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FRONT WING FLOW FOR RAILROAD SPREADERS
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Fig. 3

Fig. 5

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This invention relates to improvements in front plow wings or aprons for railroad spreaders and it consists of the matters hereinafter described and more particularly pointed out in the appended claims.

In railroad spreaders having a front V-shaped plow and main spreader wings at the sides of the spreader car, there is associated therewith a plow wing or apron which extends rearwardly from the plow at each side of the car, to the front or inner end of each main spreader wing. These wings or aprons are intended to normally prevent the material, being operated upon by the plow, from flowing under the car and it is to the construction of this wing or apron and the manner of securing it in position on the car that this invention is more specifically directed.

The primary object of the invention is to provide a wing of this kind, which is light in weight but is strong and rigid in construction and which may be made at a comparatively low cost.

A further object of the invention is to provide a wing of this kind in the form of a hollow flat box structure and which includes at its rear end, a flexible extension or tail to engage the side spreader wing as to seal off the inner end of the spreader wing so that material being operated cannot flow under the inner cut off bottom end of the side wing to ride up along the tie ends.

These objects of the invention, as well as the many advantages thereof will more fully appear as I proceed with my specification.

In the drawings:

Fig. 1 is a view in side elevation of a railroad spreader embodying my improved front plow wing construction.

Fig. 2 is a fragmentary top plan view on an enlarged scale of the parts shown in Fig. 1.

Fig. 3 is a view in side elevation of my improved wing construction on a further enlarged scale as it appears when removed from the spreader.

Fig. 4 is a transverse vertical sectional view as taken on the line 4—4 of Fig. 2.

Fig. 5 is a detail horizontal sectional view through the outer end of the wing as taken on the line 5—5 of Fig. 3.

Referring now in detail to that embodiment of the invention illustrated in the accompanying drawings:—1 indicates as a whole, the car of a railroad spreader adapted for travel upon the rails of a railroad track 2. Said car has a relatively wide front end or platform 3 and a narrower body portion 4 to the rear of the same, the front end of the platform being pointed or nosed as at 5 in Fig. 2. Associated with said pointed end 5 are front plow members 6—6 which terminate at their outer end in the plane of the sides of the platform. Said plows are capable of a vertical adjustable movement with respect to the nose of the car and such movement is imparted thereto by a fluid pressure cylinder at the nose end of the platform 5.

7 indicates one of the main spreader wings which is positioned to the rear of the platform and normally extends parallel with the sides of the narrower body portion 4. At the front end of the body portion on each side of the car is an upright post 8 in which a carriage 9 has vertical sliding guiding bearing and fixed to said carriage and extending outwardly therefrom are top and bottom hinge blocks 10 and 11 respectively. 12 indicates a hinge plate embracing the inner end of the main spreader or side wing and pivotally connected thereto by a horizontal pin 13, said plate being pivoted to the top hinge block 11 by a vertically disposed pin 14. 15 indicates a telescopic wing lifting brace including a power cylinder 16. This brace is operatively connected at its bottom end to the wing and the cylinder has an extension 17 which is pivoted to a hinge plate 18 by a horizontal pin 19. The hinge plate 18 is pivoted to the top hinge block 10 by a pin 20 in line with the pin 14 before described. The wing normally occupies a position parallel with the car body portion 4 but may be swung about the pins 14 and 20 into an angular position with respect to the car body as shown in full lines in Fig. 2. Its angular position with respect to its normal horizontal position may
be changed by the telescopic wing lifting brace 15.

My improved front plow wing or apron is indicated as a whole at 21. It is substantially rectangular and of a length greater than its height or thickness and includes top and bottom substantially horizontal rectangular bars 22 to 23, an upright front end bar 24 and an upright rear end bar 25 and front and rear plates 26 and 27 respectively riveted to said bars. Extending from the top end of the rear bar to the bottom end of the front bar is an inclined strut or bar 28 to which the front and rear plates are also riveted. The said front and rear plates are of a length greater than the top and bottom bars and project a suitable distance beyond the rear bar 25 and receive between them, the front marginal portion of an extension plate or tail piece 29. Said extension plate is secured in place by a vertical row of bolts 30. Said plate is flexible with respect to the wing 21 as a whole, and near its top end to the rear of the wing plates 26 and 27 is provided a vertically elongated slot 31 the purpose of which will appear later.

The front end bar 24 is provided with a plurality of vertically spaced sleeve like extensions 32 to interfit with similarly spaced sleeve like extensions 33 rigidly fixed to the frame of the plow as a whole at the rear end of each front plow member 6. A pin 34 extends through all of said sleeves and forms the vertical axis about which the apron as a whole may be swung into an angular position with reference to the spreader as shown in dotted lines in Fig. 2.

At the rear end of each side of the platform there is pivoted at 35, a transversely extending latch bar 36. The inner and longer (and consequently heavier) end of said latch bar has sliding guiding bearing in a bracket 37 while the outer and shorter (and consequently lighter) end of the latch bar projects beyond the plane of the slide of the platform and has an upwardly extended hook 38 thereon, the extremity of said end of said latch bar being rounded off as at 39. Said latch bar is so positioned with respect to said wing that when said wing is swung toward the car, the rounded extremity of the latch bar enters the opening 31 and is tipped downwardly to pass through the same after which the heavier end will bring the hook 38 into the position shown in Fig. 4 to lock the wing in place.

When it is desired to swing the wing or apron into the dotted line position shown in Fig. 2 for light spreading work the rear end of the latch bar is elevated to release the hook and the wing may then be swung about the pin 34 and secured in the desired angular position by interposing a removable strut 40 between the rear side of the wing and a fixed part of the car underframe.

When the wing or apron is in its normal bars, front and rear plates fixed to said bars,
with both of said plates extending beyond the rear bar, said front bar including vertically spaced ears thereon, and a relatively flexible plate engaged along one margin between the extending parts of said front and rear plates and to which said flexible plate is secured.

6. A member of the kind described embodying therein end bars and top and bottom bars, front and rear plates fixed to said bars, with both of said plates extending beyond the rear bar, said front bar including vertically spaced ears thereon, a strut bar extending from one corner to the other of said member in the plane of said bars and to which said front and rear plates are also attached and a relatively flexible plate engaged along one margin between the extending parts of said front and rear plates and to which said flexible plate is secured.

7. In a railroad spreader the combination of a car body, a front plow positioned at one end thereof, and a side wing swingably secured to the car body rearwardly of the front plow, said front plow comprising a V-shaped nose portion, vertically disposed side members swingably attached to the V-shaped nose portion, and apron members attached to the rear ends of the side members and serving to close the gap between the side wing and side members of the front plow.

8. In a railroad spreader the combination of a car body, a front plow positioned at one end thereof, and a side wing swingably secured to the car body rearwardly of the front plow and inwardly of the side members of the front plow, said front plow comprising a V-shaped nose portion, vertically disposed side members swingably attached to the V-shaped nose portion, and apron members attached to the rear ends of the side members and serving to close the gap between the side wing and side members of the front plow.

9. In a railroad spreader the combination of a car body, a front plow positioned at one end thereof, said front plow comprising a V-shaped nose portion and side members extending rearwardly therefrom and being swingably attached thereto, and a relatively flexible member secured to and extending rearwardly from the side member.

In testimony whereof, I have hereunto set my hand, this 11th day of December, 1926.

VSEVOLOD G. TELLIS.