May 26, 1925. 1,538,971

S. F. CLAPP

BALLAST DRESSING MACHINE

Original Filed Aug. 4, 1922 2 Sheets-Sheet 1

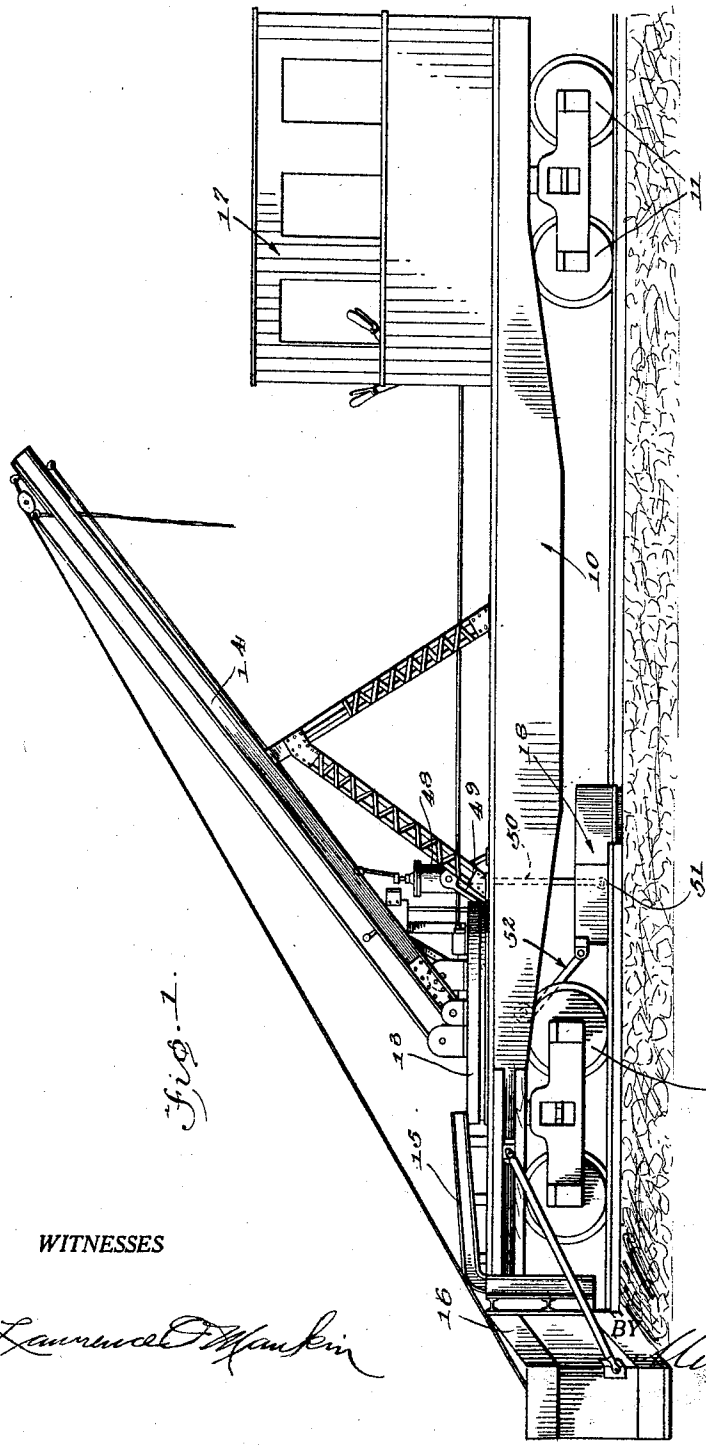


Fig. 1.

WITNESSES

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Fig. 2.

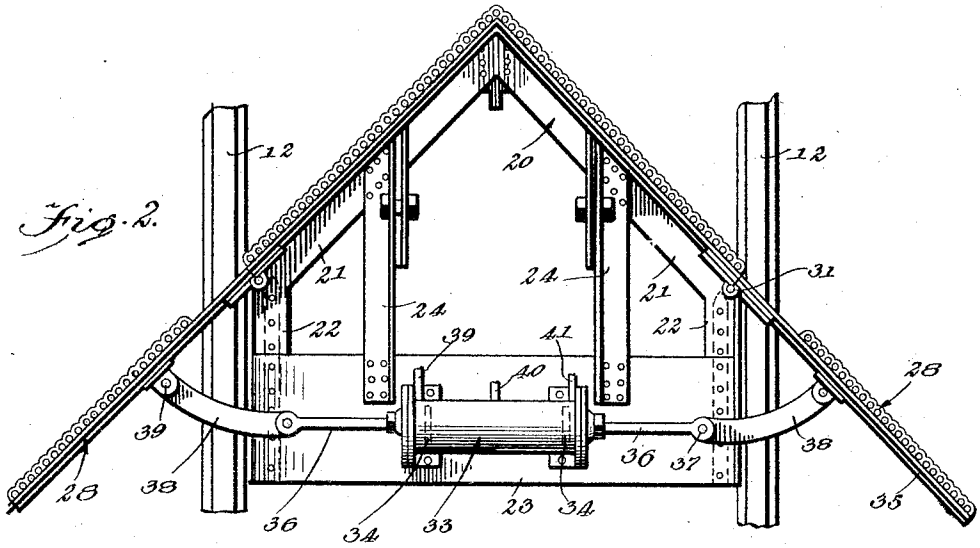


Fig. 3.

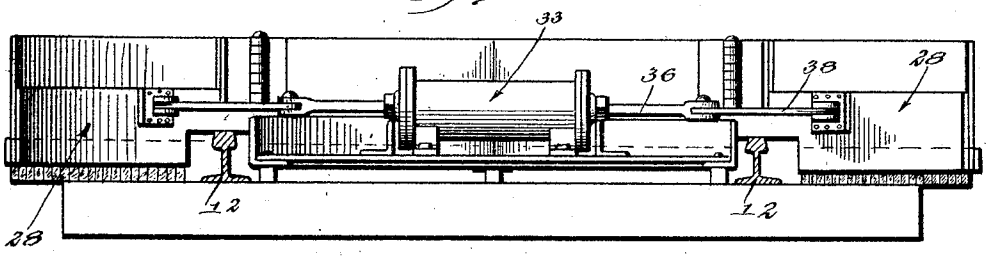


Fig. 4.

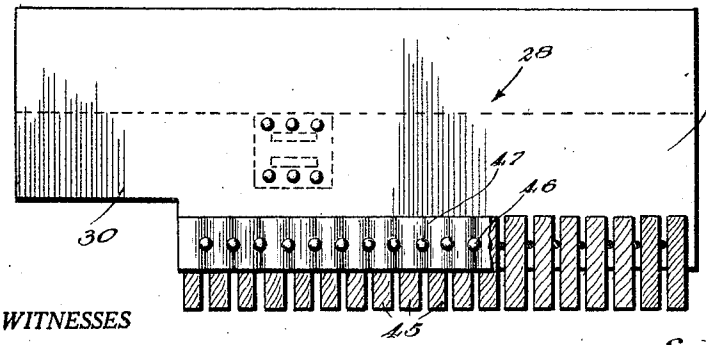
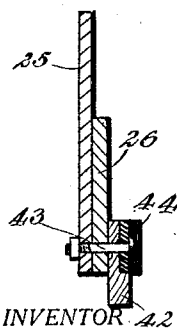


Fig. 5.



WITNESSES

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Patented May 26, 1925. 1,538,971

UNITED STATES PATENT OFFICE.

SOLON FRANCIS CLAPP, OF TEMPLE, TEXAS.

BALLAST-DRESSING MACHINE.

Original application filed August 4, 1922, Serial No. 579,678. Divided and this application filed September 11, 1923. Serial No. 662,149.

To all whom it may concern:

Be it known that I, SOLON F. CLAPP, a citizen of the United States, and resident of Temple, in the county of Bell and State of Texas, have invented certain new and useful Improvements in Ballast-Dressing Machines, of which the following is a specification.

This invention relates to a sweeper for railroad tracks.

The present application is a division of my application Serial No. 579,678 on Ballast dressing machines, filed August 4, 1922 (Patent No. 1,470,058, Oct. 9, 1923). The present invention has for its object to provide a sweeper unit adapted to be mounted upon any conventional form of railroad car and serve to efficiently sweep the roadbed of a railroad track when drawn thereover.

It is a further object of the invention that the sweeper unit be adjustable in order to permit the same to be efficiently utilized upon railroad beds having different widths.

It is also an object of the invention to employ in conjunction with the sweeper unit a novel form of sweeper element, said element being exceedingly efficient in operation, durable, and inexpensive to manufacture.

Other objects and objects relating to details of construction, combination and arrangement of parts will hereinafter appear in the detailed description to follow.

The invention is illustrated by way of example in the accompanying drawing, in which—

Figure 1 is a view in side elevation of a ballast dressing machine and in which the present sweeper unit is incorporated,

Figure 2 is a top plain view of the sweeper unit and also showing fragmentary portions of a pair of railroad rails and the manner in which the sweeper unit may operate thereover,

Figure 3 is a view in rear elevation of the sweeper unit,

Figure 4 is a view in side elevation of one of the wings employed in the sweeper unit, and

Figure 5 is a detail sectional view further illustrating the construction of the sweeper teeth employed and the manner in which the same are held in applied position.

Like reference numerals refer to similar parts throughout the different views of the drawings.

Referring to the drawing more particularly 10 indicates generally the body of a railroad car which preferably is of the type shown and supported by the wheels 11. The wheels 11 may move upon rails 12 and the car 10 carries different devices constituting a ballast dressing machine, that is devices for leveling ballast placed upon the railroad bed. These different devices are specifically described in my co-pending application heretofore referred to and include a turn table 13 upon which there is carried a derrick 14. Forward to the turn table there is mounted a pair of rails 15, one of which is shown and upon these rails there is movable a scraper or leveler unit 16 said leveler unit including a plate adapted to move transversely to the rails 12 and said plate having a wing hinged to each end thereof. The derrick 14 may be used for lifting the leveler unit upon the car 10 and at 17 there is indicated a cab which may be mounted upon the car 10 as shown and which may house the controlling levers, and the like, for operating the derrick 14, turn table 13 and other devices carried by the car 10.

The car 10 also carries a sweeper unit, generally indicated by the reference numeral 18 and which constitutes the subject matter of this invention.

The sweeper unit comprises a frame generally designated by the reference character 20, said frame being wedge-shaped and comprises the two rearwardly and divergently extending portions 21 each of which terminates at its rear end in an extension 22, said extensions 22 being parallel. Between the rear ends of the extensions 22 there is supported a plate 23, and between this plate and each of the portions 21 there may be extended a base member 24.

To each side portion 21 of the frame 20 there is secured a plate member 25. Upon each plate 25 there is secured a second plate 26. The frame 20 is adapted to move between a pair of rails 12 as best illustrated in Fig. 2.

To each of the frames 20 there is hinged a wing generally designated by the reference character 28. Each wing 28 comprises a plate 29 which is recessed at its forward end as at 30 in order to accommodate the associated rail 12 and also permit free movement of said wing. Each wing 28 is hinged as at 31 to the associated side portion of the

frame 20 and these hinges are of such structure that only inward swinging movement is freely permitted, that is outward swinging movement of these wings is limited when said wings are brought into alignment with the side portions 21 of frame 20.

Upon the plate 23 there is mounted a cylinder generally designated by the reference character 33 said cylinder having movable therein a pair of pistons 34. Upon the inner side of each plate 29 of the wing 28 there is secured a plate 35. Each piston 34 has connected therewith a piston rod 36 and the outer end of each rod 36 is pivotally connected as at 37 with a link 38, said link 38 in each instance being connected to the associated plate 35 as shown.

The cylinder 33 should have three pipe connections as shown at 39, 40 and 41. Upon air or other compressed fluid being admitted through pipe 3 the piston 44 at this end of the cylinder will be moved inwardly and thereby likewise move the wing 28 connected with said piston. The same movement of the remaining wing 28 would occur upon a compressed fluid being admitted through the pipe 41 into the cylinder 33, and upon a compressed fluid being admitted through the pipe 40 the pistons 34 will be moved to the position shown in Figure 2 of the drawings and thereby swing the wings 28 to their extreme outward positions.

Upon the forward side of each of the plates 26 there is a plurality of sweeper elements 42. Each sweeper element consists in a short section of wire rope. Each sweeper element is arranged adjacent the lower edge of the plate 26 as best shown in Figures 4 and 5. These elements are arranged parallel and in close relation to each other. The sweeper elements are held in spaced relation by bolts 43 and secured in position by these bolts and a metal strap 44. The metal strap 44 is preferably corrugated to provide depressions therein for cleaning the sweeper element 42. By the strap 44 and bolts 43 it is entirely apparent that these sweeping elements may be rigidly and securely held in position. Each of the wings 28 carries a plurality of sweeping elements or teeth 45, said teeth being of the same construction as the teeth 42 and also each wing 28 is provided with a plurality of bolts 46 and a strap 47 whereby the teeth 45 may be securely held in position. The strap 47 is also corrugated the same as the strap 44.

For lifting the sweeper unit to bring the same clear of the railroad bed, there is provided a cylinder generally designated by the reference numeral 48, said cylinder being supported by means of suitable brackets 49 mounted upon the car body 10. Within the cylinder 48 there is movable a piston, not shown, which is connected to a rod 50, said rod having its lower end pivotally connected to the sweeper unit 18 as at 51; the rod 50 should have its lower end connected to the sweeper unit 18 at a point central to said sweeper unit. Between the forward end of the sweeper unit and the car body 10 there may be extended one or more links 52 and these links serve to maintain the sweeper unit in the proper position when being lowered or raised and also when the car bearing the sweeper unit is moved forwardly.

In the use of the present device the sweeper unit will operate between a pair of rails and upon each tie to level and sweep the ballast or roadbed. The wings 28 may be adjusted in order to secure the best operating efficiency thereof and also the sweeper unit may be lowered the necessary degree so that the same engages with the roadbed in the best manner. Suitable means might of course be provided to operate the sweeper unit from a cap 17 or from some other remote point. It should be particularly pointed out that the sweeper elements 45 can be easily removed when necessary and also that these elements can be made at a relatively low cost.

While I have shown and described the preferred form of my invention I wish it to be understood that I am aware of the fact that the general construction, combination and arrangement of parts might be changed by those skilled in the art without departing from the spirit of my invention as indicated by the appended claims.

I claim:

1. A sweeper unit for railroad tracks, comprising a V-shaped section adapted to move between a pair of rails, a wing hinged to each end of the V-shaped section, a cylinder supported between the wings, a pair of pistons within the cylinder, link connections between each piston and a wing, and means whereby an expansible fluid may be introduced between the pistons.

2. A sweeper unit for railroad tracks, comprising a V-shaped frame, a wing hinged to each end of the V-shaped frame, a cylinder supported by said frame, a pair of pistons for said cylinder, connections between said wings and pistons, and means whereby an expansible fluid may be utilized for reciprocating said pistons and thereby enabling said wings to be swung outwardly and inwardly.

SOLON FRANCIS CLAPP.