No. 863,954. PATENTED AUG. 20, 1907.

W. C. VAGUE.

SNOW PLOW.

APPLICATION FILED APR. 11, 1907.

3 SHEETS—SHEET 1.

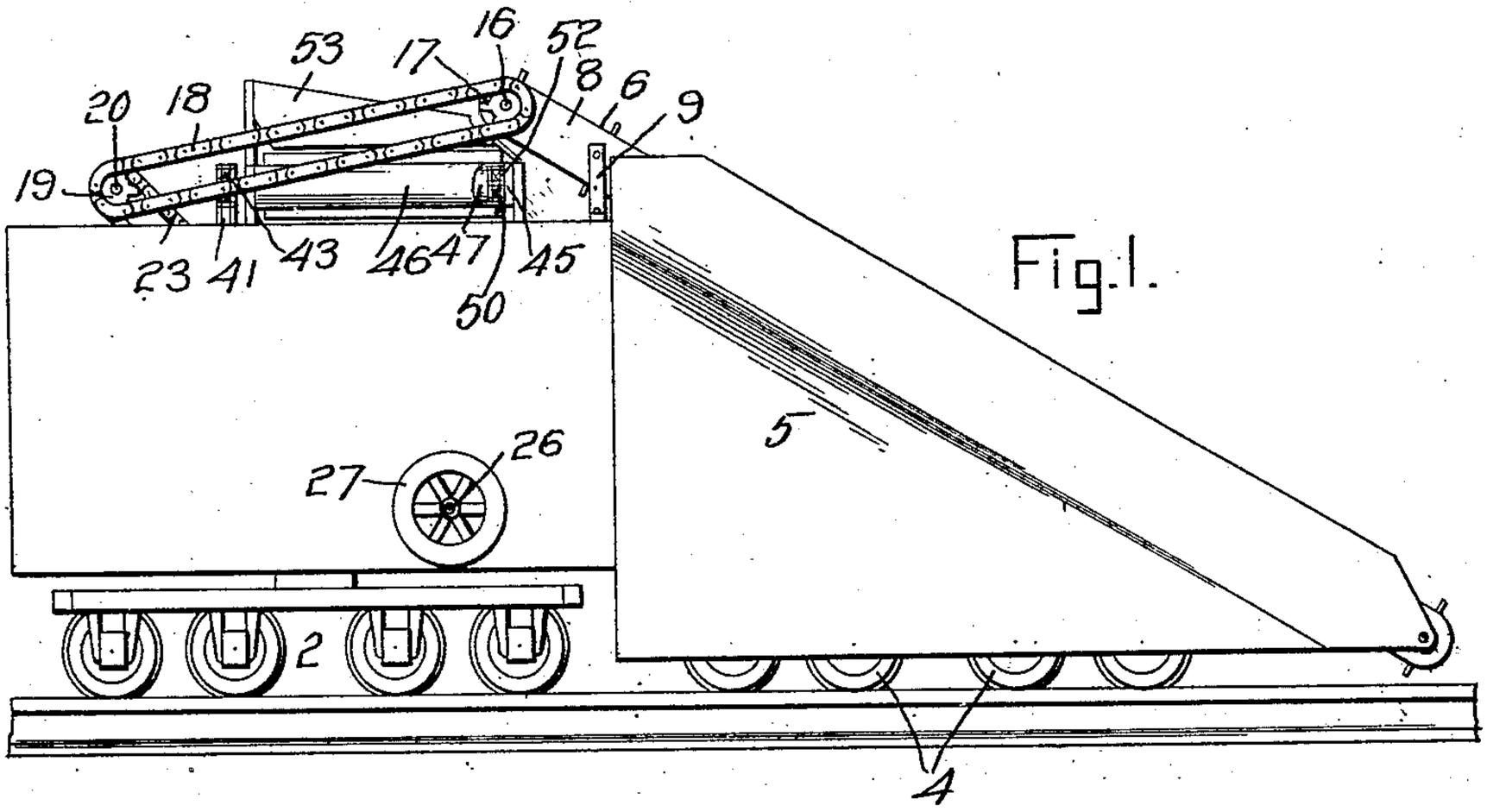

Fig. 1.

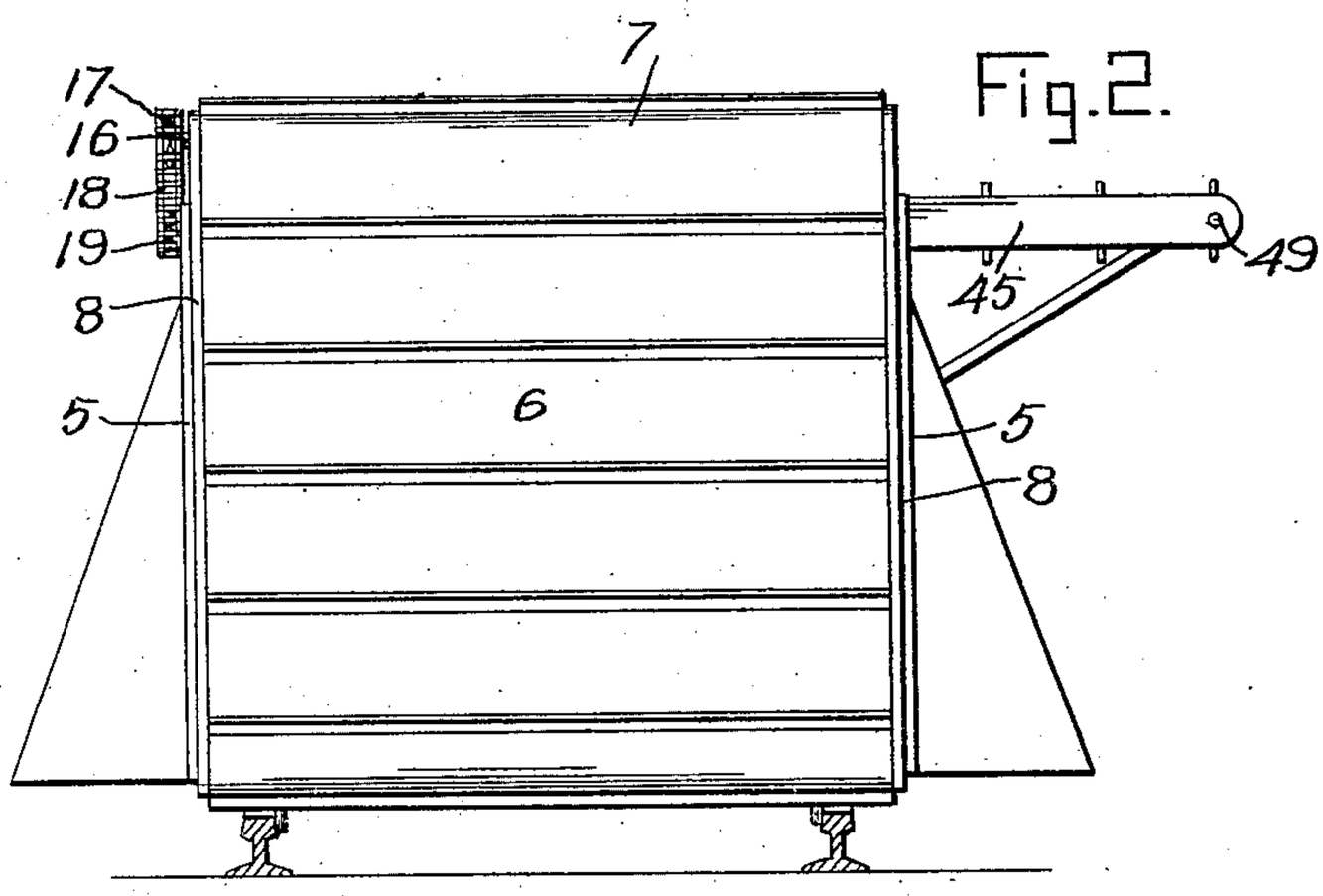

Fig. 2.

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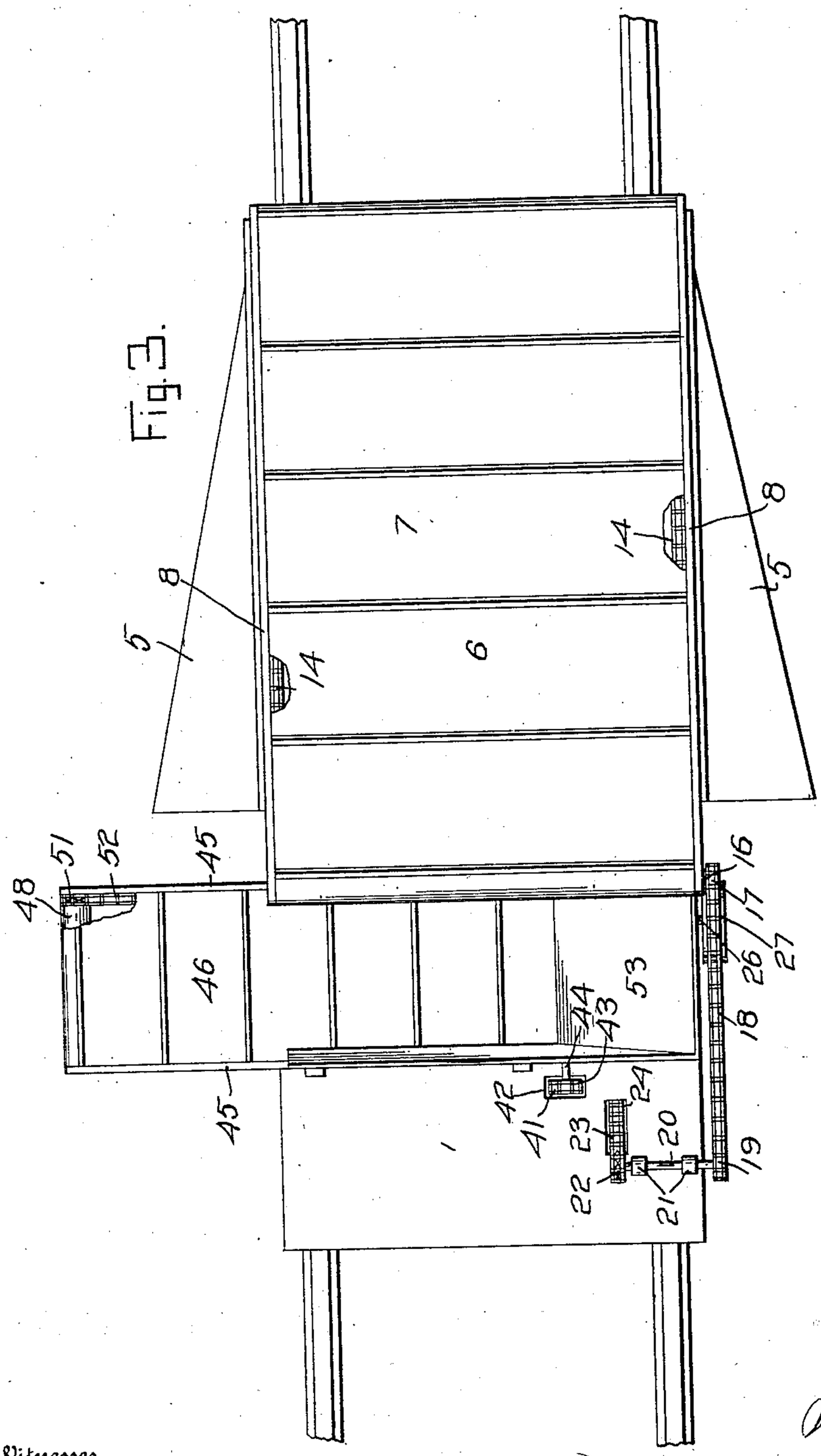
3 SHEETS—SHEET 2.

Fig. 3.



Witnesses

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3 SHEETS—SHEET 3.

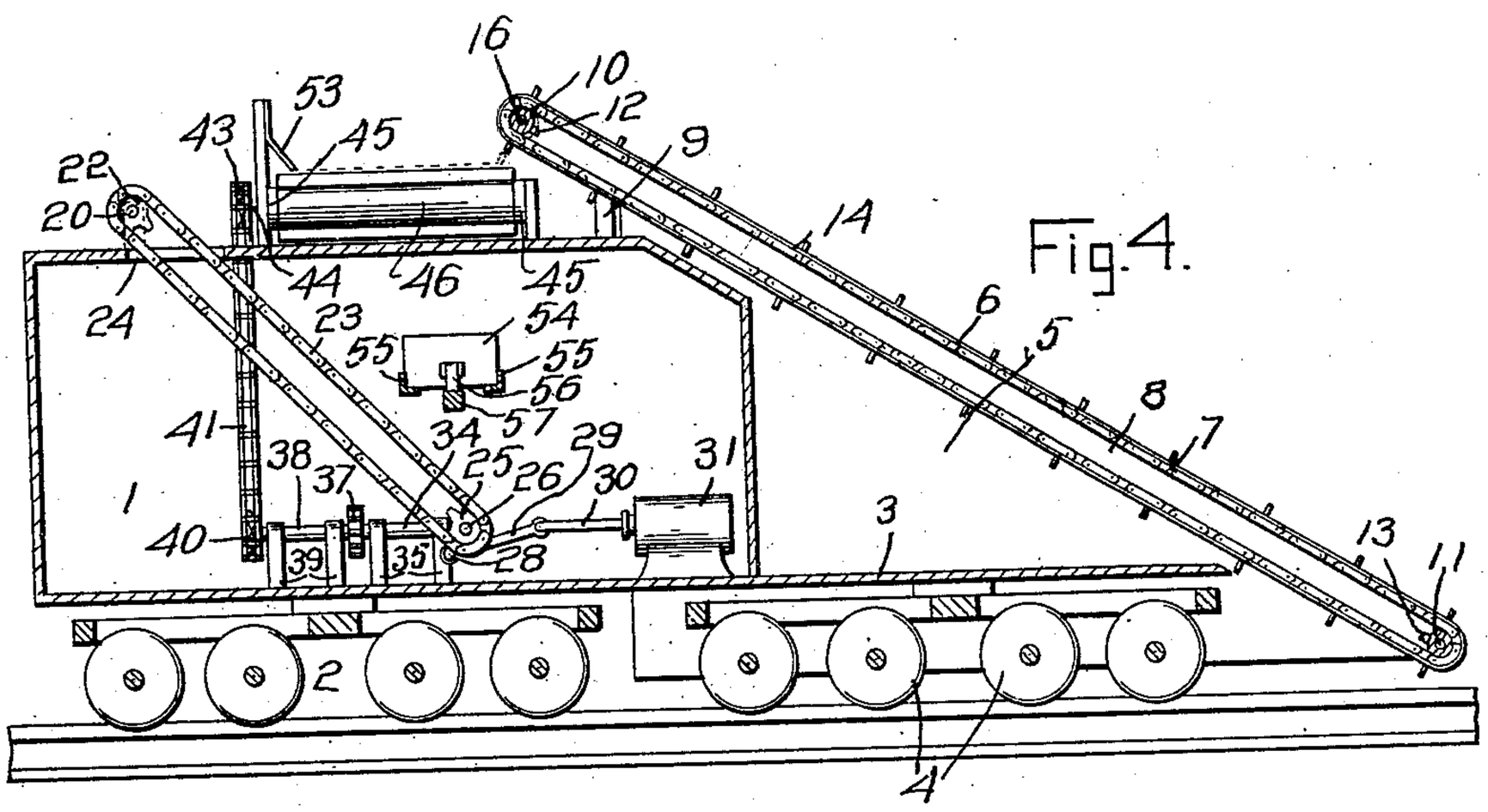

Fig. 4.

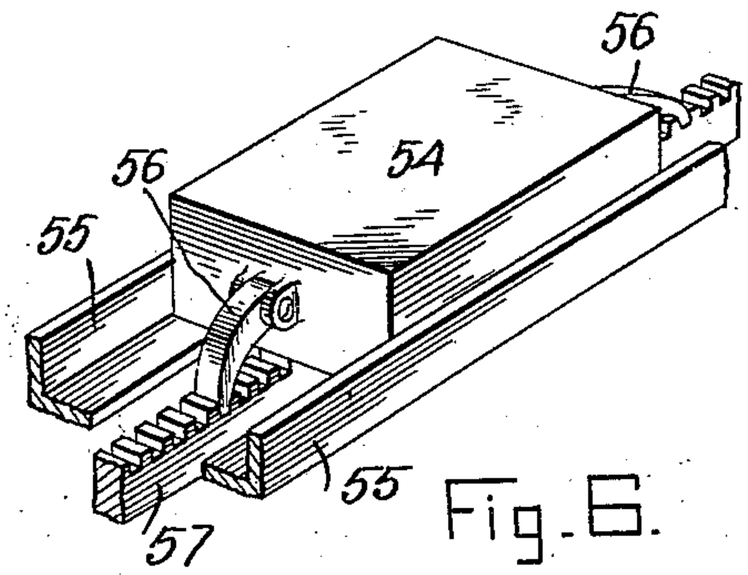

Fig. 6.

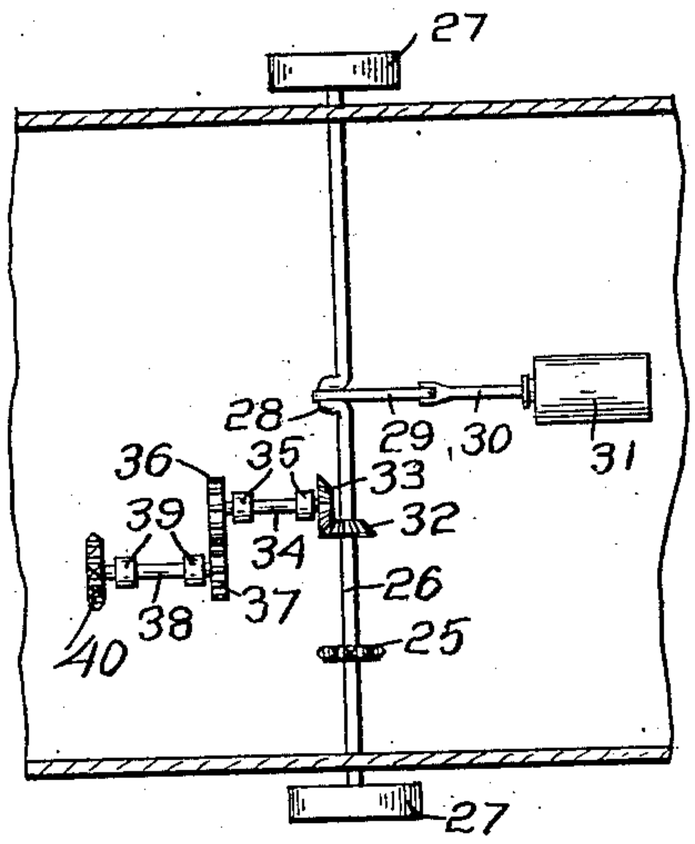

Fig. 5.

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UNITED STATES PATENT OFFICE.

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SNOW-PLOW.

No. 863,954. Specification of Letters Patent. Patented Aug. 20, 1907.

Application filed April 11, 1907. Serial No. 367,670.

To all whom it may concern:

Be it known that I, WILLIAM C. VAGUE, a citizen of the United States, residing at Brooks, in the county of Red Lake, State of Minnesota, have invented certain new and useful Improvements in Snow-Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in snow plows and it has particular reference to a snow plow for use in connection with locomotives and embodying a longitudinal conveyer for initially removing the snow from the track and a transverse conveyer for receiving the snow from the longitudinal conveyer and throwing it to one side of the track.

In connection with a snow plow of the above type the invention aims as a primary object to provide a novel construction combination and arrangement of parts, the details of which will appear in the course of the following description in which reference is had to the accompanying drawings forming a part of this specification, like characters of reference designating similar parts throughout the several views wherein:—

Figure 1 is a side elevation of a snow plow constructed in accordance with the present invention. Fig. 2 is a front elevation thereof. Fig. 3 is a top plan view showing the relation of the longitudinal and transverse elevators. Fig. 4 is a central longitudinal sectional view of the snow plow embodied in the present invention. Fig. 5 is a top plan view of the gear connections. Fig. 6 is a detailed perspective view of a slidable adjustable balancing weight and its associated parts.

Referring specifically to the accompanying drawings the numeral 1 designates a car within which the operating elements are mounted and which is supported on trucks 2. The car 1 is designed for connection to a locomotive or other engine forwardly of the fender thereof to remove the snow from the track in advance of such engine. Forwardly of the car 1 is a platform 3 forming a part of the car and supported by trucks 4. The platform 3 has outstanding side walls 5 extending above the car and serving to deflect the snow from the sides of the track and also to retain the same on the longitudinal upwardly inclined elevator 6. The latter comprises an endless conveyer 7 of suitable construction and traveling over a supporting frame, the side bars 8 of which are fixed to the walls 5 and are supported by braces 9 arranged on top of the car. Upper and lower pulleys 10 and 11 are mounted between the side walls 8 and are provided at each side thereof with respective sprockets 12 and 13 over which the chains 14 are trained, the conveyer 7 being supported between said chains. The shaft 16 of the pulley 10 is extended at one side through its bearings and carries a sprocket 17 which is driven by a chain 18 from a similar sprocket 19 mounted on the end of a transverse shaft 20, the latter being supported in bearings 21 fixed to the roof of the car and having an end sprocket 22.

The sprocket 22 is driven by a chain 23 moving through an opening 24 in the roof of the car and leading from a sprocket 25 provided upon a transverse drive shaft 26 within the car. The shaft 26 projects beyond the car at each side thereof and carries the fly wheels 27. It is preferred to employ two of these fly-wheels on account of the length of the conveyer 7 and the increased power required to operate the same. The shaft 26 is provided between its ends with a crank arm 28 which has connection with a pitman 29, in turn connected to the piston rod 30 of an engine 31. The shaft 26 is also provided with a bevel pinion 32 which meshes with a similar pinion 33 provided on a longitudinal shaft 34 supported in bearings 35. The shaft 34 carries a spur wheel 36 which drives a similar spur wheel 37 on a longitudinal shaft 38, the latter supported in bearings 39 and carrying a sprocket wheel 40. A chain 41 is trained over the wheel 40 and projected through an opening 42 in the roof of the car. The chain 41 is likewise trained over a sprocket 43 provided on the end of a longitudinal shaft 44. The shaft 44 is journaled in the inner ends of the side bars 45 of a conveyer frame which supports an endless conveyer belt 46. Said belt is trained over a pulley 47 fast upon the shaft 44 and over a similar pulley 48 upon a shaft 49, the latter being journaled between the outer ends of the bars 45. The shafts 44 and 49 are provided adjacent their ends with respective sprockets 50 and 51 over which chains 52 are trained, the belt 46 being supported by and between the chains 52. The side bars 8 at their upper end conjointly support a spout 53 of suitable construction for discharging and deflecting the snow from the belt 7 upon the belt 46, the latter carrying the snow to one side beyond the car and allowing it to discharge by gravity.

For the purpose of counteracting the lines of force during the action of the car, in order that the snow in the projecting end of the belt 46 may not cause the car to tilt or become top heavy, an adjustably movable weight 54 is provided. The weight 54 is slidably supported upon beams 55 mounted transversely within the car and is designed to be moved from the center to one side thereof, obviously the side opposite the belt 46, to counterbalance the weight of the snow on said belt. At its ends the weight 54 carries displaceable pawls 56 which are designed to engage the teeth of a rack bar 57 and prevent accidental displacement of said weight from any position to which it may be moved.

The operation will be readily apparent from the foregoing description. As the car 1 advances, its engine 31 will simultaneously drive the belts 7 and

46. The sides 5 of the platform 3 deflect the snow at the sides of the track so that it will not interfere with the progress of the car and the belt 7 elevates the snow between the rails. The spout 53 deflects the snow from the belt 7 upon the belt 46 and it is discharged by the cutter in the manner described. When the elevating apparatus is not in use the weight 54 is moved to a position central of the car.

From the foregoing description it will be seen that simple and efficient means are provided for accomplishing the objects of the invention, but, while the elements herein shown and described are well adapted to serve the functions set forth, it is obvious that various minor changes may be made in the proportions, shape and arrangement of the several parts without departing from the spirit and scope of the invention as defined in the appended claims.

What is claimed is:—

1. A snow plow comprising a wheeled car, an engine therein, a longitudinal conveyer working forwardly of and above said car, a transverse conveyer supported on top of said car and projecting beyond the same at one side thereof, a spout between said conveyers, operative connections between said engine and said conveyers and a weight mounted in said car for transverse adjustable movement.

2. A snow plow comprising a wheeled car, an engine therein, a longitudinal conveyer working forwardly of and above said car, a transverse conveyer supported on top of said car and projecting beyond the same at one side thereof, a spout between said conveyers, operative connections between said engine and said conveyers, beams supported transversely of said car, a rack bar arranged between said beams in parallelism thereto, a weight slidably mounted on said beams, and displaceable pawls carried at each end of said weight for engagement with said rack bar.

3. A snow plow comprising a wheeled car, a platform projecting forwardly from said car, said platform having outstanding side walls formed to deflect snow, a longitudinal conveyer working between said side walls and above said car, a transverse conveyer supported on top of said car, and projecting beyond the same at one side thereof, a spout between said conveyers, an engine in said car, and operative connections between said engine and said conveyers.

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

WILLIAM C. VAGUE.

Witnesses:
JOHN RAMSEY,
SAMUEL RAMSEY.