Sept. 22, 1925. 1,554,486

W. F. BELL

AUTOMATIC BALLAST SPREADER

Filed Dec. 29, 1924 2 Sheets-Sheet 1

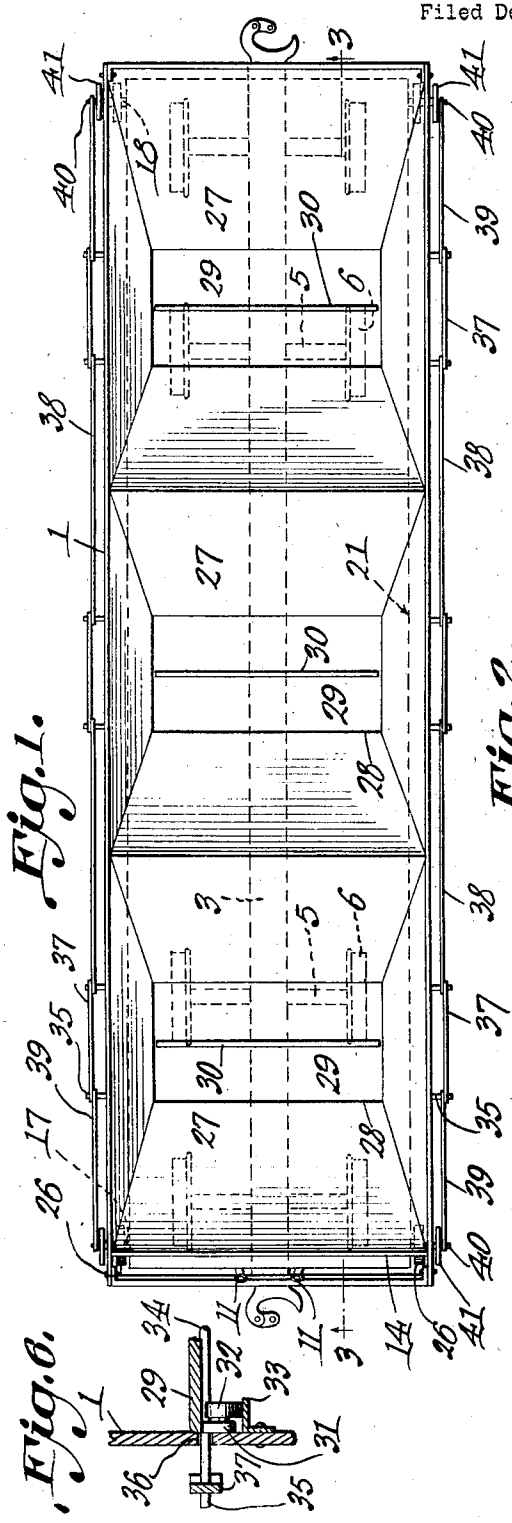


Fig. 1.

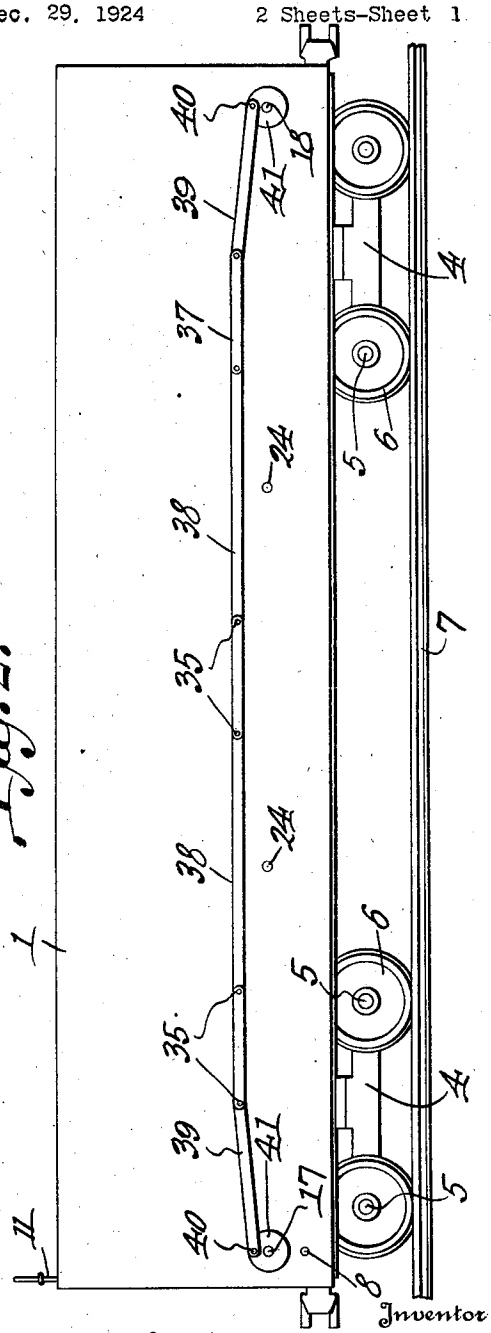


Fig. 2.

Fig. 6.

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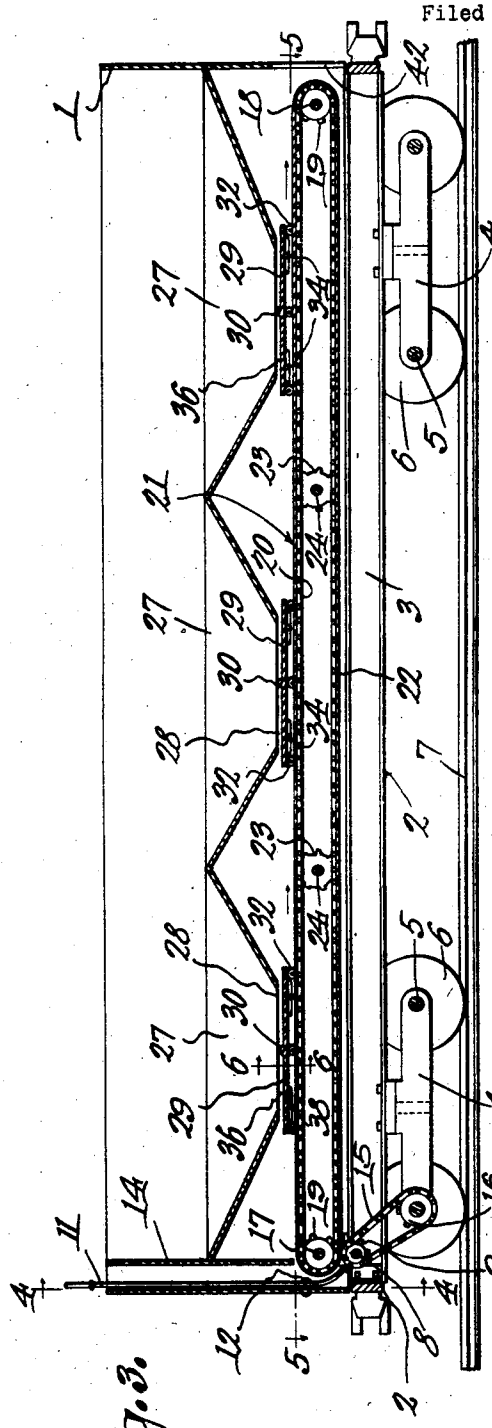


Fig. 3.

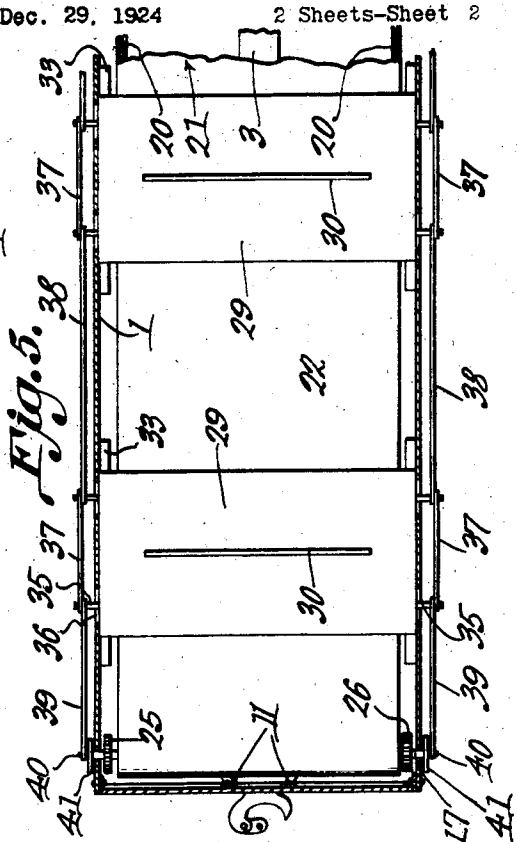


Fig. 5.

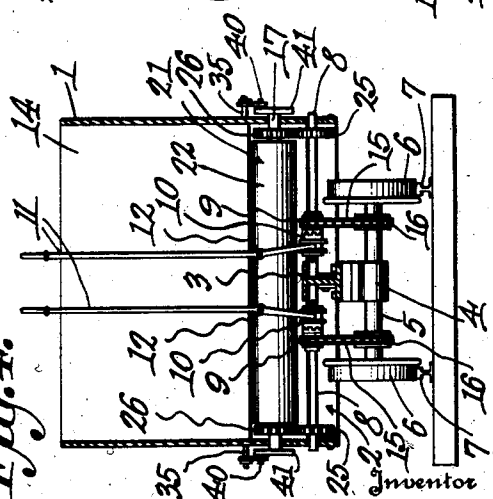


Fig. 4.

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UNITED STATES PATENT OFFICE.

WILLIAM F. BELL, OF CANTON, NORTH CAROLINA.

AUTOMATIC BALLAST SPREADER.

Application filed December 29, 1924. Serial No. 758,677.

To all whom it may concern:

Be it known that I, WILLIAM F. BELL, a citizen of the United States, residing at Canton, in the county of Haywood and State of North Carolina, have invented a new and useful Automatic Ballast Spreader, of which the following is a specification.

This invention aims to provide a simple and efficient means whereby ballast may be spread along a railroad track.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

Although a preferred form has been shown in the drawings, it will be understood that a mechanic, working within the scope of what is claimed, may make changes, such as his skill may dictate, without departing from the spirit of the invention.

In the drawings:—Figure 1 shows in plan, a device constructed in accordance with the invention; Figure 2 is a side elevation; Figure 3 is a section on the line 3—3 of Figure 1; Figure 4 is a section on the line 4—4 of Figure 3; Figure 5 is a section taken along the line 5—5 of Figure 3; Figure 6 is a section on the line 6—6 of Figure 3, distant parts being omitted.

The device forming the subject matter of this application may be used in connection with a car of any kind. By way of illustration, however, there is shown a car including a body 1 of box-like form, supported by a frame 2 including a central longitudinal beam 3 carrying truck frames 4 wherein are journaled axles 5 carrying wheels 6 adapted to traverse the rails 7 of the track which is to be ballasted.

The outer ends of alined shafts 8 are journaled in the sides of the body 1, the inner ends of the shafts being journaled in the frame-beam 3. Sprocket wheels 9 are rotatable on the shafts 8 but are adapted to be coupled thereto by clutches 10, slidable on the shafts and under the governance of any suitable means, such as upwardly extended levers 11 fulcrumed intermediate their ends at 12 on one end of the car body 1. In order that the levers 11 may be operated freely when the car is full of ballast, a division plate 14 extends across the car at a point closely adjacent to that end of the car whereon the levers 11 are fulcrumed. Sprocket chains 15 are engaged with the sprocket wheels 9 and likewise with sprocket wheels 16 mounted on one of the rotatable axles 5 of the car.

Shafts 17 and 18 are rotatably mounted in the sides of the car near to the ends thereof. About sprocket wheels 19 on the shafts 17 and 18 are engaged the side chains 20 of a conveyor 21 including a body 22 carried by the chains. The conveyor 21 is supported at intermediate points by sprocket wheels 23, engaging the chains 20 and carried by shafts 24 journaled in the sides of the car body. On the outer ends of the shafts 8 there are pinions 25 which mesh with gear wheels 26 on the shaft 17.

Hoppers 27 are supported in the car body 1 and have reduced lower ends 28 beneath which operate shakers 29 having intermediate transverse ribs 30, the shakers being supplied with depending brackets 31 whereon are journaled wheels 32 adapted to move back and forth on tracks 33 carried by the sides of the car body. Rods 34 are secured to each shaker 29 and the ends 35 of the rods form projections which reciprocate in horizontally elongated slots 36 in the sides of the car body 1. The ends 35 of the rods 34 on each shaker 29 are connected by a tie 37, the ends 35 of one rod 34 on each shaker 29 being connected with the ends of a corresponding rod on an adjoining shaker by links 38. Pitmans 39 are pivoted to the ends 35 of the rods 34 at the extremities of the car, and are pivoted eccentrically, as at 40, to crank disks 41 on the end of the shafts 17 and 18.

In practical operation, when the clutches 10 are thrown in by means of the levers 11, one of the axles 5, being driven by the corresponding wheels 6, operates the sprocket chains 15 by way of the sprocket wheels 16, rotation being imparted to the shafts 8 by the sprocket wheels 9, the pinions 25 and the gear wheels 26 rotating the shaft 17, the sprocket wheels 19, and the chains 20 moving the upper run of the conveyor 21 in the direction indicated by the arrows in Figure 3, to cause the ballast to pass out through an opening 42 in one end of the car body 1. The ballast in the car body 1 and in the hoppers 27 is received on the shakers 29, on opposite sides of the ribs 30, reciprocation being imparted to the first shaker by means of the pitmans 39 at the left hand end of the car in Figure 2, the corresponding crank disks 41 being rotated by the shaft 17. Reciprocation is imparted to the other

shakers by way of the links 38. The reciprocating shakers 29 distribute the ballast on the upper run of the conveyor 21, and the conveyor, as hereinbefore explained, passes the ballast out up the right-of-way, through the opening 42.

What is claimed is:—

1. In a ballast spreader, a car having a track wheel, a conveyor movably mounted in the car, a hopper in the car, a shaker mounted for reciprocation on the car and interposed between the hopper and the conveyor, and means for operating the conveyor and the shaker from the track wheel.

2. In a ballast spreader, a car having a track wheel, a shaft journaled on the car, a conveyor engaged about the shaft, a crank on the shaft, a hopper in the car, a shaker mounted for reciprocation on the car and interposed between the hopper and the conveyor, a pitman connecting the crank with the shaker, and means for driving the shaft from the track wheel.

3. A device of the class described, constructed as set forth in claim 2, and further characterized by the fact that the last-specified means embodies a second shaft journaled on the car, intermeshing gear members on the shafts, a sprocket rotatable with the track wheel, a sprocket rotatable on the second shaft, a clutch connecting the last-specified sprocket with the second shaft, and a chain engaged about the sprockets.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

WILLIAM F. BELL.