

Oct. 9, 1928.

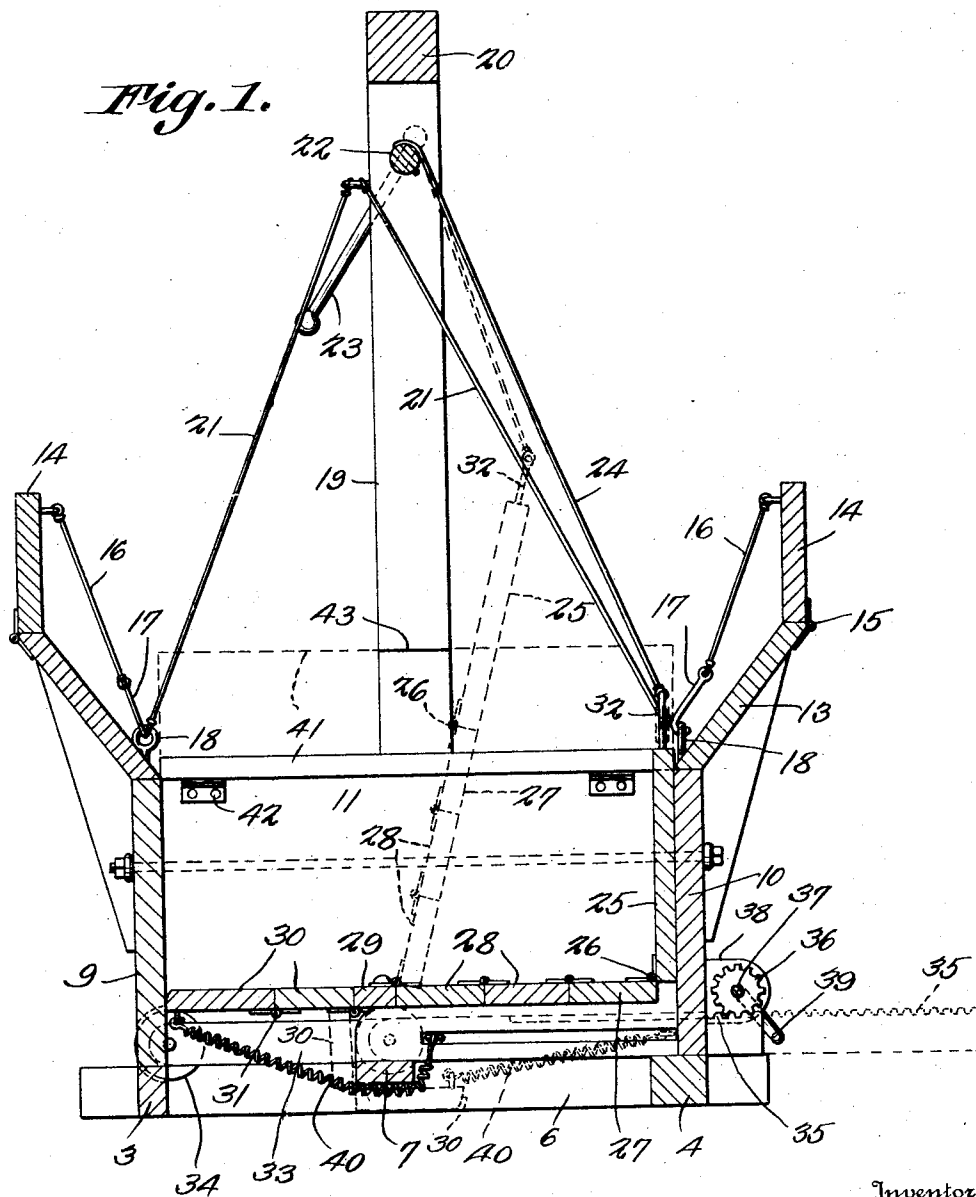
1,686,776

B. V. TUCKER

BOTTOM DELIVERY BODY FOR VEHICLES

Filed Aug. 20, 1927

3 Sheets-Sheet 1



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Fig. 2.

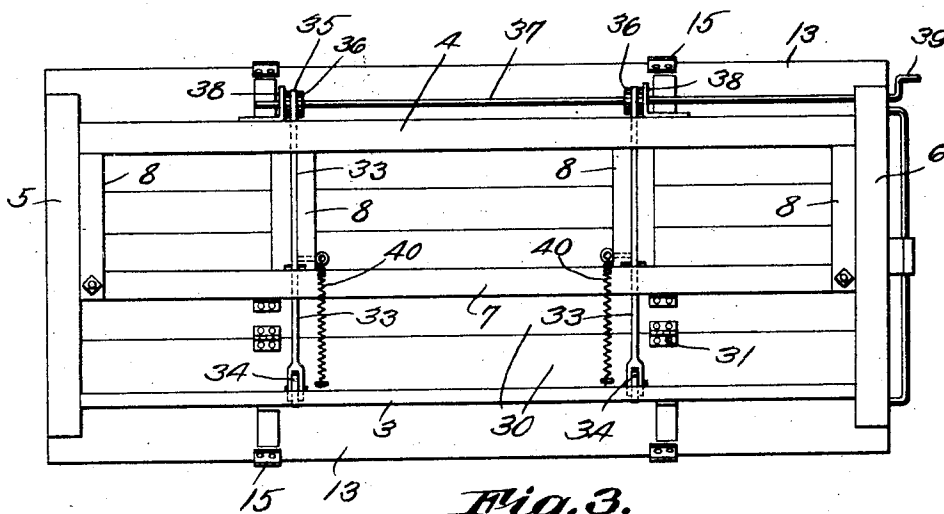
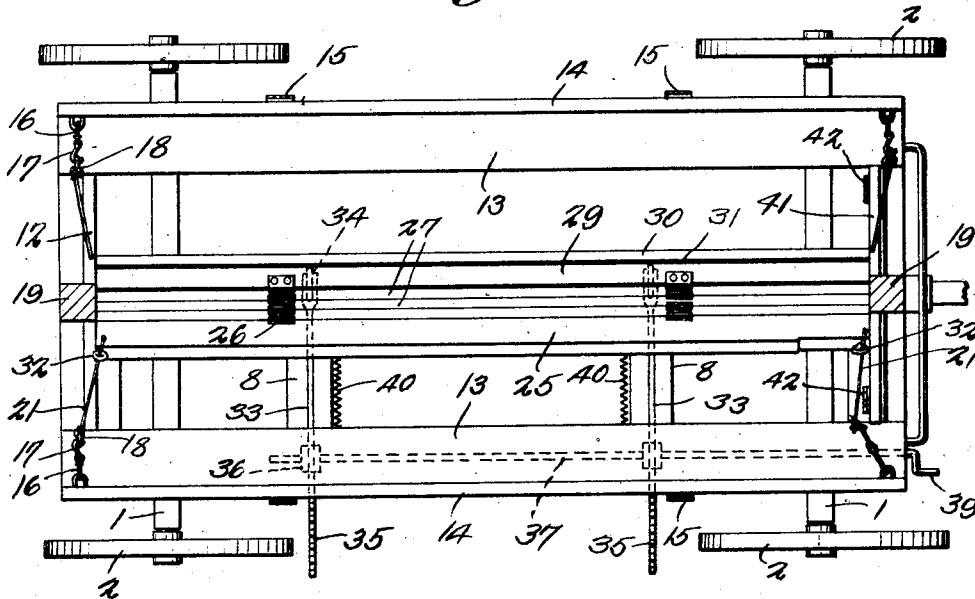


Fig. 3.

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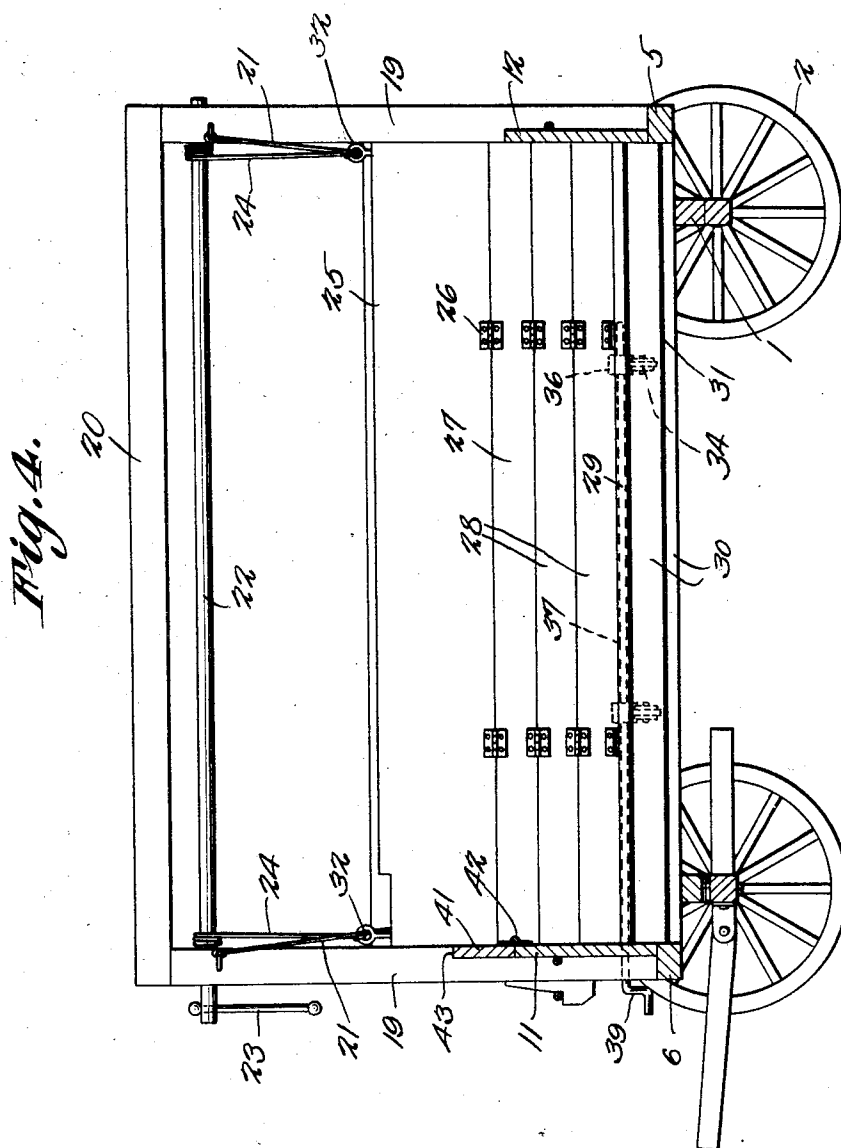
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BOTTOM DELIVERY BODY FOR VEHICLES

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3 Sheets-Sheet 3



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Patented Oct. 9, 1928.

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UNITED STATES PATENT OFFICE.

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BOTTOM DELIVERY BODY FOR VEHICLES.

Application filed August 20, 1927. Serial No. 214,318.

This invention relates to vehicle bodies and more particularly to means whereby a load of material such as sand, gravel, coal, grain, trash, and the like can be quickly delivered downwardly through the bottom of the body, said body being so constructed as to be easily operated by mechanism adapted to be actuated by hand or by power, as preferred.

A further object is to provide a body of this type the bottom of which will securely support the load without danger of accidental dumping, the construction of the body being such that, during the dumping operation, a portion thereof will be elevated while the remaining portion will be lowered thus insuring rapid dumping of the contents of the body.

A further object is to provide a structure of this character which is durable and efficient and the parts of which can be operated easily.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings,

Figure 1 is a vertical transverse section through the vehicle body, the parts being shown in their normal or load retaining positions.

Figure 2 is a plan view showing the bottom of the body in dumping position, the upstanding frame above the body being shown in section.

Figure 3 is a bottom plan view of the dump body showing the parts closed for retaining a load.

Figure 4 is a vertical longitudinal section, the bottom of the body being in dumping or load releasing position.

Referring to the figures by characters of reference 1 designates the usual bolsters supported by wheels 2 and on these bolsters are mounted the side sills 3 and 4 of the vehicle body. These sills are suitably connected at their ends by frame members 5 and 6. A central beam 7 connects the frame members

5 and 6 adjacent their centers and is also connected at intervals with the sill 4 by cross strips 8. Upstanding from the sills 3 and 4 are the side panels 9 and 10 of the vehicle body, these being connected at the front and back by front and rear panels 11 and 12 respectively. Upwardly and laterally inclined side boards 13 can be connected to the side panels 9 and 10, each of these side boards having an extension board 14 hingedly attached to its upper edge as shown at 15. The extensions 14 can be held in upstanding positions by rods 16 or the like having hooks 17 for engaging eyes 18 upstanding from the lower portions of the side boards 13. Posts 19 extend upwardly from the front and back portions of the vehicle body and are connected by a top beam 20. These posts can be reinforced by brace wires 21 or the like connected to the eyes 18 as shown particularly in Figure 1. The posts 19 constitute supports for a shaft 22 having any suitable means at one end thereof, such as a handle 23, whereby it can be rotated. To this shaft are secured lifting cables 24 which extend downwardly and are suitably secured to a movable side panel 25 normally supported in an upstanding position against the inner side of the panel 10 as shown in Figure 1. The lower edge of this panel 25 is hingedly connected as at 26 to a slat 27. A series of additional slats 28 are provided and are all hingedly connected to each other and to the slat 27 so as to provide approximately one-half of the bottom of the vehicle body. These slats are hingedly connected to an intermediate stationary slat 29 extending longitudinally of the body and hingedly connected to the slat 29 are slats 30. Any desired number of these slats 30 may be employed, they being hingedly connected as shown at 31 and constituting the remainder of the bottom portion of the vehicle body. It might be stated that the cables 24 are not attached directly to the panel 25 but are attached to eyes 32 extending from the panel and through which the brace rods or cables 21 extend. These rods or cables thus serve not only to brace the posts 19 but also constitute guides for the eyes 32 during the dumping operation as hereinafter explained.

Suitably guided within the sills 4 and the intermediate beam 7 are transversely extended slides 33 each of which has a roller 34 at one end. A rack bar 35 is formed integral with the other end portion of each

slide and meshes with a gear 36. One of these gears is provided for each rack bar 35 and the gears are all mounted on a longitudinal shaft 37 journaled in suitable brackets 38 extending laterally from the panel 10. The shaft is adapted to be rotated in any preferred manner, as by means of a crank arm 39. Under normal conditions the racks 35 are pressed inwardly to the full line position shown in Figure 1 at which time the rollers 34 carried thereby support the adjacent slat 30 so that the bottom is thus maintained closed. It will be apparent, however, that when the racks are shifted longitudinally to the dotted line position shown in Figure 1 by rotating the gears 36, the rollers 34 will be pulled laterally from under the slats 30 and these slats will thus be free to drop downwardly under the weight of the load supported thereby. For the purpose of preventing the lowered slats from dropping against the bolsters under the body, one or more springs 40 are connected to the slat 30 nearest panel 9, these springs being constantly under tension as shown.

When the rollers 34 are withdrawn from under the slats 30 springs 40 will pull the slats 30 downwardly and laterally so that they will fold under the intermediate or stationary beam 7 as shown by broken lines in Figure 1. Normally, however, the slats 30 are supported in closed position and the same is likewise true of the slats 27 and 28.

A seat 41 can be provided for the driver, this seat being hingedly connected at 42 to the front panel 11. When this seat is not in use it can be in an upstanding position as shown by broken lines in Figure 1 at which time it will rest within a recess 43 formed in the back face of the front post 19. This seat can be supported in any suitable manner when lowered.

Assuming that a load is contained within the body and the parts are all positioned as shown in Figure 1, it is necessary, when the load is to be dumped to first rotate the gears 36 so as to shift the slides 33 laterally and withdraw the rollers 34 from under the slats 30. These slats will promptly swing downwardly to the dotted line position shown in Figure 1, thereby releasing that portion of the load above and adjacent the slats 30. Following this operation the shaft 22 is rotated to wind the cables 24 thereon. As a result of this action the panel 25 will be pulled upwardly, it being guided in this movement by the eyes 32 travelling along the guides or braces 21. As the panel thus travels upwardly and laterally it will pull upwardly on the slats 27 and 28, causing them to lift the load and deflect it toward that side of the body which has been opened by the release of the slats 30. Consequently all portions of the contents will be quickly

delivered. Following this operation the parts are returned to their normal positions, the return of the slides 33 causing the slats 30 to shift back to separate positions while the lowering of the panel 25 will cause the slats 27 and 28 likewise to assume closed positions.

It is to be understood of course that various modifications of this structure can be used without departing from the spirit of the invention.

What is claimed is:

1. A vehicle body, separate groups of hingedly connected members constituting the bottom of the body, means for supporting the members of one group in load retaining positions, means for shifting said supporting means to release the members of said group for downward movement under the weight of the load supported thereby, and means for elevating the members of the other group to deliver the load supported thereby through the space provided by the lowered members of the first group.

2. A vehicle body, separate groups of hingedly connected members constituting the bottom of the body, means for supporting the members of one group in load retaining position, means for shifting said supporting means to release the members of said group for downward movement under the weight of the load supported thereby, and means for elevating the members of the other group to deliver to load supported thereby through the space provided by the lowered members of the first group, said last mentioned means including guides, means on one of the members of said group for slidably engaging the guides and mechanism for drawing said means along the guides to elevate the members of the group.

3. The combination with a dump body and separate groups of movably connected members constituting the bottom of the body of slidable supporting means for holding the members of one group in closed or load retaining position, means for elevating the members of the other group to deflect the supported load toward the members of the first group, and means for automatically folding the members of the first group downwardly and laterally when relieved of their supporting means.

4. In a dump body separate groups of hingedly connected members constituting the bottom of the body, slides for supporting the members of one group in load retaining position, means for simultaneously actuating the slides to release said members, means for automatically folding the released members downwardly and laterally, and means for elevating the members of the other group to deflect the load supported thereby into the opening provided by the lowered members of the first group.

5 A vehicle body including hinged-
connected members constituting the bottom
thereof slidable means for supporting some
of the members in load retaining position,
5 means for simultaneously actuating said
slidable means to release the supported mem-
bers for downward movement, and means
for successively elevating the remaining
members to deflect the supported load to-
10 ward the opening provided by the first named
members when released.

6. The combination with a vehicle body
including side and end panels, of a movable
side panel normally arranged within the
15 body and against one of the side panels,
hingedly connected members constituting
the bottom of the body, said members being
arranged in separate groups, one of said
groups being hingedly connected to the mov-
20 able panel, slidable supports for the mem-
bers of the other group, means for simul-
taneously actuating said supports to release
the members supported thereby, and means
connected to the movable panel for succes-
25 sively raising said panel and the members
of the other group to lift the load support-

ed thereby and direct it to the opening pro-
vided by the released members of the first
group.

7. The combination with a vehicle body 30
including side and end panels, of a movable
side panel normally arranged within the
body and against one of the side panels,
hingedly connected members constituting
the bottom of the body, said members being 35
arranged in separate groups, one of said
groups being hingedly connected to the mov-
able panel, slidable supports for the mem-
bers of the other group, means for simul-
taneously actuating said supports to release 40
the members supported thereby, means con-
nected to the movable panel for successively
raising said panel and the members of the
first group to lift the load supported there- 45
by and direct it to the opening provided by
the released members of the second group,
and resilient means for folding the members
of the second group laterally from under
the opening provided thereby when released.

In testimony that I claim the foregoing as 50
my own, I have hereto affixed my signature.

BURKE V. TUCKER.