

(No Model.)

W. G. ROOT.
SAND BIN AND APPLIANCES.

No. 581,141.

Patented Apr. 20, 1897.

Fig. 1.

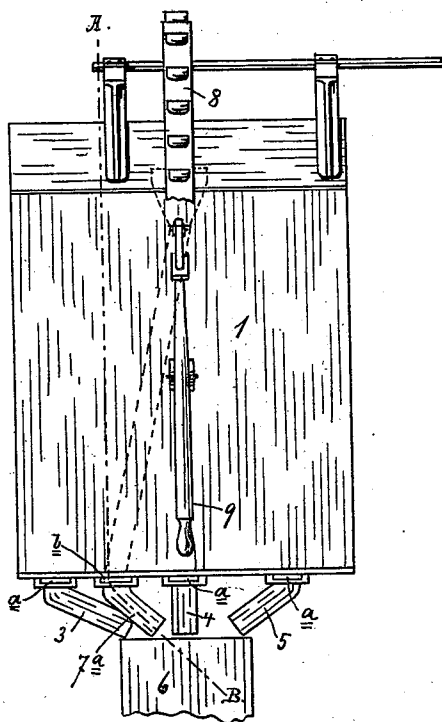


Fig. 2.

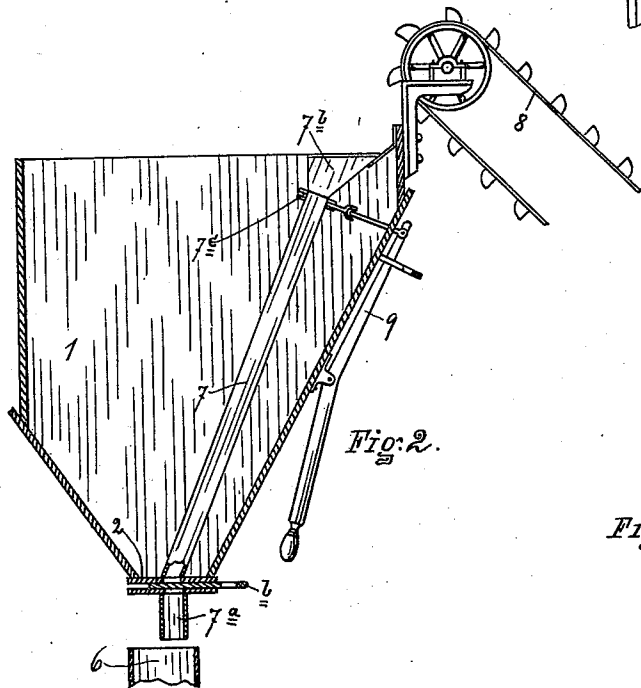
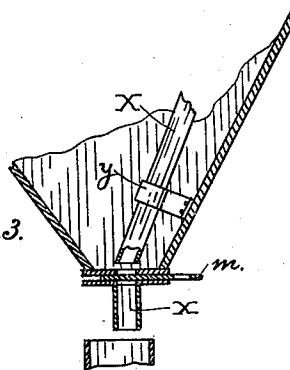


Fig. 3.



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SAND-BIN AND APPLIANCES.

SPECIFICATION forming part of Letters Patent No. 581,141, dated April 20, 1897.

Application filed February 3, 1897. Serial No. 621,902. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. ROOT, of Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful
5 Improvements in Sand-Bins and Appliances; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and
10 use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

Figure 1 shows a side elevation of my sand-bin and appliances. Fig. 2 shows a vertical
15 section of the same, taken on line A B, Fig. 1. Fig. 3 shows a partial vertical section of a modified form of construction.

Referring to the reference letters and numbers in a more particular description of the device, 1 indicates the sand-bin, which is of comparatively large dimensions at its upper end and tapered to small dimensions at its lower end and having a narrow bottom 2. At
25 the lower end or bottom the bin is provided with a series of discharge-spouts 3, 4, and 5, adapted to discharge into a mixing or measuring box 6 and each controlled by a separate slide or gate *a*. Spouts or chutes 3 and 5
30 draw from the outer ends of the bin, while the chute 4 draws from the center portion of the contents of the bin. Extending through the interior of the bin and removed a considerable distance inwardly from the most adjacent wall of the bin is provided a conductor
35 tube or pipe 7. This tube is provided with an extension 7^a outside of the bottom of the bin and the lower end of the tube is controlled by a slide or gate *b*. The upper end
40 of the tube 7^b is preferably slightly enlarged and is located in a position so that the sand brought up by the elevating-carrier 8 will be discharged into the upper end 7^b of the tube. The tube is also provided adjacent to its upper
45 end with a slide or gate 7^c, which is operated by means of a pivoted lever-handle 9, connected with the end of the gate by a connecting-rod 10, extending through the wall of the bin.

50 This bin, with its appliances, is particularly intended for use in mixing sand with asphalt

for paving purposes, and the sand which the bin is to contain is heated sand, which is brought into the bin by the elevating-carrier 8 from any suitable heating appliances, which
55 are not shown in the drawings. The sand as it is discharged into the bin from the carrier falls, as before stated, upon the upper end of the tube 7. If the gate 7^c in the tube is closed, the sand will overflow the end of the tube and
60 drop into the bin, and the bin in practice is maintained more or less full of heated sand. In case the valve or gate 7^c is open and the gate *b* closed the tube 7 will entirely fill with heated sand, and after it is entirely full the
65 sand will then overflow the upper end of the tube and fall into the bin.

In drawing sand into the mixing-box 6 sand of the desired temperature may be obtained by means of this sand-bin and its appliances,
70 or the sand may be tempered and brought to the desired temperature as follows: The sand which has remained in the bin for some time will be more or less cooled, while the sand-discharge from the elevator 8 will be of the
75 highest temperature of any at the disposal of the operator of the appliances. In case the sand in the center of the body of the bin is just the right temperature the mixing-box 6 may be filled by drawing through the tube 4. In
80 case cooler sand is desired it may be had from either of the tubes 3 or 5, which draw from the outer sides or ends of the bin. In case hotter sand than is to be had from either of the tubes 3, 4, or 5 is desired it is obtained by drawing
85 through the tube 7 either that portion of the sand which is contained in the tube 7 or the sand as it is discharged from the carrier. This may be done by operating either the gate *b* or the gate 7^c, or both, as may be desired.
90 In case a very quick supply of the hottest sand is desired the apparatus might be used with the gate 7^c in open position, which would keep the tube 7 full of sand and where the quantity which the tube would contain
95 would be at once accessible by opening the gate *b*. In case a more medium flow of sand is desired the gate *b* might be left open and the gate 7^c operated by a lever to supply the sand as it comes directly from the carrier,
100 excepting, perhaps, what might be contained in the upper flaring end of the tube. By

means of this arrangement of bin and appliances the sand may be tempered to a nicety and thereby the best results attained.

The tube 7 may, if desired, be constructed of some material which is a non-conductor of heat, or substantially so.

In the modified form of construction shown in Fig. 3 the tube *x* is used in lieu of the tube 7 of the previous construction, and this tube is terminated, as shown, a short distance above the lower end or bottom of the bin. In order to hold the lower end of the tube stationary and removed from the side of the bin in a position directly over the discharge-opening in the bottom, there is provided a tube-holder *y*, which secures the tube to the wall of the bin. In connection with this construction there is employed a small section *x'* of tube secured to the bin and projecting a short distance to direct the flow of sand into the mixing-box, and the opening at the lower end of the tube *x* is controlled by a slide or gate *m* similar to those heretofore described. At the upper end the tube *x* may or may not be provided with a gate like 7^c of the previously-described construction. In this modified form of construction when the gate *m* is open the sand-discharge consists in part of the heated sand coming through the tube *x*, while a part of the discharge will come from the body of

the bin and surround and mix as it passes through the discharge-tube section *x'* into the mixing-box.

What I claim as new, and desire to secure by Letters Patent, is—

1. A sand-bin having a series of discharge-openings in its bottom, means for discharging sand into the top of the bin, a conveying-tube extending through the body of the bin from the source of supply at the top of the bin to the bottom of the bin and provided with a gate for independently controlling the flow of sand in the tube, substantially as set forth.

2. The combination with a sand-bin having a series of discharge-openings at its bottom and gates for controlling the same, of means for supplying sand to the bin discharging in the top of the bin, a tube extending through the body of the bin from a point at the top where it will receive the supply, to a point at the bottom of the bin and means for controlling the flow of sand through the tube, substantially as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

WM. G. ROOT.

Witnesses:

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