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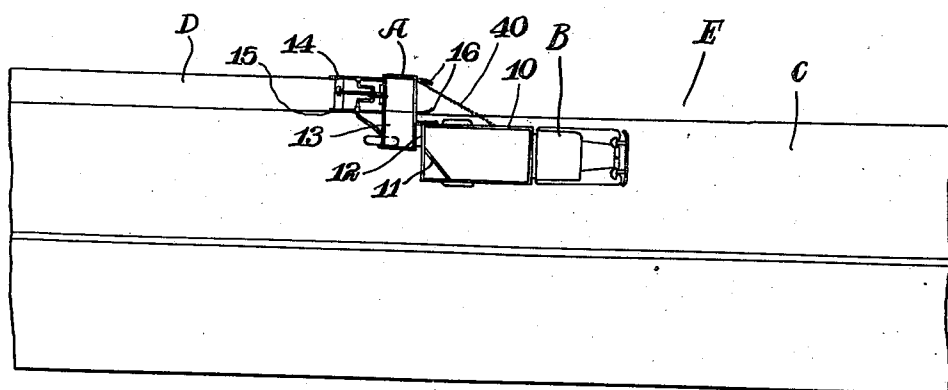
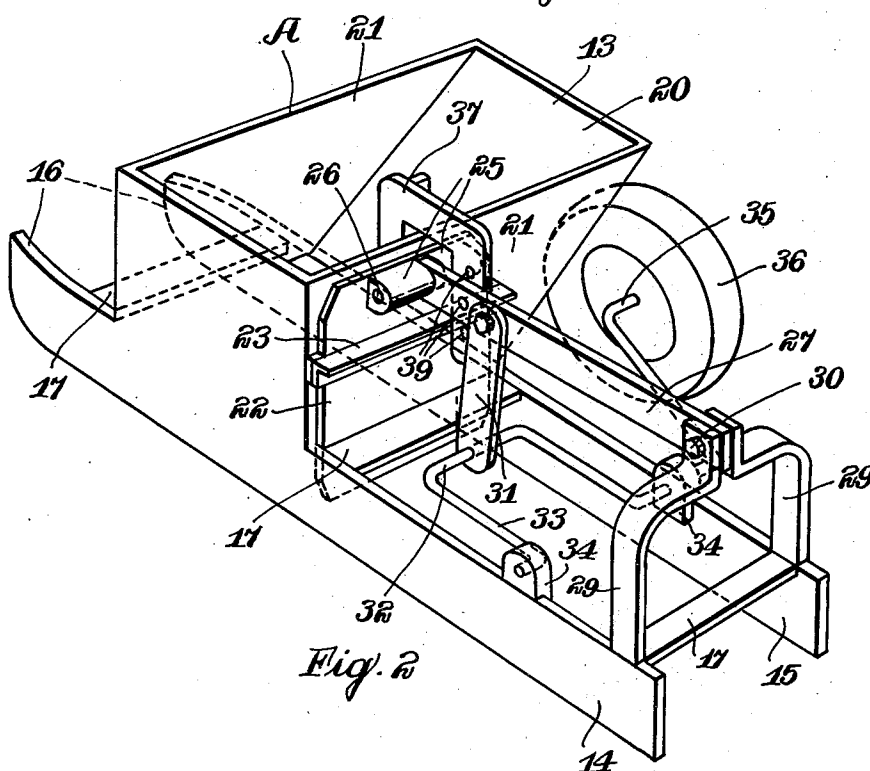
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PAVING MATERIAL SPREADER

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2 Sheets-Sheet 1



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PAVING MATERIAL SPREADER

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5 Claims. (Cl. 94-44)

My invention relates to an improvement in paving material spreader for use in widening existing pavement by the addition of a strip of pavement along the side of the pavement.

5 During recent years it has been found necessary or desirable because of increasing traffic to widen paved highways. Many pavements which were constructed many years ago have been found inadequate to handle present traffic and have been found dangerous for the travel of vehicles traveling at high speed. Accordingly, devices have been made for the purpose of applying a strip of pavement along an edge of existing pavement to widen the same. These prior devices have usually been mounted upon wheels so that unless the road bed over which the added strip of pavement is to be laid is absolutely true and level, the irregularities in the road bed will create irregularities in the added pavement. Furthermore, even though the road bed is prepared with extreme care, it is usually found that the existing pavement is not entirely even, and in order to prevent a shoulder from being formed between the existing pavement and the newly added pavement it is necessary for the added pavement to undulate together with the existing pavement.

It is the object of the present invention to provide a spreading device mounted upon runners, one of which may engage the edge of the existing pavement and be guided thereby. Thus the spread material is always deposited closely adjacent the existing pavement the width of the runner spacing the new pavement from the old. This construction obviates the previous difficulty encountered in guiding the spreading device, for obviously the wheels upon which former spreading devices have been mounted can easily ride over the edge of the pavement if pulled at a slight angle thereto.

40 It is a further object of my invention to provide a spreading device including a hopper into which the paving material is dropped and to provide a gate regulating the depth to which the paving material is spread. This gate is automatically controlled when desired by means of a regulating gauge riding upon the surface of the existing pavement near the edge of the same, positioned directly opposite the gate regulated thereby. Accordingly, as a slight depression in the existing pavement is encountered, the gate will lower slightly to cause the added pavement to have a similar depression. As a slight rise in the existing pavement is encountered, the gate will open slightly to permit a thicker bed of paving material to be provided in the added strip ad-

jacent this raised portion of the existing pavement. By this means the added strip of pavement will undulate together with the existing pavement, thereby preventing any shoulder between new and old pavements.

It is a further feature of my invention to provide a construction which will enable me to lay a new strip of pavement in a series of courses if desired. Where asphalt or tar material is used to form the new or added strip of pavement, the lower course is usually formed by setting the gate at a predetermined height so that a course or layer of uniform thickness is formed adjacent the existing pavement. A second course or layer is applied over this first layer, and in applying the upper course or layer, the gate is usually attached to the gauge or regulating means engaging the road surface opposite the gate so that the upper course or layer will follow the contour of the existing pavement.

It is a further object of my invention to provide a pavement spreading device having a hopper designed to catch paving material dropped into the same from the elevated body of a truck equipped with a hydraulic hoist or the like so that the spreader may be towed by the truck which simultaneously delivers the paving material into the hopper. The trucks which are used with my spreading device are each provided with a means of attachment with the spreader so that each truck may tow the spreader for a short distance and simultaneously deliver its contents to the spreader. When each truck has emptied its paving material into the hopper, it is disconnected to return to the source of supply of the paving material and another truck is immediately attached to the spreader so that this paving material spreader is virtually in constant use.

It is a feature of my device that the runners are toed inwardly at the front ends of the runners so that one runner may ride closely adjacent the existing pavement without catching upon slight projections therein which might have a tendency to raise the inner runner onto the surface of the pavement. The toeing in of the runners also acts to force loose material on the road bed outside the outer runner. This material forced outwardly falls back against the clearly defined edge of the added strip of pavement after the spreader has passed.

These and other objects and novel features of my invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of my specification:

Figure 1 illustrates diagrammatically a plan view of a roadway having an existing strip of pavement and discloses the manner in which the truck tows the spreader and delivers paving material thereinto.

Figure 2 is a perspective view of my spreader illustrating the construction thereof.

Figure 3 is a sectional view longitudinally through the spreading device, the section being taken on a line spaced from but closely adjacent the transverse center of the device.

Figure 4 is a cross-sectional view of my device on the line 4—4 of Figure 3.

The spreader A is designed to be towed by a truck B travelling along a strip of existing pavement C to apply a new strip D of pavement along the edge of the existing pavement. The truck B is preferably provided with a hoist body 10 having a baffle 11 near the rear of the same to drop material through an opening in the rear 12 of the body 10 into the hopper 13 of the spreader A. As the paving material is dropped from the truck B, the body 10 is elevated to urge more material into the hopper 13.

The spreader A comprises a pair of runners 14 and 15. These runners are toed inwardly at the front extremity of the same as illustrated in Figures 1 and 2, and these inwardly toed ends 16 are also rounded upwardly to ride over the surface of the road bed E. The runners 14 and 15 are held in spaced relation by cross members 17 at spaced intervals throughout the length of the same.

Mounted upon the runners 14 and 15, I provide a hopper 13. This hopper 13 preferably extends upwardly from the runner 14 creating a square end wall 19. The other end 20 of the hopper 13 inclines upwardly and outwardly from the runner 15 to project a considerable distance over the edge of the existing pavement C. Front and rear walls 21 extend from the top of the hopper 13 to a point between the runners and spaced considerably from the bottom of the same as indicated in Figure 3 of the drawings.

A vertically slidable gate 22 is provided overlying a portion of the rear hopper wall 21. This gate extends between the runners 14 and 15 and is guided thereby. The gate 22 is held in close proximity to the wall 21 by one of the cross members 17 and by an angle member 23 extending transversely of the gate and secured to the wall 21. It may be seen that the gate 22 may only move vertically and that the lower extremity 24 of the gate 22 regulates the thickness of the pavement being spread upon the road bed E or upon the lower course of paving material.

Aligned bearings 25 are provided adjacent the top of the gate 22 to accommodate a pivot pin 26 pivotally connecting the gate 22 to a longitudinally extending lever 27. A frame 29 extending upwardly from the runners 14 and 15 forms a fixed pivot at 30 for the lever 27. A link 31 pivoted to the lever 27 is mounted upon the offset portion 32 of the crank 33 pivoted in aligned bearings 34 upon the runners 14 and 15. The end of the crank 33 extends beyond the runner 15 and is bent forwardly to a point opposite the gate 22 where it extends transversely at 35 to form an axle for the gauge wheel 36.

A bracket 37 is attached to the rear side 21 of the hopper 13 and extends downwardly adjacent the lever 27. Openings 39 are formed through the lever 27 and the bracket 37 so that by inserting a pin through the opening 39 in the lever 27 and through any of the openings 39 in the

bracket 37, the gate may be supported in fixed position with respect to the hopper and runners. When the gate 22 is set in fixed position, the link 31 is usually disengaged from the lever 27 so that movement of the gauge wheel 36 will not tend to affect a vertical movement of the gate 22.

In operation, the truck B filled with paving material is attached by means of chains 40 or other suitable means to the spreading device A. The opening in the rear 12 of the truck B is opened permitting some of the paving material to drop into the hopper 13 and the truck B moves forwardly towing the spreader A. As the paving material within the hopper 13 is used up, the body 10 of the truck is elevated, dropping more material into the hopper 13 as the spreader moves along. When the truck is entirely empty, the same is disengaged from the spreader A and a full truck is attached thereto and the operation is repeated.

When the material drops into the hopper 13, and the spreader A is moved, the thickness of paving material remaining upon the road bed E or upon the lower course of pavement is regulated by the position of the gate 22. If tar material or asphalt is used for the widening strip, the link 31 is usually disengaged and the lever 27 secured to the bracket 37 to hold the gate in fixed position.

With the gate 22 thus fixed, the lower course or layer of the pavement is laid, the upper surface of this layer being substantially beneath the level of the adjoining pavement. This lower course is rolled out in the usual manner, and the upper course is then laid upon this lower layer. During the laying of this upper course, the pin is removed from the openings 39 and the link 31 is positioned to connect the crank 33 and the lever 27. The wheel 36 then travels over the surface of the pavement near the edge of the same directly opposite the gate 22, and the gate 22 is raised or lowered by the crank 33, the link 31, and the lever 27. The runner 15 engages the edge of the pavement and the inturned end of the runner designated at 16 prevents the runner from engaging the edge of the pavement and riding up onto the same. The inturned end 16 of the runner 14 engages loose dirt on the road bed and urges the same outwardly beyond the runner 14 so that the new strip of pavement may be provided with a clearly defined edge.

In Figure 4 of the drawings, I illustrate an adjustable end 41 secured to the lower edge 24 of the gate 22. In the construction illustrated, the adjustable edge 41 is pivoted to the gate 22 at a central point 43 and bolts 44 extending into the gate 22 pass through arcuated slots 45 in the edge member 41. These slots 45 are formed with the pivot 43 as a center so that the adjustable blade edge 41 may be tilted with respect to the edge 24 of the gate 22. It is sometimes found that the paving material should be lower at one edge than the other to create a crown in the road, compensate for shoulder, or road bed conditions.

In accordance with the patent statutes, I have described the principles of operation and construction of my paving material spreader; and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that this is only illustrative of a means of carrying out my invention, and that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A paving material spreader adapted to be drawn along the edge of a strip of pavement, said spreader including a hopper, adjustable gate means for spreading the material within said hopper as the same is moved along the edge of the pavement, and gauge means substantially in alignment with said gate engaging the surface of the pavement along which said hopper is drawn for adjusting the position of said gate to raise and lower the same in accordance with the height of the pavement.

2. A spreader for paving material comprising a pair of runners, a hopper mounted thereupon, an adjustable gate for spreading the material within said hopper, and means adjusting the position of said gate, said means including gauge means substantially in alignment with said gate contacting the surface of the existing pavement along which said runners are pulled to raise or lower said gate in accordance with the height of the existing pavement.

3. A spreader for paving material consisting in supporting means adapted to be drawn along the edge of a strip of existing pavement, a hopper mounted on said supporting means, adjustable

gate means for spreading paving material within said hopper to a desired thickness as said supporting means is drawn along the edge of said pavement, and gauge means engaging the surface of the existing pavement opposite said gate means connected to said gate means to control the same.

4. A spreader for paving material including a supporting means adapted to be drawn along the edge of a strip of existing pavement, hopper means on said supporting means, a gate means for spreading material within said hopper means as said supporting means is moved along the edge of the pavement, a wheel adapted to engage the existing pavement opposite said gate, crank means connected to said wheel, and means connecting said crank and said gate to raise and lower said gate in accordance with the raising and lowering of said wheel.

5. A spreader for paving material comprising supporting means, a hopper mounted thereupon, adjustable gate means for spreading material within said hopper as said supporting means is drawn along the surface of the ground, and adjustable edge means on said gate means to provide an inclined edge on said gate means.

VERNE LATHROP.