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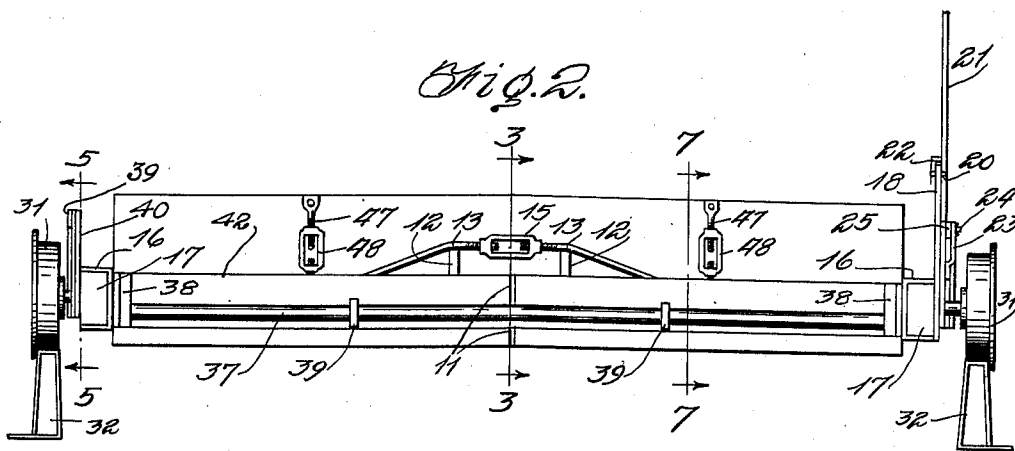
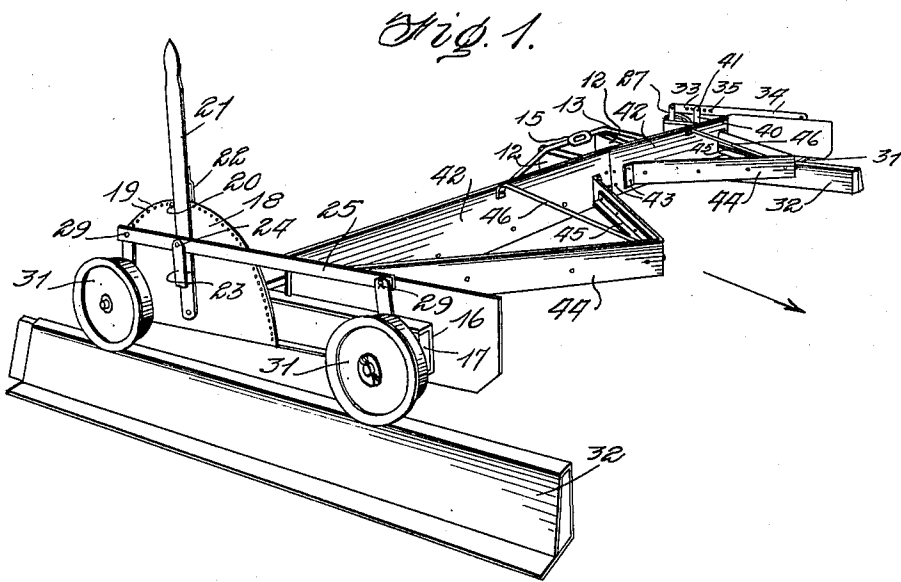
A. R. MILLS ET AL

2,224,084

CONCRETE DISTRIBUTOR FOR ROAD PAVINGS

Filed March 20, 1939

2 Sheets-Sheet 1



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Fig. 3.

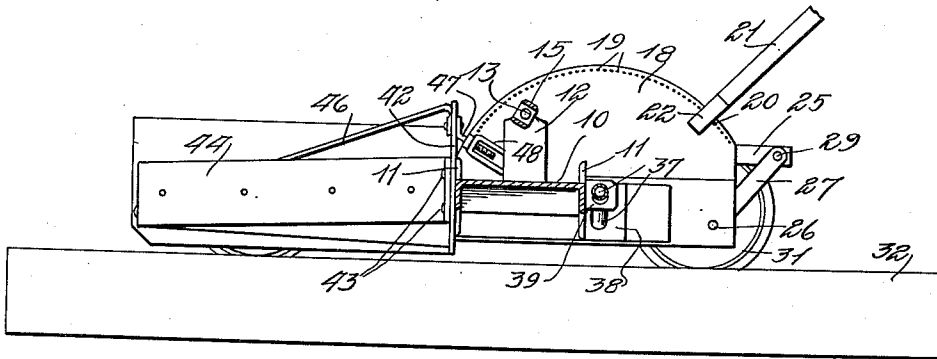


Fig. 4.

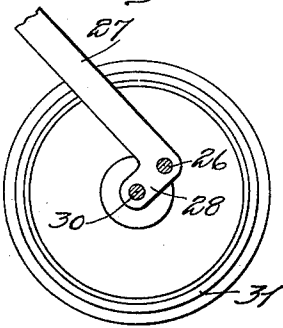


Fig. 5.

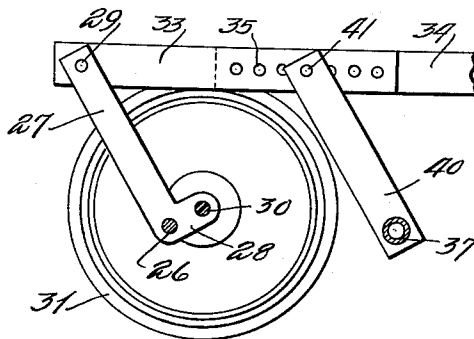


Fig. 6.

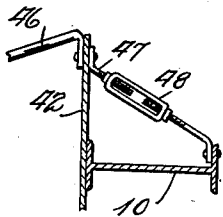
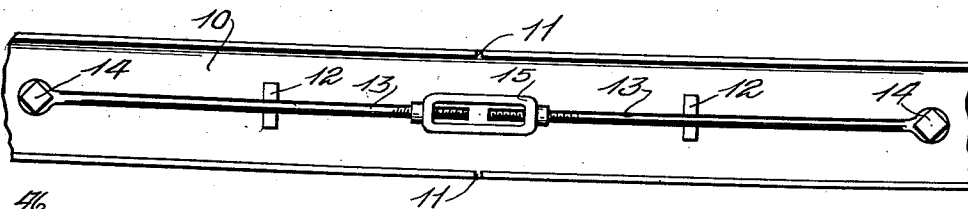


Fig. 7.

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UNITED STATES PATENT OFFICE

2,224,084

CONCRETE DISTRIBUTOR FOR ROAD
PAVINGS

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Application March 20, 1939, Serial No. 262,986

6 Claims. (Cl. 94-44)

This invention relates to machinery for constructing highways and has special reference to a concrete distributor for distributing concrete dumped on a roadway and for producing an equal and uniform distribution of the concrete mixture in the proper amount in preparation for the ensuing smoothing operation, and to eliminate all hand work heretofore necessary therein.

One important object of the present invention is to provide a novel general construction for such a concrete distributor.

A second important object of the invention is to provide a concrete distributor having novel means for regulating the extent of crowning effect produced by the machine.

A third important object of the invention is to provide a machine of this class having a strike-off member with novel means for raising and lowering the same.

A fourth important object of the invention is to provide novel means whereby the strike-off member may have one end adjusted vertically with respect to the other.

Further objects of the invention include means for raising the strike-off member to permit its passing over an expansion joint in place without altering the set of the strike-off member; also to provide a high strike-off member with side retaining wings, either integral with the side strike-off plate or separate as a part of the frame whereby to obviate difficulties heretofore encountered in the construction of machines for similar purposes; to provide a high strike-off member for preventing surplus concrete to drip back over the member, the wings preventing surplus concrete from dribbling on or outside of the forms at the ends of the machine, and to provide a distributor having a novel means of producing a more uniform texture of concrete slab, and thereby making possible a greater final smoothness of pavement.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this application, wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a perspective view of the distributor from the right front corner thereof;

Figure 2 illustrates a rear elevation of the distributor;

Figure 3 illustrates a section on the line 3—3 of Figure 2;

Figure 4 illustrates a fragmentary view showing one of the wheels and the means for adjusting the same relative to the frame of the distributor, the frame being shown in raised position relative to said wheel;

Figure 5 illustrates a fragmentary section on the line 5—5 of Fig. 2, with one wheel shown in raised position;

Figure 6 illustrates a fragmentary plan view showing a portion of a transverse frame member and the means for producing camber therein for regulating crowning of the road; and

Figure 7 illustrates a fragmentary section on the line 7—7 of Fig. 2.

In the embodiment of the invention shown in the drawings there is provided a main frame member 10 consisting of an I-beam. This I-beam has its web disposed horizontally and extends from side to side of the machine. The lower parts of the flanges of the I-beam are centrally provided with vertical slots 11 and the I-beam normally is inclined downwardly from its center to its ends. On the web of the I-beam are fixed upstanding struts or posts 12 which are equally spaced from the center of the beam. Over these struts or posts extends a truss member which includes a pair of rods 13 each of which has its outer end secured to the web of the beam in outwardly spaced relation to the respective strut, as at 14. These rods are inclined upwardly from the secured ends to engage the tops of the posts 12 and then are bent to lie in alignment and be connected by a turnbuckle 15. The ends of the beam 10 are suitably secured to longitudinal frame members each consisting of a channel 16 having a vertical web and horizontal flanges extending outwardly from the web. Each channel extends forwardly and rearwardly from the connection to the I-beam 10. The I-beam and channels thus form a frame of I-shape in plan.

Each end of each channel has the space between the webs filled with a filler block 17. In what now follows, it is to be understood that the right side of the machine is that which lies to the right of a person facing in the direction of travel of the machine as indicated by the arrow in Figure 1.

Fixed on the outer side of the rear part of the right hand channel 16 is a quadrant 18 having an arcuate series of spaced pin holes 19 adjacent its periphery for selective reception of a stop pin 20. Pivoted to the quadrant 18 concentric to the arc along which the holes lie is an oper-

ating lever 21 carrying a guard or guide member 22, the edge of the quadrant being disposed between the lever 21 and guide 22. A bracket 23 is fixed to the outer side of the lever and a pivot pin 24 passes through the bracket and lever. A longitudinally extending link 25 is held between the bracket and lever and is connected thereto by the pin 24. Each of the blocks 17 supports a pin 26 on which is mounted the angle of a bell-crank having an upstanding long arm 27 and a short arm 28 arranged at right angles to the long arm 27. On the right side the long arms are connected in parallel relation by pivot pins 29 passing through the upper ends of the arms 27 and through the ends of the link 25. At the end of each short arm 28 there is carried a stub axle 30 whereon is mounted a machine supporting wheel 31 flanged to ride on the concrete forms 32 used at the sides of the roadway to define the side edges of the paved portion thereof. On the left side of the machine the link 25 is replaced by a link consisting of a front section 33 and a rear section 34 having overlapping ends provided with a series of spaced and aligned pins receiving holes 35. The pivot of the lever 21 is formed by one end of a tubular shaft 37 journaled at its ends in blocks 38 and intermediate its ends in bearings 39 fixed to the rear flange of the I-beam. On the left end of the shaft 37 is fixed a rock arm 40 which is connected by a pin 41 to a selected pair of the openings 35. By this means, the link at the left hand of the machine may be adjusted forwardly or rearwardly with respect to the link 25 and consequently the left hand side of the frame supported on the wheels 31 may be raised or lowered with respect to the right hand side of said frame.

The strike-off member consists of a pair of plates 42 vertically disposed and each extending from the center of the I-beam 10 to the respective end thereof and firmly secured to the forward web of the beam as by rivets 43. This strike-off member extends below and above the beam 10. Secured to the front of each member 42 by certain of the rivets 43 is a forwardly extending V-shaped spreader member 44 provided with reinforcing and stiffening angles 45. The front or apex of each spreader is somewhat higher than the base which is secured to the strike-off member so that these spreaders extend forwardly and upwardly from the strike-off member. Tie rods connect the fronts of the members 44 with the upper edge portion of the strike-off member and other tie members 47 extend rearwardly from the points of connection of the members 42 and rods 46 to the rear part of the I-beam 10. The tie members 47 are provided with turnbuckles for adjusting their lengths so that manipulation of these turnbuckles 48 will flex the members 42 sufficiently to raise and lower the front ends of the spreaders, as may be desired.

The outer ends of the members 42 are extended forwardly along the channel 16 to form retaining wings for the concrete when distributed.

In use, the turnbuckle 15 is adjusted to give proper crowning to the spread concrete and the pin 41 is set in the proper holes 35 to raise or lower the left side of the frame, as may be desired. Also, the turnbuckles are adjusted to tilt the spreaders to the desired extent. These V-shaped spreader members are mounted with their bottom edges about $\frac{3}{4}$ to 1 inch above the bottom edge of the strike-off plate and extend forwardly in a perfectly horizontal plane, normally, and the adjustment of these spreader

blades permits raising and lowering of the apex sufficiently to control the drifting back of the concrete. The lever 21 is set to bring the strike-off member to the desired height in reference to the forms 32. The device is now ready for use and when concrete is dumped in front of it, it will be moved forwardly to spread and strike off the dumped material. It will be observed that by proper manipulation of the handle 21, the strike-off member may be raised to pass over joints in the highway paving construction.

Furthermore, this machine produces a rapid and uniform distribution of the concrete in precisely the quantity desired, eliminates stone pockets and water pockets, eliminates factors tending to result in irregular surfaces of the finished material, and prevents segregation of the aggregates during distribution.

We claim:

1. In a concrete distributor for road pavings, a frame, wheels supporting said frame, a strike-off member extending across said frame, distributor elements carried by and projecting forwardly of said strike-off member, and means for varying the height of said frame at both sides simultaneously relative to the axes of said wheels, including means for vertical adjustment of one side of the frame with respect to the other side thereof said means including at each side a pair of L-shaped levers pivoted at their angles to the frame and each having a short arm and a long arm, said wheels being carried by said short arms, links each connecting the respective pair of levers, and means for adjusting the operative length of one of said links.

2. In a concrete distributor for road pavings, a frame, wheels supporting said frame, a strike-off member extending across said frame, distributor elements carried by and projecting forwardly of said strike-off member, and means for varying the height of said frame at both sides simultaneously relative to the axes of said wheels, and including means adjustably connecting the wheels at one side of the frame with respect to each other said means including at each side a pair of L-shaped levers pivoted at their angles to the frame and each having a short arm and a long arm, said wheels being carried by said short arms, links each connecting the respective pair of levers, and means for adjusting the operative length of one of said links.

3. In a concrete distributor for road pavings, a frame, wheels supporting said frame, a strike-off member extending across said frame, distributor elements carried by and projecting forwardly of said strike-off member, means for varying the height of said frame at both sides simultaneously relative to the axes of said wheels, including means for vertical adjustment of one side of the frame with respect to the other side thereof, and including means adjustably connecting the wheels at one side of the frame with respect to each other, said means including at each side a pair of L-shaped levers pivoted at their angles to the frame and each having a short arm and a long arm, said wheels being carried by said short arms, and links each connecting the respective pair of levers, the link at one side of the frame consisting of a pair of sections, and means for adjustably connecting said sections.

4. In a concrete distributor for road pavings, a frame, wheels supporting said frame, a strike-off member extending across said frame, distributor elements carried by and projecting forwardly of said strike-off member, said frame and strike-

off member being cambered upwardly at the transverse center of the frame, means for adjusting the extent of the camber, said distributor elements consisting of V-shaped structures inclined forwardly and upwardly from the strike-off member, means for adjusting the inclination of the said elements, and means for varying the height of said frame relative to the axes of said wheels, including means for vertical adjustment of one side of the frame with respect to the other side thereof.

5. In a concrete distributor for road pavings, a frame, wheels supporting said frame, a strike-off member extending across said frame, distributor elements carried by and projecting forwardly of said strike-off member, said frame and strike-off member being cambered upwardly at the transverse center of the frame, means for adjusting the extent of the camber, said distributor elements consisting of V-shaped structures inclined forwardly and upwardly from the strike-off member, means for adjusting the inclination of the said elements, means for varying the height of said frame relative to the axes of said

wheels, and including means adjustably connecting the wheels at one side of the frame with respect to each other.

6. In a concrete distributor for road pavings, a frame, wheels supporting said frame, a strike-off member extending across said frame, distributor elements carried by and projecting forwardly of said strike-off member, said frame and strike-off member being cambered upwardly at the transverse center of the frame, means for adjusting the extent of the camber, said distributor elements consisting of V-shaped structures inclined forwardly and upwardly from the strike-off member, means for adjusting the inclination of the said elements, means for varying the height of said frame relative to the axes of said wheels, including means for vertical adjustment of one side of the frame with respect to the other side thereof, and including means adjustably connecting the wheels at one side of the frame with respect to each other.

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