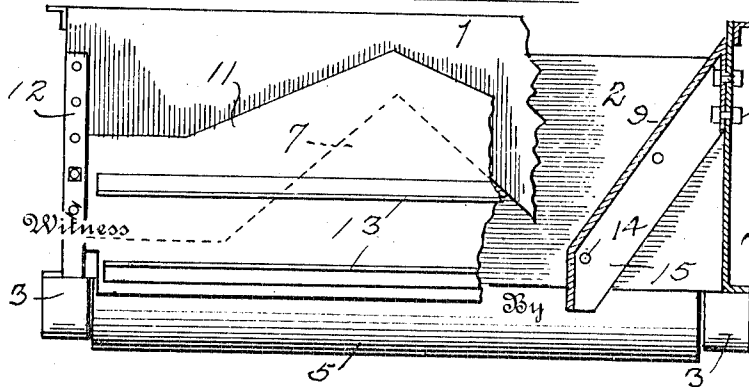
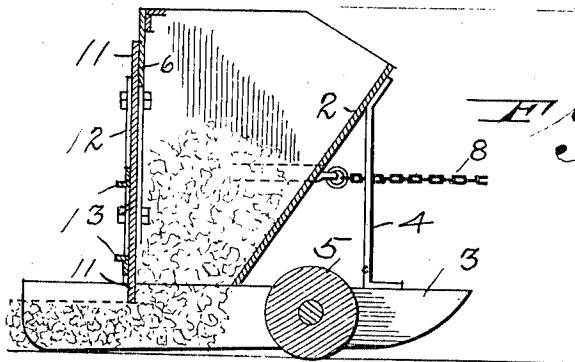
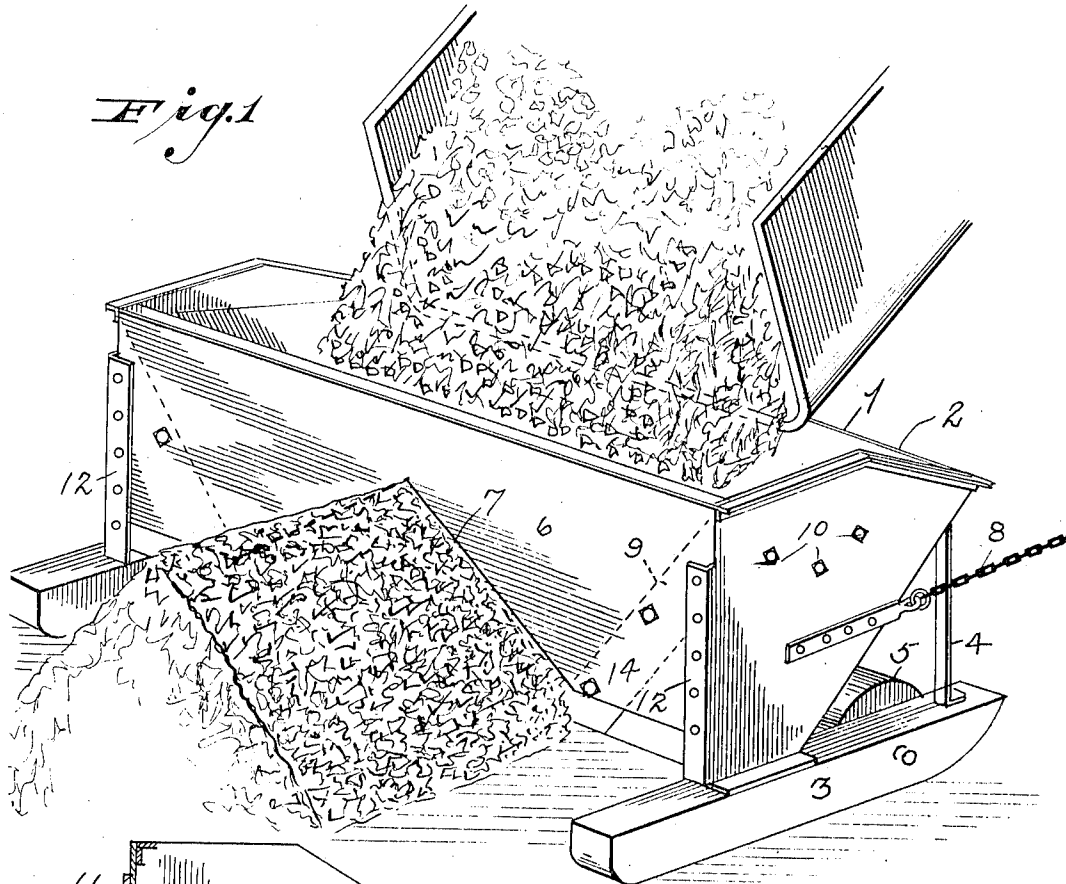


H. C. FOSTER.
 COMBINED SPREADER AND ROLLER.
 APPLICATION FILED JAN. 27, 1920.

1,401,149.

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COMBINED SPREADER AND ROLLER.

1,401,149.

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To all whom it may concern:

Be it known that I, HARRY C. FOSTER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Combined Spreaders and Rollers, of which the following is a specification.

This invention relates to a distributor for soil, gravel, sand or other like materials, and more particularly to a drag or depositor for uniformly regulating the deposits of road building material, concrete material, or like purposes.

While the apparatus will find its most promising field of usefulness at the present time, in the arts indicated, it is not limited to such use, but may be adapted to other purposes, such as distributing grains, fruit or granular material evenly over a drying floor, or for the making of deposits of any material where uniformity of distribution and regulation of depth of deposits is material.

The object of the invention is to simplify the structure as well as the means and mode of operation of such devices, whereby they will not only be cheapened in construction, but will be more efficient in operation, uniform in action, easily controlled, and unlikely to get out of repair.

A further object of the invention is to provide improved means for regulating the shape and extent of the deposited mass of material, and to further provide in such apparatus means for surfacing or preparing the road-bed, ground, or other surface preparatory to receiving the deposited materials.

With the above primary and other incidental objects in view as will more fully appear in the specification, the invention consists of the features of construction, the parts and combinations thereof, and the mode of operation, or their equivalents, as hereinafter described and set forth in the claims.

Referring to the drawings, Figure 1 is a perspective view of the distributor drag forming the subject matter hereof, receiving the charge or load of material to be uniformly deposited from the dump bed of a truck to which the drag is attached. Fig. 2

is a transverse sectional view of the drag. Fig. 3 is a rear view partly broken away of same.

Like parts are indicated by similar characters of reference, throughout the several views.

I am aware that heretofore boxes or receivers having therein slotted bottom or an adjustable gate for regulating the deposit of material have been utilized to some extent. The present invention, however, embodies improved means for regulating the shape and extent of the deposited mass of material and the use of a pressure roller for preparing the surface to receive such deposits.

In the drawings, 1 is a hopper or receiver, the length of which is somewhat greater than the width of the ordinary wagon or truck body in which the materials to be distributed are usually conveyed. The forward wall 2 of the hopper 1 is inclined downwardly and rearwardly to afford a restricted outlet orifice at the base of the hopper 1, which is bottomless. The hopper 1 is mounted on skids 3, extending forwardly and rearwardly thereof, and at the opposite ends of the hopper by which the open bottom of the receptacle is elevated somewhat above the surface operated upon. The hopper 1 is fixedly secured to the skids 3 and suitably braced as by the truss bars 4 to resist severe strain and stresses. Pivotaly mounted in the skids 4 and extending transversely across the apparatus, and immediately in front of the divergent front wall 2 is a pressure roller 5. As shown in Fig. 2 this pressure roller 5 extends somewhat below the lower edge of the skid. Inasmuch as the roller 5 is located beneath the inclined forward side 2 it approaches quite closely to the vertical plane of the center of gravity of the hopper when loaded. The construction is such that the hopper 1 rides primarily upon the roller 5 with the rear ends of the skids trailing upon the ground. The skids not only limit the tilting movement of the hopper, and prevent it being upturned, but also facilitate the movement of the device over depressions or ridges and uneven surfaces. The construction is such that the road bed or receiving surface is compressed and by the roller action, as the drag is moved for-

ward. The surfacing action is effected immediately in advance of the deposit of material from the hopper.

Inasmuch as one of the uses of the device is to apportion the materials for concrete mixing the rear wall 6 of the hopper has been shown in Fig. 1 provided with an inverted V-shaped notch which will tend to form the deposited material into a continuous ridge or elongated pile of uniform dimensions. By this means a ridge or pile of material may be deposited in advance of a concrete mixer and will be found particularly advantageous when used in association with a mixing apparatus having automatic gathering mechanism. Under such conditions, a ridge or elongated pile of gravel or aggregates may be deposited upon the road-bed or other surface, and parallel with it a similar ridge or pile of sand but of less proportion in accordance with the character of the concrete to be mixed.

The drag forming the subject matter hereof receives the material directly from the bed or body of the truck or wagon, from which it is dumped directly into the hopper. Attached to the opposite ends of the hopper, are draft chains 8, which are connected preferably to the rear axle of the truck or wagon during the unloading operation, and the vehicle is driven forward during the discharge of the materials, thus advancing the drag in unison with the truck or wagon. The materials discharged in the hopper are permitted to escape through the open bottom thereof which is augmented by the inverted V-notch 7 before mentioned. The shape of the notch 7 defines the height and breadth of the ridge of material. To concentrate the material into a comparatively narrow and compact pile, removable, inclined inserts 9 are preferably secured in the opposite ends of the hopper, by means of bolts 10 or other suitable fastening devices. The inclined inserts 9 are directed inwardly and downwardly terminating at their lower inner edges substantially co-incident with the bottom angle of the inverted V-notch 7.

These inclined inserts 9 serve to confine the material to a ridge of predetermined width.

In the event that a ridge or pile of less proportion than a full capacity of the V-notch 7 is desired, an adjustable gate 11 is provided. The gate 11 is capable of vertical movement within guides 12 at opposite ends of the hopper, and is adapted to be secured in its adjusted position by means of bolts, extended through suitable holes in the gate member 11, and in the guides 12 and adjacent portion of the rear walls 6. The gate number 11 is preferably though not necessarily reinforced by means of angle irons 13. By positioning the gate member 11 in the guides 12 in such relation as to inter-

sect to greater or less degree the inverted V-notch 7, the height of the deposit of material may be diminished.

In the event that the apparatus is employed in the distribution of macadam materials, grouting or other material, which is to be deposited in a layer of uniform or substantially uniform depth, the inclined inserts 9 are removed from within the hopper, and the gate 11 is lowered in the guides 12 until its lower end projects below the edge of the rear wall 6 of the hopper, thus forming a straight edge which strikes off the deposited material to a uniform level. As is shown in Fig. 1 and Fig. 2, the rear wall 6 of the hopper terminates at a higher level than the forward inclined wall 2, which permits the adjustable gate member 11 a greater range of adjustment, and effective operation. The gate member may be set parallel with the surface operated upon, or in the event that the center of the roadway is to be built up or crowned or other inclined surface is to be produced, one end of the adjustable gate 11 may be set at a greater height in the guide 12 than the opposite end of such gate. This enables a greater quantity of the material to be fed at one end of the hopper than at the other end. The apparatus trails behind the truck or wagon to which it is hitched from which it receives its load until the charge of material is about exhausted. The drag is then detached for reengagement to a loaded vehicle which continues the movement of the drag from the point where the previous charge was exhausted. Thus the deposit of material is continuous and uniform. The combination of skids and the roller facilitates the movement of the drag and conditions the surface to receive the material. The roller if used without the drag descends into hollows, and ditches and not only tends to increase the depth of such depressions, but increases the draft of the device. The skids permit the compressing or firming action upon the high spots or elevations, and at the same time tend to support the device over the low areas or depressions. By extending a considerable distance both fore and aft of the hopper, the skids tend to stabilize the structure. The draft chains may be attached in any suitable manner, and in any convenient point. In the drawings, they have been shown attached to the ends of the hopper substantially on level with the axle of the vehicle, by which the device is drawn. A transverse bolt 14 is preferably provided at the lower inner ends of the inclined inserts 9 which not only engages ears 15 of said insert to attach the same to the hopper, but also serves to support the lower portion of the inclined surface against the pressure of the charge of material.

From the above description it will be ap-

parent that there is thus provided a device of the character described possessing the particular features of advantage before enumerated as desirable, but which obviously is susceptible of modification in its form, proportions, detail construction and arrangement of parts without departing from the principle involved or sacrificing any of its advantages.

10 While in order to comply with the statute the invention has been described in language more or less specific as to structural features, it is to be understood that the invention is not limited to the specific details shown, but that the means and construction herein disclosed comprise but one of several modes of putting the invention into effect, and the invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

Having thus described my invention, I claim:

1. An apparatus for temporarily depositing material in a measured mass to be subsequently recollected, comprising a traveling hopper to receive the material to be deposited, means for regulating the contour and proportions of the deposited mass, whereby the material is deposited in measured quantity and surfacing means moving in unison with the hopper to prepare the surface operated over to receive the deposit whereby the subsequent recollection of the deposited material will be facilitated.

2. In an apparatus of the character described, a movable hopper to receive the material to be distributed, a discharge opening leading therefrom through which the material is discharged in uniform measured mass, and a transversely arranged roller positioned in advance of the hopper to prepare the surface operated over to receive the discharged material.

3. In an apparatus of the character described, a movable hopper to receive the material to be distributed, the rear wall of said hopper terminating above the surface operated upon to afford a discharge opening for the material, a gate adjustably mounted on the hopper and adapted to be projected different distances below the lower edge of the said rear wall to regulate the capacity of the discharge opening, and a transversely arranged roller operating in advance of the hopper to prepare the surface operated upon to receive the discharged material.

4. In an apparatus of the character described, a movable hopper to receive the ma-

terial to be distributed, the rear wall of the hopper having therein a substantially inverted V-shaped notch through which the material is discharged in a uniform measured prismatic mass, and means carried by the hopper for conditioning the surface operated upon to receive such material.

5. In an apparatus of the character described, a movable hopper to receive the material to be distributed, the rear wall of the hopper having therein a substantially inverted V-shaped notch of less width than the length of the hopper, and removable inclined inserts in the opposite ends of the hopper extending into proximity to the base angles of said notch, whereby the material within the hopper is guided to and discharged through said notch in a uniform measured prismatic mass.

6. In an apparatus of the character described, a movable hopper to receive the material to be distributed, the rear wall of the hopper having therein a substantially inverted V-shaped notch through which the material is discharged in a uniform measured prismatic mass, and an adjustable gate member adapted to overhang such notch to various extent whereby the deposited ridge of material will be truncated to reduce the measured mass thereof.

7. In an apparatus of the character described, a container for the material to be distributed, means for regulating the discharge of material, and a road surfacing member subjected to the pressure of the load of material within the container operating in advance of the point of discharge of the material from the container.

8. In an apparatus of the character described, a container for the material to be distributed, means for regulating the discharge of material, and a road surfacing roller subjected to the pressure of the contents of the container engaging the surface operated over in advance of the point of discharge.

9. In a material dispensing apparatus, a traveling container for the material, means for regulating the shape and proportion of the deposit of material and surfacing means moving in unison with the container for preparing the surface operated over to receive the deposit.

In testimony whereof, I have hereunto set my hand this 13th day of January, A. D. 1920.

HARRY C. FOSTER.

Witnesses:

HARRY F. NOLAN,
GEORGE C. HELMIG.