in front of the wheel on the opposite side of the car, and a sand-box connected to an opening in said plow-share to discharge sand in front of the car wheels, substantially as herein specified.

2. The improved snow plow having a recess 40 in its lower edge, in combination with a separate scraper 41 adjustably mounted to cover said recess, substantially as herein specified.

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

JOHN KALLAUNER.

Witnesses:

J. F. PETRIK,

E. L. GERTZ.