

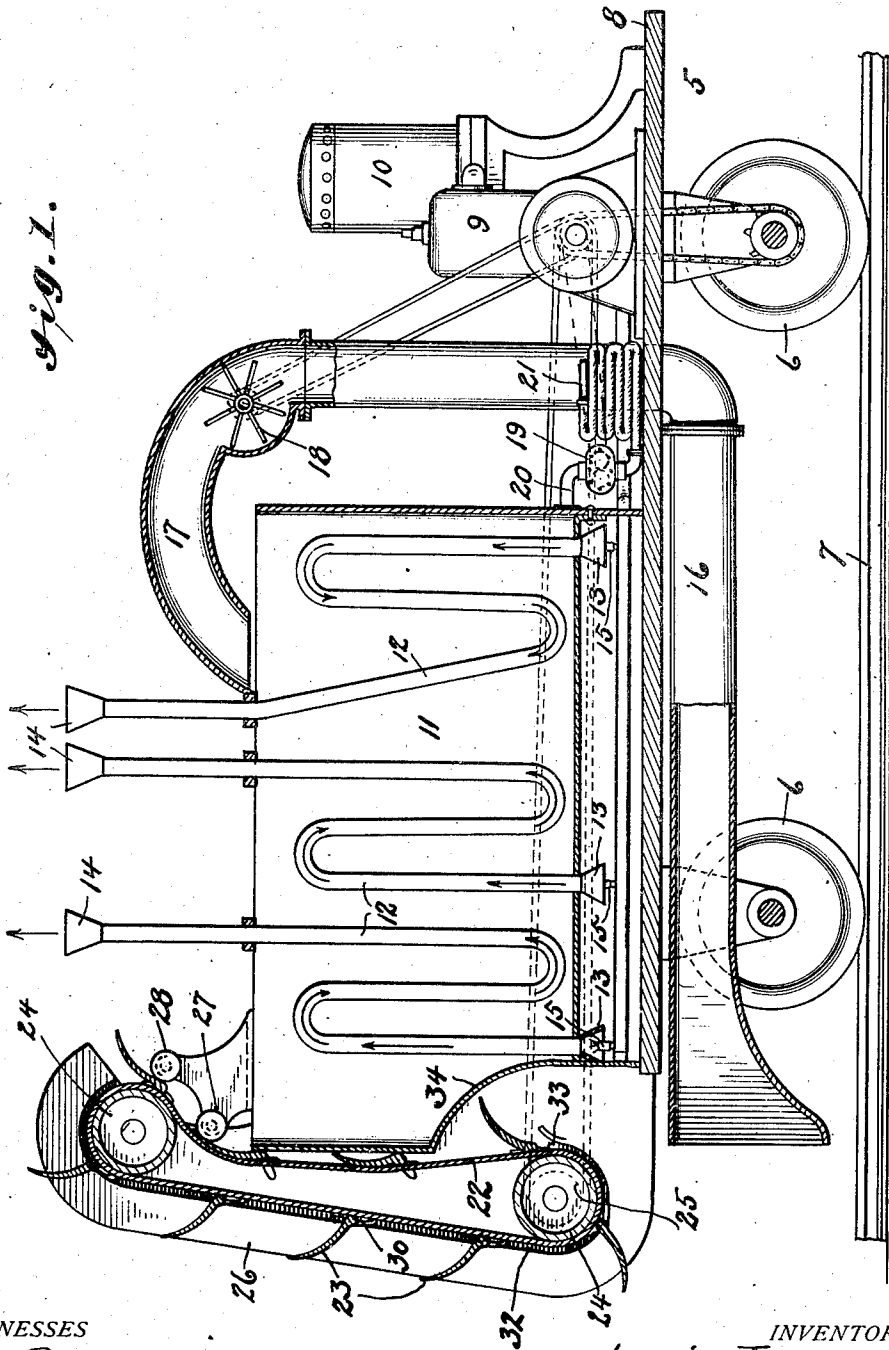
L. ISAACS.
TRACK CLEANER.

APPLICATION FILED APR. 21, 1911.

Patented Feb. 6, 1912.

2 SHEETS—SHEET 1.

1,016,411.



WITNESSES

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A. R. Walton

INVENTOR

Louis Isaacs

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Attorney

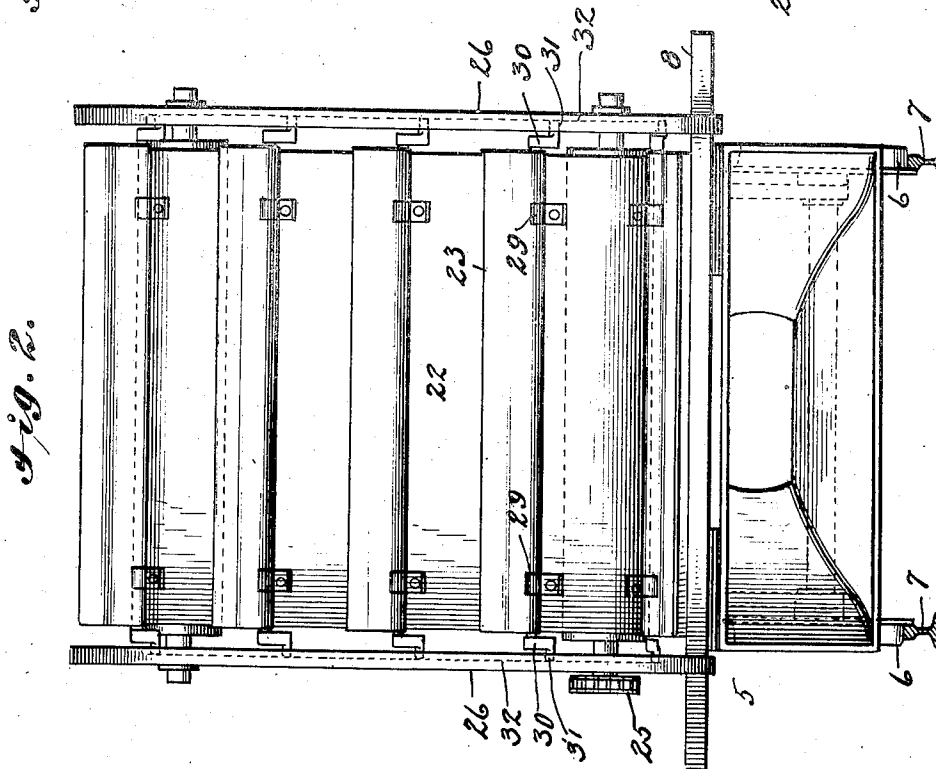
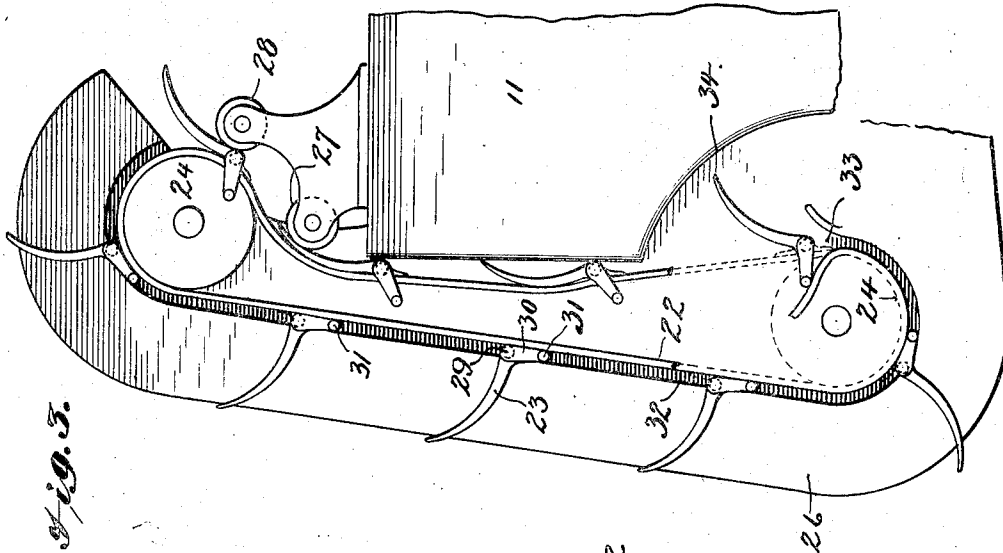
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UNITED STATES PATENT OFFICE.

LOUIS ISAACS, OF LOUISVILLE, KENTUCKY.

TRACK-CLEANER.

1,016,411.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed April 21, 1911. Serial No. 622,488.

To all whom it may concern:

Be it known that I, LOUIS ISAACS, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented new and useful Improvements in Track-Cleaners, of which the following is a specification.

This invention relates to apparatus for removing snow from railroad tracks, and its object is to provide a self-propelled car on which is mounted a melting chamber and a conveyer of novel construction, as well as a suction apparatus, the parts being so arranged that the snow is gathered and delivered into the melting chamber.

The invention also has for its object to provide a conveyer and suction apparatus of compact form, and which are so arranged that they can be placed in close proximity to the front end of the car, and without projecting any distance forwardly therefrom.

A further object of the invention is to provide means whereby the water resulting from the melting of the snow may be sprayed on the banks of snow along the sides of the track, where it freezes and binds the snow together, thus preventing it from drifting or being blown on the track.

Other objects and advantages of the invention will be manifest from the detailed description appearing hereinafter, and in order that the invention may be better understood, reference is had to the accompanying drawings forming a part of this specification, in which drawings—

Figure 1 is a side elevation of the apparatus, partly in section. Fig. 2 is a front elevation thereof. Fig. 3 is an enlarged sectional detail of the conveyer.

Referring specifically to the drawings, there is shown at 5 a car having its wheels 6 arranged for travel on the track rails 7. On the rear end of the platform 8 of the car is mounted a motor 9 which may be an ordinary internal-combustion engine. The motor is employed for propelling the car, a suitable drive gear being provided. The blower and other parts of the apparatus to be presently described are also operated by the motor. The platform 8 also supports a fuel tank 10.

On the front end of the platform 8 is mounted a tank 11 which is open at the top and contains a number of pipes 12 arranged

in the form of return-bend coils which are in vertical position, and supported in this position by any suitable means. The coils are open at each of their ends and one end of each coil is located near the bottom of the tank and has a flared mouth 13. The other end of each coil rises some distance from the top of the tank and also has a flared mouth 14. Beneath the mouth 13 of each pipe is located a burner 15, preferably a gasoline or other liquid-fuel burner. If gasoline is employed as a fuel, the supply may be obtained from the tank 10. The pipes serve as heating coils, the heat from the burners 15 passing therethrough from one end to the other. Any other heating medium may be employed.

At the front end of the car is located the mouth of a suction tube 16, which extends rearwardly beneath the platform 8, and near the rear end thereof passes therethrough and extends upwardly, its upper end terminating in a bend 17 over the top of the tank 11 so as to discharge thereinto. In the bend is located a suction blower 18 which is driven by the motor 9. On the platform 8, behind the tank 11, is mounted a small rotary pump 19 having its inlet connected by a pipe 20 to the tank, near the bottom thereof. To the outlet of the pump is connected a discharge nozzle 21. Above the mouth of the suction tube 16 operates a conveyer comprising an endless belt 22 carrying scoops 23. This conveyer scoops up the snow which is not taken up by the suction tube 16 and delivers it into the tank 11. The conveyer is arranged vertically, the belt 22 passing over the top and bottom rollers 24. On the shaft of the bottom roller is a pulley 25 which is belted to the motor 9. Any other suitable driving means for the conveyer may be provided.

The conveyer is provided with a housing, the same comprising side walls 26 between which the belt and the scoops carried thereby travel. These walls also afford a support for the shafts of the rollers 24.

The conveyer is located in front of the tank 11, and in order that its discharge end may be properly positioned to deliver into the tank, two guide rollers 27 and 28 are provided. These rollers are located behind the rear run of the belt 22 in close proximity thereto. The roller 27 is located adjacent to the top of the front end of the tank

11 and the roller 28 is located above the roller, 27, slightly to the rear thereof, and close to the top roller 24. The last-mentioned roller is located above the top of the tank so that as the scoops 23 pass over the latter they dump the snow into the tank. It will be noted that the belt is located close to the front wall of the tank, and that it extends at a very slight inclination, this arrangement being made possible by the employment of the rollers 27 and 28.

The advantage of mounting the conveyer as specified is that it need not extend at a great inclination forwardly from the car in order to bring its upper end over the top of the tank to properly discharge the snow thereinto, and its lower end, as well as the mouth of the suction tube 16, are located close to the front end of the car. The conveyer is designed to remove that portion of the snow which is not taken up by the suction tube. The width of the conveyer and the mouth of the suction tube corresponds to the gage of the track, in view of which a swath as wide as the track is cleaned.

The scoops 23 are hinged, as indicated at 29, to the belt 22, so that they may fold over thereagainst when traveling downwardly along the front wall of the tank 11. At the hinged ends of the scoops, on both sides thereof, are crank arms 30 carrying pins 31 at their outer ends which are adapted to travel in guide channels 32 in the side walls 26. These channels start at the bottom roller 24 and then extend upwardly parallel to the front run of the belt and partly over the top roller 24. The channels start behind the bottom roller at a point coinciding, approximately, with its horizontal center, and they terminate at a point a short distance behind the vertical center line of the top roller, and above the horizontal center line thereof. The entrance ends of the channels are flared as indicated at 33 to assure the entry of the pins 31 thereinto.

In operation, when the scoops reach the bottom roller 24, the pins 31 enter the channels 32, whereby the scoops are held in carrying position, the crank arms 30 being arranged at such an angle to the scoops that the latter extend outwardly from the belt when the pins are in the channel. When the scoops reach the top roller 24 the pins leave the channels, and the scoops are thus released, whereupon they flop over and dump the load into the tank 11. As the scoops flop over and travel downwardly, they successively strike the rollers 27 and 28, whereby they are folded back against the belt to clear the front end of the tank, and they then travel downwardly in folded position along the front wall of the tank. Near the bottom, the front end of the tank recedes, as indicated at 34, to permit the scoops to again drop outwardly from the

belt. The entrance end of the channels 32 is so located with respect to the receding part of the tank that the pins 31 enter the channels as the scoops drop rearwardly into carrying position, and they are then again held in this position by the engagement of the pins with the channels.

In operation, the snow is gathered up by the suction apparatus and the conveyer, and delivered into the tank 11, in which it is melted by coming in contact with the hot pipes 12. The water resulting from the melting snow is removed by the pump 19 as already described.

I do not limit myself to details of construction as shown, as these may be modified without departing from the spirit of my invention.

I claim:

1. A track cleaner comprising a car, a receptacle mounted on the car, a suction apparatus carried by the car and discharging into the receptacle, the mouth of said apparatus being located beneath the front end of the car, and an endless conveyer discharging into the receptacle separate from the suction apparatus and having its lower end located above the mouth of the suction apparatus and in close proximity thereto.

2. A track cleaner comprising a car, a receptacle mounted on the car, a conveyer located in front of the receptacle and discharging thereinto, the rear run of the conveyer traveling in close proximity to the front wall of the receptacle, said conveyer comprising an endless belt and pivoted scoops carried thereby, means for folding the scoops against the belt during their travel along the said wall of the receptacle, and means for holding the scoops in carrying position when they clear said wall.

3. A track cleaner comprising a car, a receptacle mounted on the car, a conveyer located in front of the receptacle and discharging thereinto, the rear run of the conveyer traveling in close proximity to the front wall of the receptacle, said conveyer comprising an endless belt and pivoted scoops carried thereby, rollers located above the receptacle behind the rear run of the belt and in close proximity thereto in the path of the scoops for folding the same against the belt to clear the said wall of the receptacle, and means for holding the scoops in carrying position when they pass said wall.

4. A track cleaner comprising a car, a receptacle mounted on the car, a conveyer located in front of the receptacle and discharging thereinto, the rear run of the conveyer traveling in close proximity to the front wall of the receptacle, said conveyer comprising an endless belt and pivoted scoops carried thereby, means for folding the scoops against the belt during their

travel along the said wall of the receptacle, guide channels extending along the front run of the belt and partly around the top and bottom portions thereof, crank arms on the scoops, and pins on the crank arms, said pins traveling in the channels for holding the scoops in carrying position.

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

LOUIS ISAACS.

Witnesses:

JOSEPH SELLIGMAN,
M. W. ADES.