S. HORVÁTH.

TRACK CLEANER.

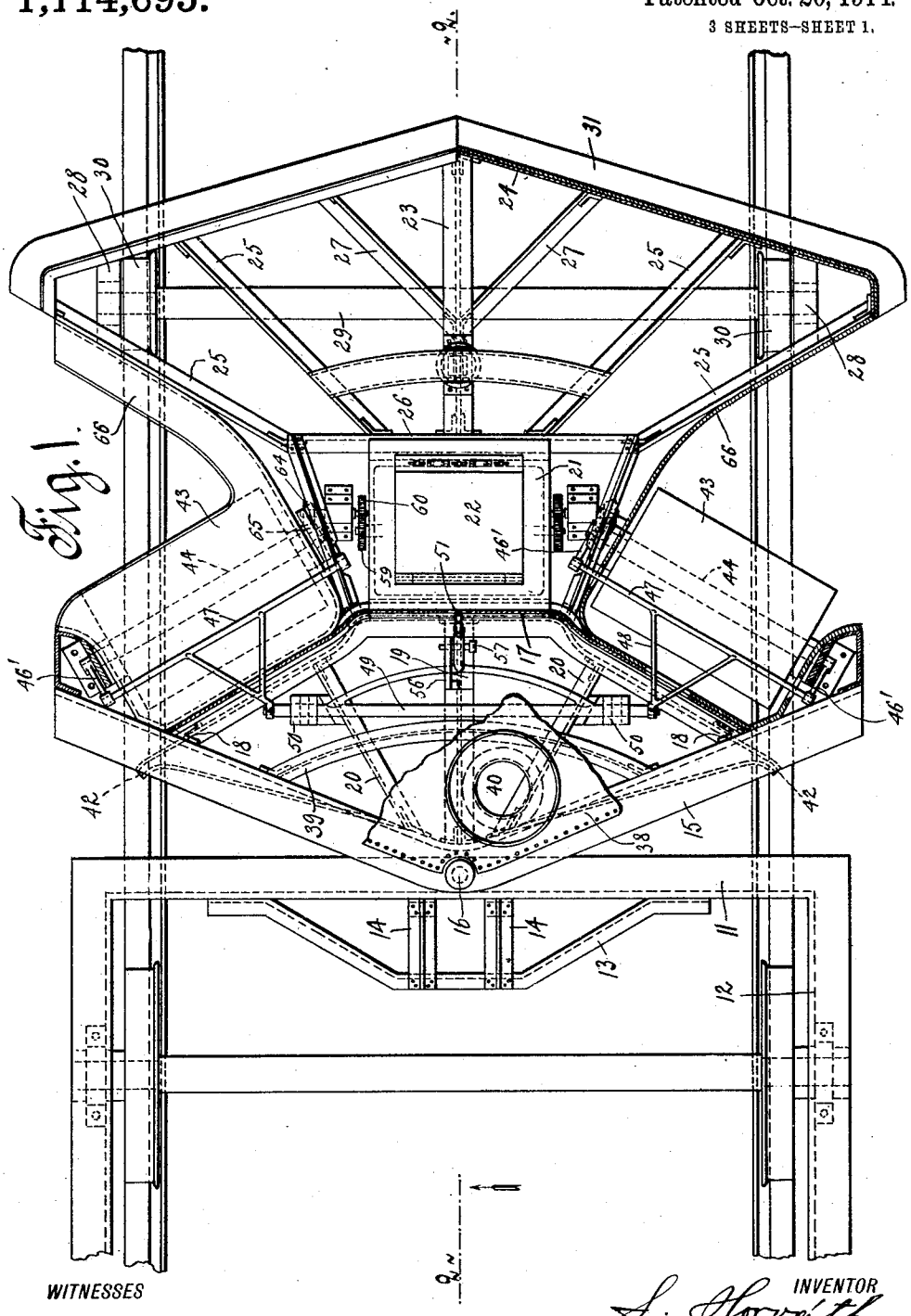
APPLICATION FILED JUNE 17, 1914.

**1,114,695.**

Patented Oct. 20, 1914.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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3 SHEETS—SHEET 2.

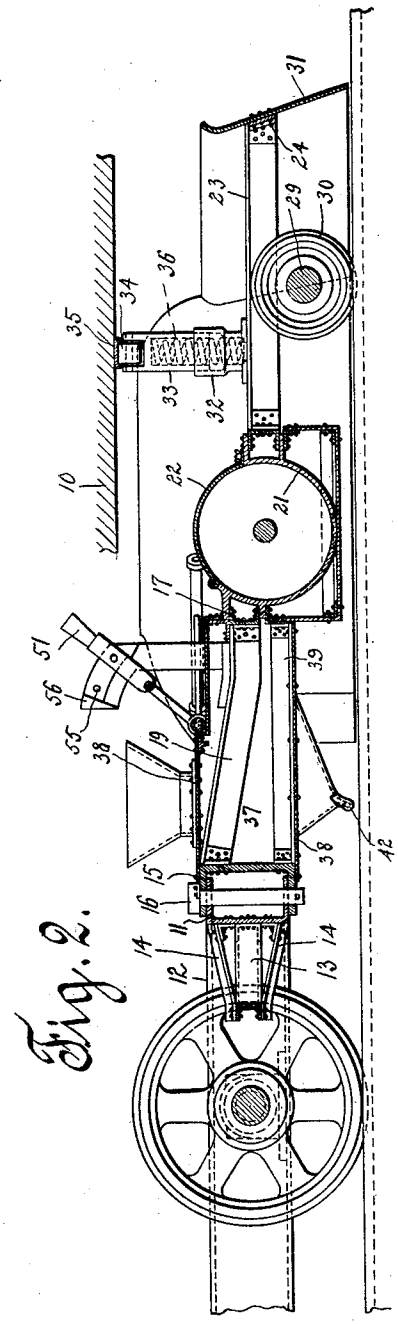


Fig. 2.

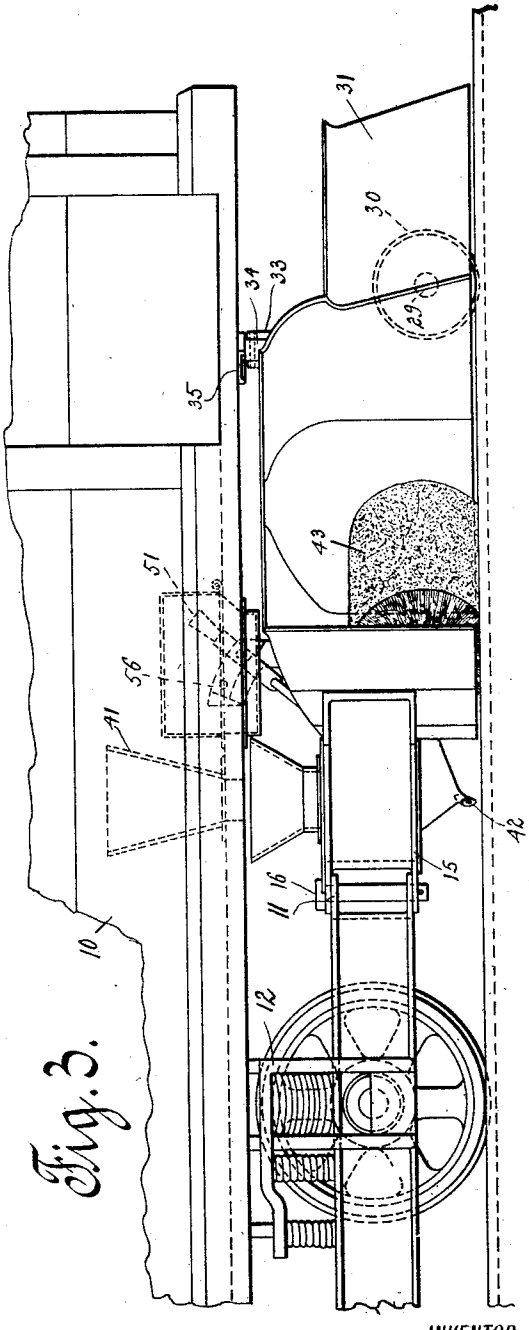


Fig. 3.

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3 SHEETS—SHEET 3.

Fig. 4.

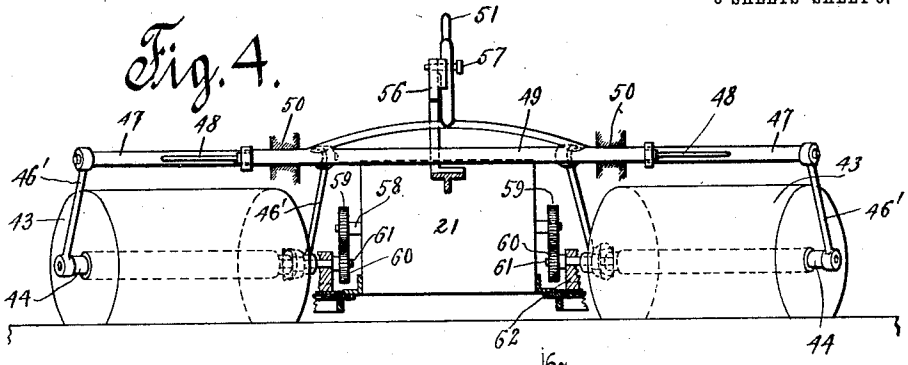



Fig. 5.

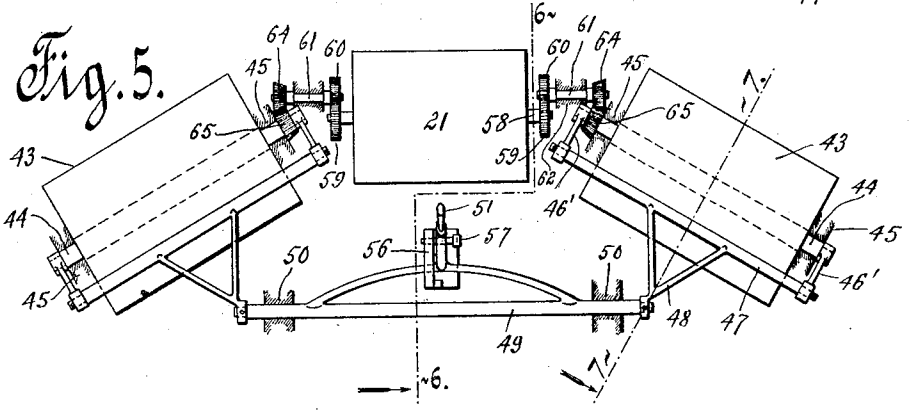



Fig. 6.

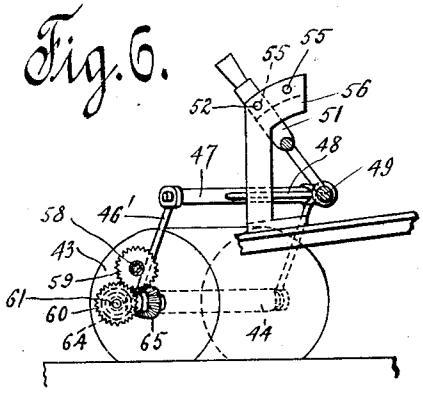
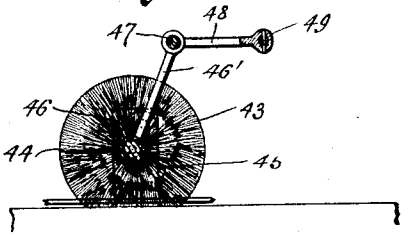



Fig. 7.




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# UNITED STATES PATENT OFFICE.

SÁNDOR HORVÁTH, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO SÁNDOR ZSEMBERY, OF NEW YORK, N. Y.

## TRACK-CLEANER.

1,114,695. Specification of Letters Patent. Patented Oct. 20, 1914.

Application filed June 17, 1914. Serial No. 845,595.

*To all whom it may concern:*

Be it known that I, SÁNDOR HORVÁTH, a subject of the King of Hungary, and a resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Track-Cleaners, of which the following is a specification.

The present invention relates to improvements in track cleaners, and is particularly adapted for use on street-railways for clearing the tracks of snow.

One of the objects of the invention is to provide a track cleaner in the form of a snow plow which is simple in construction, and which can be readily applied to cars without materially modifying the construction thereof.

Another object of the invention is to combine with the plow share or shares a sweeper, in the form of rotary brushes, for removing from the track and from the flange grooves of the rails all snow that is unaffected by the said plow shares.

A further object of the invention is to produce a simple and effective means for raising and lowering, at will, the rotary brushes.

A still further object of the invention is to so construct the track cleaner that it can be easily mounted upon and detached from a car.

With these and other objects in view, which will more fully appear as the nature of the invention is better understood, the same consists in the combination, arrangement and construction of parts hereinafter fully described, pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that many changes may be made in the size and proportion of the several parts and details of construction within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

One of the many possible embodiments of the invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a top plan view, partly in section, of the track cleaner complete, showing the same attached to the front truck of a car body; Fig. 2 is a section taken on line 2—2 of Fig. 1; Fig. 3 is a side elevation of a portion of a street-railway car showing the improved device secured thereto; Fig. 4 is a front elevation of the rotary brushes and their actuating means; Fig. 5 is a top plan view of the device shown in Fig. 4; Fig. 6 is a section taken on line 6—6 of Fig. 5; and Fig. 7 is a section taken on line 7—7 of Fig. 5.

In the drawings, the numeral 10 denotes the car body, only so much of the front end thereof being shown as will suffice to show the connection of the invention therewith. The front transverse beam 11 of the front truck 12 of the car is suitably strengthened by a bow-shaped brace 13, that is riveted, or otherwise attached, to the rear face of said beam, and furthermore connected therewith by struts 14. The main frame of the track cleaner comprises a V-shaped horizontally extending U-beam 15, that is pivotally attached by means of a bolt 16 to the front beam 11 of the truck, the ends of said U-beam extending beyond the rails of the track, as clearly shown in Fig. 1 of the drawings. A second substantially V-shaped U-beam 17 is disposed in front of the beam 15, the ends of said beam 17 being attached at 18 to the beam 15. The central portion of the beam 17 is disposed in parallel relation to the front beam 11 of the truck, and connected for strengthening purposes with the beam 15 by a T-brace 19. Further braces 20, connecting the said two beams, serve the same purpose. To the central portion of the beam 17 is attached a motor-housing 21, to which is hinged a cover 22 to permit access to the motor (said motor being not shown). To the motor-housing 21 is secured a central forwardly extending beam 23, the front end of which carries a V-shaped strip 24, the ends of which extend a considerable distance beyond the rails of the track. This strip is connected by braces 25, for instance in the form of angle-irons, with a beam 26, that is attached to the motor-housing, and by braces 27 with the beam 23. The outer braces 25 and the strip 24 carry bearings 28, in which is journaled an axle 29, on the latter being mounted wheels 30, which are adapted to travel upon the track and thus to support the front end of the track cleaner. To the strip 24 above mentioned is fixedly secured a snow plow 31, that is also V-shaped, and serves to remove snow, or the like, from the trackway, thereby preventing cars from being stalled.

To the beam 23 is fastened an upwardly extending casing 32, in which is slidably

disposed a tubular member 33, that carries upon its upper end an anti-friction roller 34, the latter contacting with an arc-shaped plate 35, which is secured to the underface of the car body 10. A spring 36 within the casing 32 and the tubular body 33 serves to maintain the contact between the roller 34 and the plate 35. The purpose of this arrangement is to permit of a slight vertical motion of the attachment relative to the car body and, on the other hand, to allow a swinging motion of the attachment relative to the car body when the car is running on a curve.

A sand-box 37 is disposed in the space between the beams 15 and 17, the box being formed of plates 38, that are suitably fastened to said beams and properly strengthened by braces 39, 39. A filling opening 40 is made in the top of said box in alinement with a hopper 41, that extends into the car. From the bottom of the sand-box project nozzles 42 over the top of the rails of the track. The sand issuing from these nozzles on top of the rails serves to increase the friction between the latter and the wheels.

In front of the nozzles 42 are disposed two rotary brushes 43, said brushes extending at an angle to the longitudinal axes of the rails, their shafts 44 being mounted in bearings 45, the latter being attached to the frame of the track cleaner. The journals of the shafts 44 are disposed in arc-shaped slots 46 in the bearings 45 for a purpose hereinafter to be described. Each of the shafts 44 is engaged by two links 46′, which are pivotally attached to a bar 47, that is provided with a rearwardly projecting arm 48. The arms 48 of the two bars 47 are rigidly attached to a rocking shaft 49, that is mounted in bearings 50, and is provided with an actuating lever 51. In this lever is formed an aperture 52, that is adapted to coöperate with openings 55 in an arc-shaped bracket 56, the latter being mounted upon the brace 19. When the aperture 52 registers with the lowermost of the openings 55 in the bracket, and a pin 57 is inserted into the registering aperture and opening, the brushes are held in their lower positions in contact with the rails and the ground. When the rocking shaft 49 is shifted by means of the lever 51 and the aperture registers with the uppermost of the holes 55 in the bracket and the pin 57 is drawn therethrough, the brushes are held in their raised inoperative positions. Rotation is transmitted from the motor in the motor-housing 21 to the brushes in the following manner: To the motor shaft 58 are fixedly attached two pinions 59, meshing with pinions 60, the spindles 61 of which are journaled in bearings 62, and carry each a bevel gear 64. The bevel gears 64 mesh with similar gears 65, that are keyed, or otherwise attached, to the shafts 44 of the rotary brushes. The bevel gears 64 and 65 are arranged in such a manner and the arc-shaped slots 46 are designed in such a way that the brushes can be raised in the manner above described, the power transmission between the motor and the brushes being obviously disconnected when said brushes are in their raised inoperative positions. Around the brushes are disposed sheet metal casings 66, which are open at their bottoms and front ends.

The device can be easily attached to a car; it can also be conveniently removed therefrom, the only connection between the two elements being the pivot bolt 16. The track cleaner will readily travel around curves or over uneven places in the trackway. In operation the motor, preferably an electric motor, is set in motion and the brushes lowered into their operative positions. The plow share in front of the attachment banks the snow at both sides of the track, the rotary brushes removing the snow that may have become packed in the flange rails and the track, and has not been removed by the plow share. The sand issuing from the nozzles in rear of the brushes greatly increases the friction between the car wheels and the rails, a feature particularly desirable when the ground is covered with snow.

What I claim is:—

1. In a track cleaner, the combination with a car, of a horizontally extending frame pivotally attached thereto, supporting wheels for said frame, a plow share attached to the front of said frame, rotary brushes carried by said frame, a motor also mounted upon said frame, a power transmitting apparatus between said motor and said brushes, and means for raising and lowering, at will, said brushes.

2. In a track cleaner, the combination with a car, of a horizontally extending frame pivotally attached thereto, supporting wheels for said frame, a plow share attached to the front of said frame, rotary brushes carried by said frame, a motor also mounted upon said frame, a power transmitting apparatus between said motor and said brushes, means for raising and lowering, at will, said brushes, and a sand-box upon said frame in rear of said brushes, said sand-box being provided with nozzles disposed above the rails of the track.

Signed at New York, in the county of New York, and State of New York, this 28th day of May, A. D. 1914.

SÁNDOR HORVÁTH.

Witnesses:
SIGMUND HERZOG,
S. BIRNBAUM.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents Washington, D. C."