

Dec. 23, 1941.

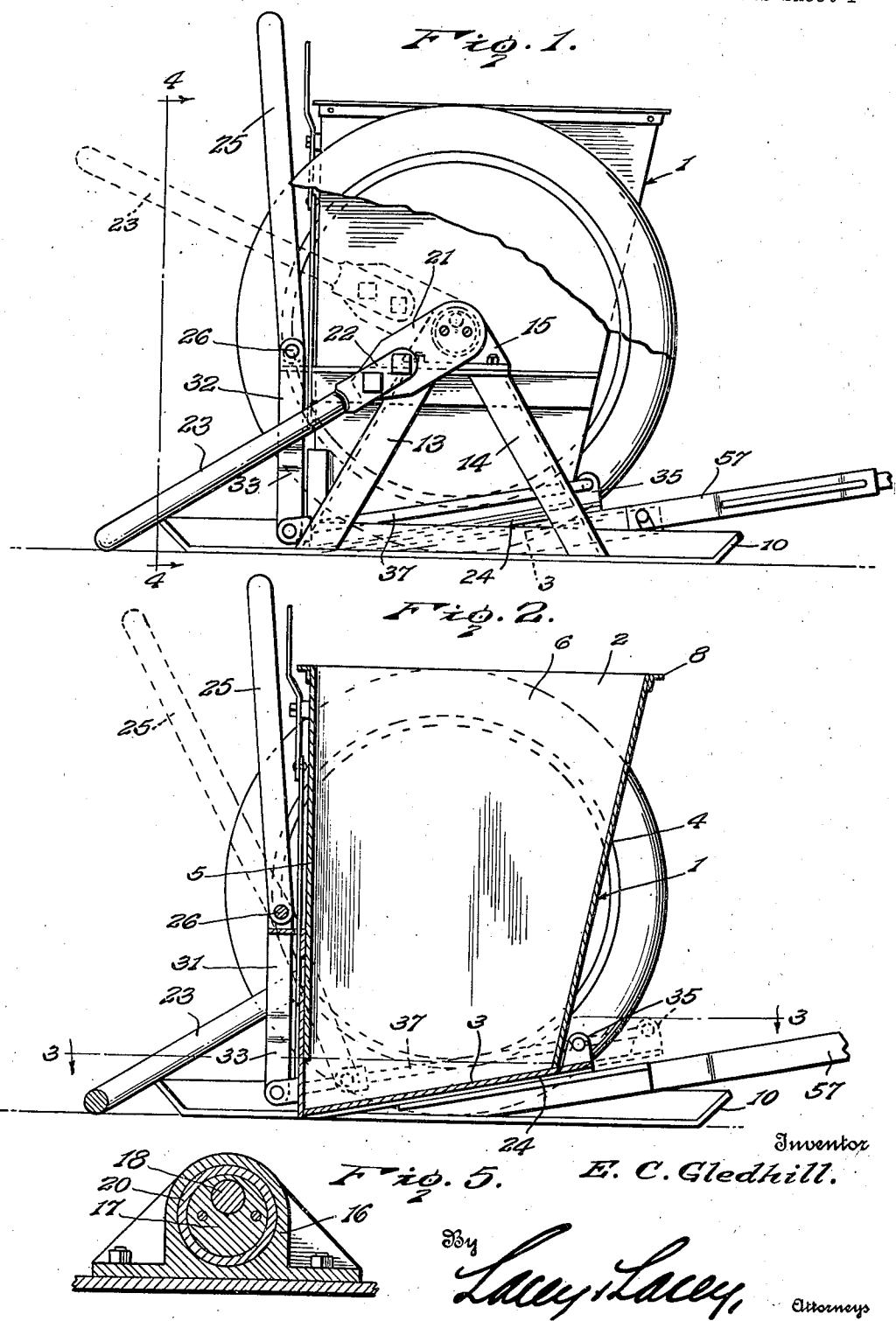
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2,267,022

PORTABLE LEVELING BATCH BOX

Filed Aug. 3, 1938

2 Sheets-Sheet 1



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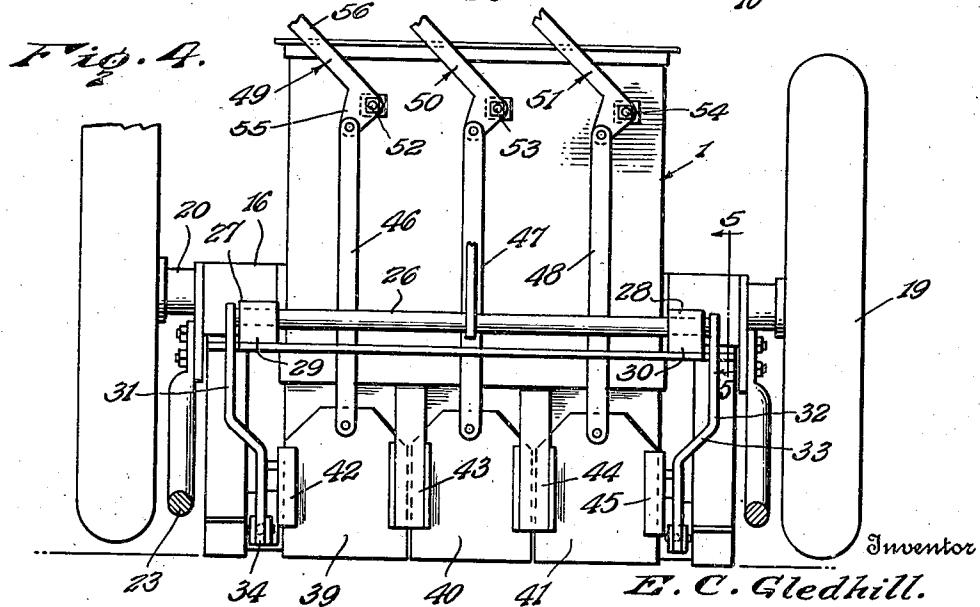
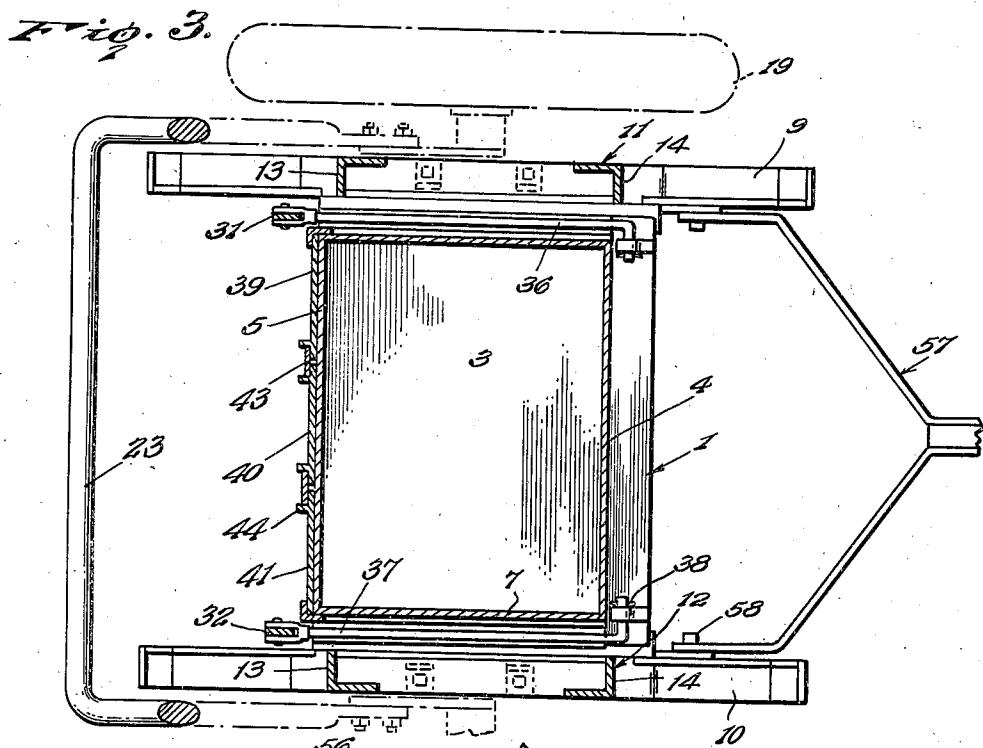
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2 Sheets-Sheet 2



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PORTABLE LEVELING BATCH BOX

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2 Claims. (Cl. 94—44)

This invention relates to an improved portable leveling batch box.

Up to the present time, when it is desired to patch a hole in a highway, it is customary to take shovels and remove the patching material from the truck and place it in the holes. The material is then raked off until it is smooth with the road surface. This process is laborious and time-consuming and is not always rewarded with efficiently patched surfaces.

One of the objects of the present invention is, therefore, to provide a portable leveling batch box which, after being filled from a dump truck, may be shifted to straddling position above a hole to be filled, and then opened for allowing material in the box to fill the hole.

Another object of the invention is to provide a batch box of this character which, after a hole has been filled with road repairing material, may be shifted for removing the unused material and providing an even unobstructed upper surface for the road.

A further object of the invention is to provide a portable leveling batch box having a plurality of gates or aprons thereon which will be operable for permitting the spreading of road repairing material either in a narrow strip or in wider strips.

As a further object, the invention seeks to provide a portable leveling batch box wherein the aprons employed are adjustable to any desired height so that any desired elevation of repairing material may be laid on the road.

As a further object, this invention seeks to provide a portable leveling batch box which is characterized by the utmost simplicity and which may be manufactured cheaply.

Other and incidental objects of the invention not particularly pointed out hereinabove will become apparent during the course of the following description.

My improved portable leveling batch box is illustrated in the accompanying drawings forming a part of this application, wherein:

Figure 1 is a side elevation of the complete batch box;

Figure 2 is a longitudinal sectional view of the device;

Figure 3 is a horizontal sectional view on the line 3—3 of Figure 2;

Figure 4 is a vertical sectional view on the line 4—4 of Figure 1, and

Figure 5 is a vertical detail sectional view on the line 5—5 of Figure 4.

Referring now to the drawings in more detail,

it will be seen that similar characters of reference designate like parts throughout the various views. The numeral 1 indicates in general a hopper which has an open upper end 2 and an open lower end which is closed by a slideable wall or gate 3. The hopper has an inclined forward wall 4 and a vertical wall 5 and said hopper also has vertical end walls 6 and 7. A reinforcing bead 8 surrounds the upper rim of the hopper and said bead is in the form of an inverted L-shaped metal strap. The hopper is supported on runners 9 and 10 which are located near the walls 6 and 7 and are disposed in parallel spaced relation to said walls and to each other. The runners 9 and 10 have standards 11 and 12 which are upstanding from the substantially mid portions of said runners. Each of the standards includes supporting members 13 and 14 which converge and are connected at their upper ends by a bearing plate 15. The bearing plate 15 has a bearing 16 thereon which journals an eccentric trunnion 17 and has rotatably mounted therein a stub shaft 18 which carries a wheel 19 at its free end. It should be understood that this structure is duplicated at each side of the batch box so that a pair of wheels, with mounting means therefor, will be provided.

Surrounding the eccentric trunnions between said trunnion and the bearing 16 is a sleeve 20 which has an operating plate 21 secured to its outer end. The operating plate 21 receives one of the free end portions 22 of a raising lever 23 which is substantially U-shaped in contour and straddles the batch box. It will be understood that the lifting of the lever 23 will rotate the eccentric trunnion 17 through a portion of a revolution and will simultaneously raise the runners 9 and 10 and lower the wheels 19 into engagement with the ground so that the device may be moved along on the wheels 19. Lowering of the levers 23 will, of course, return the runners to contact with the road surface and will raise the wheels 19 out of contact therewith.

The gate 3, which closes the bottom of the hopper 1, is slideably mounted on guides 24 which are fixed to the runners 9 and 10 and are upwardly obliquely disposed. The guides are, as will be understood, of an inverted L-shaped contour so that the gate 3 will be effectively slideably mounted on said guides and in proper relation to the hopper 4. In order to operate the gate, a lever 25 is provided. The lever 25 extends above the upper surface of the hopper 2 for manual engagement and has its lower end connected with a cross rod 26. The cross rod has its end

portion journaled in bearings 27 and 28 which form parts of brackets 29 and 30. The brackets 29 and 30 are connected with the hopper at opposite sides thereof. The cross rod 26 has operating links 31 and 32 connected at its free end and said operating links have inwardly offset portions 33 and lower end portions 34 which are connected to lugs 35. At opposite sides of the forward end of the gate are operating rods 36 and 37. As best seen in Figure 3, the ends of the operating rods will be bent and caused to extend through the lugs 35. Cotter keys 38 extend through the corresponding free end portions of the rods and retain said portions from displacement from the lugs 35.

When the lever 25 is in the position shown in full lines in Figure 2, the gate 3 will be closed so that the contents of the hopper will be confined therein. When the lever 25 is moved to the position shown in dotted lines in Figure 2, the gate will be moved to opened position, also shown in dotted lines, when the contents of the hopper will be allowed to flow therefrom. Attention is called to the fact that the rear end of the gate 3 is, when in closed position, disposed nearly adjacent the surface of the ground on which the device is resting. Therefore, when the gate is opened, the material will be nearly at ground level when being discharged. Possible waste of material will be avoided by the use of 30 this construction.

In order to level off a surface after being treated with road repairing material, I provide a plurality of aprons 39, 40 and 41. The aprons are slidably mounted in guides 42, 43, 44 and 45 which are carried on the rear wall 5 of the hopper 1. It will be seen that, by referring to Figure 4, the guide 43 is common to the aprons 39 and 40 while the guide 44 is common to the opposite end of the apron 40 and the mating edge of the apron 41. The aprons 39, 40 and 41 are disposed in close parallel spaced relation to each other, however, so that there will be no possibility of road material escaping between mating edges of said aprons. Moreover, material will be prevented from escaping past the corners of the batch box. Links 46, 47 and 48 extend vertically along the wall 5 of the hopper 1 and have their corresponding lower ends connected with the aprons 39, 40 and 41, respectively. Raising handles 49, 50 and 51, which are substantially angle-shaped in contour, are pivotally mounted on the wall 5 by means of bolts 52, 53 and 54. The raising handles have relatively short arms 55 which are connected with the links 46, 47 and 48 at their upper corresponding ends. The raising

handles 49, 50 and 51 also have relatively long manually engageable portions 56 which extend above the upper rim of the hopper 1. It will be understood that the handles 49, 50 and 51 are to be rocked toward the vertical for raising the aprons 39, 40 and 41 and permitting the discharge of material behind the batch box in any suitable height, if such discharge is desired. In other words, the aprons 39, 40 and 41 are selectively controllable so that either a wide strip of material, the entire width of the batch box if desired, a narrower strip of material, or no material at all may be left behind the batch box as the same is moved forwardly after dropping material into a hole to be filled. If all of the aprons are allowed to remain in their lowermost position, said aprons will scrape off any unused material from a hole, after filling the same, so that a smooth even upper surface will be provided for the roadway.

In order to move the portable leveling batch box from place to place, I provide a tongue 57 which is swingingly connected to trunnions 58 on the runners 9 and 10. The tongue 57 may be connected with a truck or other source of motive power.

It is believed that the construction and operation of my improved portable leveling batch box will now be thoroughly understood.

Having thus described the invention, what is claimed as new is:

1. In a portable leveling batch box, a hopper, means supporting the hopper above a road surface, guides carried by said hopper, a gate slidable on said guides and normally closing the lower end of the hopper, bearings connected with the hopper, a cross rod having its ends journaled in the bearings, a lever carried by the cross rod for manual engagement, a link connected with the cross rod, and an operating rod connecting the link with the gate, said lever being operable for opening and closing the gate for controlling flow of material from the hopper.

2. In a portable leveling batch box, a hopper having a rear wall formed with openings near its lower end, means for supporting the hopper over a surface to be treated, guides carried on the rear of the hopper adjacent the openings, a plurality of aprons slidable in the guides, a plurality of handles on the hopper above the aprons, and links operatively connecting the handles with the aprons, said aprons being selectively operable by said handles for leveling off a surface of a desired width and thickness.

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