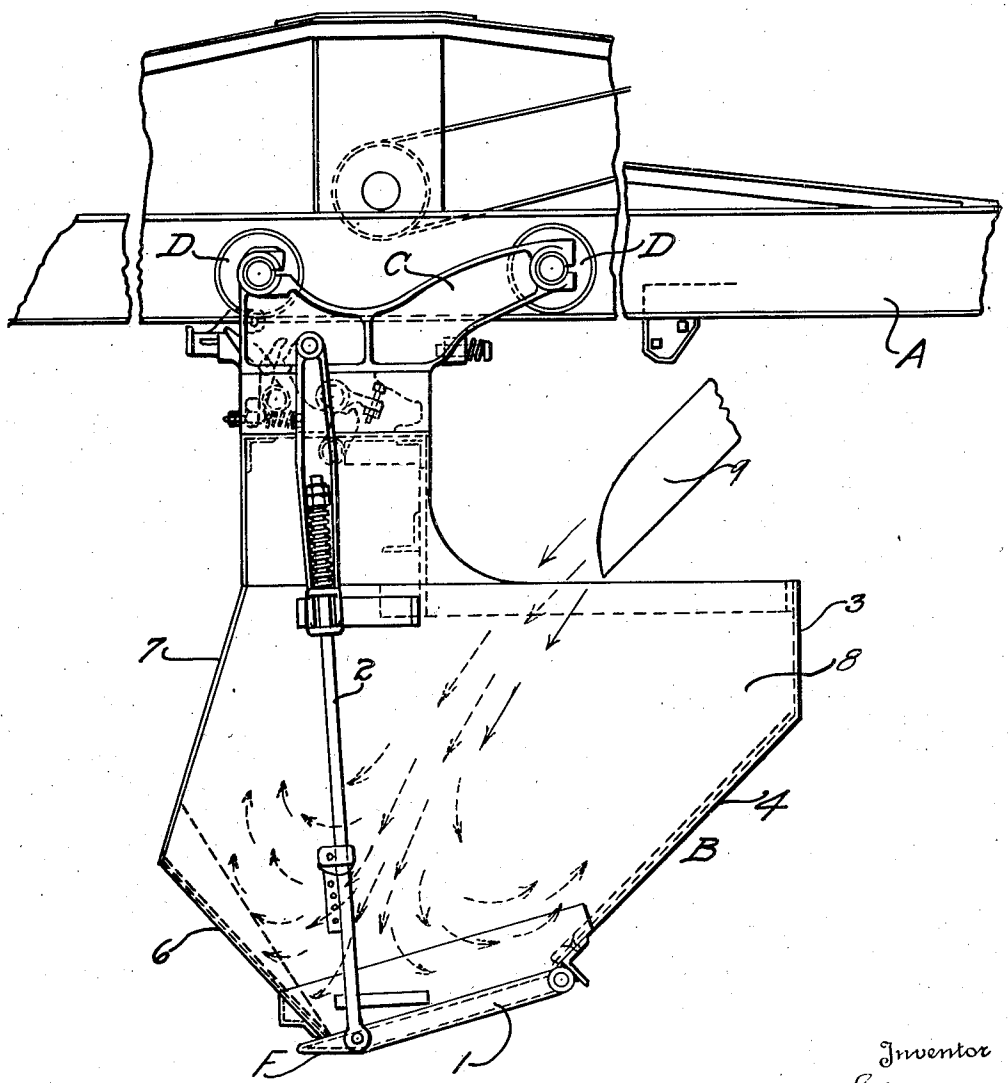
Feb. 13, 1940. O. SHECK 2,190,339

BOOM BUCKET

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Fig. 1.



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Fig. 2.

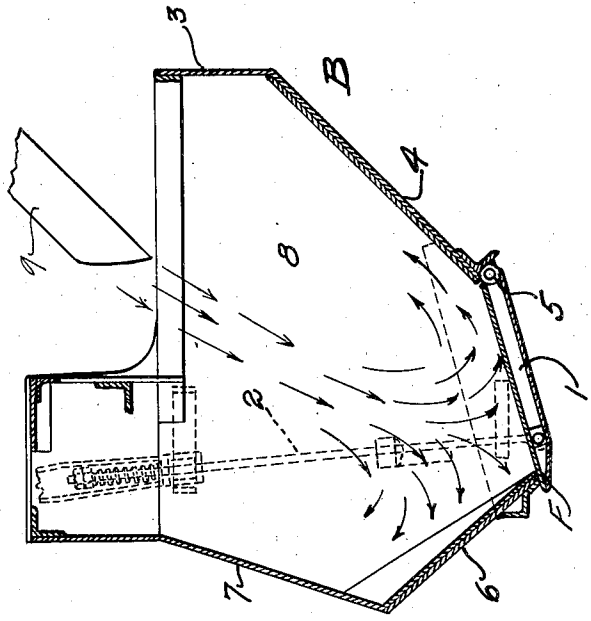
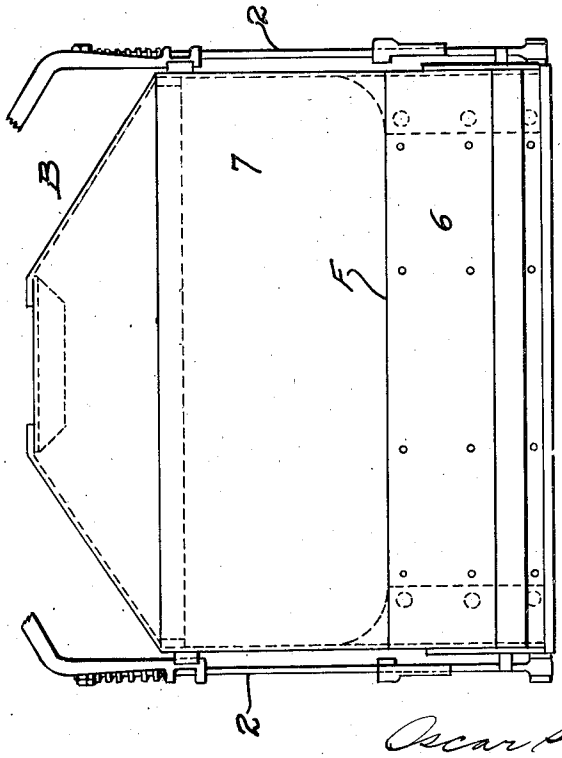


Fig. 3.



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2,190,339

BOOM BUCKET

Oscar Sheck, Milwaukee, Wis., assignor to Koehring Company, Milwaukee, Wis.

Application December 1, 1938, Serial No. 243,434

1 Claim. (Cl. 259—150)

This invention has to do with an improved distributing bucket and charging chute construction for paving machines so-called, which consist generally today of an aggregates loading skip arranged to charge a drum in which the aggregates are mixed, and from which drum the aggregates are caused to pass by means of a discharge chute and a charging chute, into a distributing bucket movable on a boom.

It has been found in respect to the distributing bucket that traverses the boom to carry the mixed concrete aggregates to the site where they are to be deposited, that action of the passing of the mixed concrete from the drum into the distributing bucket of heretofore known construction tends to effect a certain amount of segregation of said aggregates. In other words, the force of the aggregates when chuted from the mixing drum into the distributing bucket has heretofore caused the heavier aggregates such as stone in the mixture to be pushed upwardly, creating a certain amount of segregation thereof relative to the cement and water portions of the aggregates.

The purpose of this invention has been to design a special type of distributing bucket and combine the same with a peculiar arrangement of the charging chute for said bucket, which is a part of the discharge means of the concrete mixer so that the segregating effect heretofore incident to the filling of the distributing bucket from the mixer, in respect to the mixed aggregates, is eliminated.

In the drawings—

Figure 1 is a side elevation of a distributing bucket mounted on the boom of a paving machine and embodying the invention.

Figure 2 is a vertical sectional view of the bucket, bringing out more clearly the arrangement of the chute by which it is charged, the arrows showing the up and down whirling movement of the mixed aggregates as they feed into the distributing bucket from the chute.

Figure 3 is a front elevation of the bucket.

In the drawings, the boom of the paver is designated A and carries the bucket B in the customary manner by the provision of a trolley C, the wheels D of which operate on the lower flanges of the spaced channels that make up the boom structure. The bucket B is equipped at its lower end with a door 1, adapted to be automatically opened and closed by suitable mechanism, not shown, which includes the operating rods 2, yieldably connected with suitable rocker mechanism in the trolley or carriage C, and which is not important to the present invention because of a conventional nature.

It suffices to say that when the bucket B is filled with mixed concrete caused to pass thereto by means of a chute 9, the bucket will later be caused to move toward the outer end of the boom A, and at a predetermined point operated to produce reversal of its traverse by mechanism old in the art. In this manner the door 1 is automatically opened and the contents of the bucket discharged onto the subgrade of a road or paving job.

The bucket comprises the inner vertical wall 3, which is relatively short, and from which inclines outwardly and downwardly the inner inclined wall 4. At the lower edge of the wall 4 is pivoted the door 1, previously described, the pivot being designated 5, and the front edge portion of the door 1 is adapted to abut and close against the lower inclined portion 6 of the outer wall or front of the bucket.

The inclination of the wall 6 is in a direction opposite to that of the wall 4, previously mentioned. Extending from the upper front edge portion of the wall 6 and slanting rearwardly or toward the wall 3 is the upper front or inclined section 7 of the front of the bucket. It will be seen that the door 1 and the wall 6 meet at a substantially obtuse angle at the point designated generally as at F. The sides 8 of the bucket 7 are of the same structure and simply form webs between the lateral edges of the several members 1, 3, 4, 6, and 7.

With the construction of the bucket as above set forth, it is important that the charging chute 9 for the bucket be disposed at a peculiar inclination and located so that its lower end is arranged to cause the mixed concrete aggregates to be fed to the bucket at an angle such that said aggregates fall on the bottom portions of the bucket including the wall sections 6 and 4, and the door 1, so that they strike said portions, or certain of them, at substantially the angle F, previously mentioned.

By doing so, a certain portion of the aggregates tends to whirl or swirl upwardly from the angle F, and another and about equal portion tends to similarly move downwardly, and rearwardly as is depicted in Figure 2, by the arrows. The upward and downward vortex effects thus caused as the bucket B is charged from the chute 9 have been found to be effective for preventing any disadvantageous or harmful segregation of the larger aggregates of the concrete from the smaller.

In constructions of buckets heretofore proposed, the front or outer wall of the bucket was customarily made vertical, and the chute in charging the bucket caused the concrete to be shoved upwardly toward such front wall, thus tending to separate and push the larger aggregates upwardly with segregating effect. Such action of the concrete is entirely avoided by the construction of my bucket herein proposed, and the arrangement of the charging chute therefor, as described and shown in the accompanying drawings.

Of course, the charging chute 9 is practically speaking a stationary section of the discharging means for the drum of the paving mixing machine.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is:

Paver distributing means and charging means therefor, comprising, in combination, a distributing bucket including spaced side walls, supporting means for the bucket at the upper portion thereof, the front portion of the bucket between the side walls being made up of upper and lower inclined walls, the upper wall inclining downwardly and forwardly and the lower wall inclining downwardly and rearwardly so that the two meet at an angle some distance above the plane of the bottom of the bucket, a door for the bottom portion of the bucket inclining rearwardly and upwardly from its front edge to its rear edge and meeting at its front edge the lower edge portion of the lower inclined wall at the front of the bucket so that the door and side wall are at substantially an obtuse angle, the rear portion of the bucket being made up of a rearwardly and upwardly inclined wall leading from the rear edge portion of the door, and a chute arranged above the bucket to cooperate therewith and cause charging of concrete aggregates into the bucket by movement of the aggregates at a forward and downward angle to the vertical axis of the bucket so that said aggregates will strike the lower portion of the bucket above the door and the lower front wall at the front of the bucket at about the point of the angle at which these parts meet, whereby to cause an upward whirling and a downward swirling movement of the aggregates as they enter the bucket and impinge the bottom portion thereof, to thus eliminate segregation of the said aggregates.

OSCAR SHECK.