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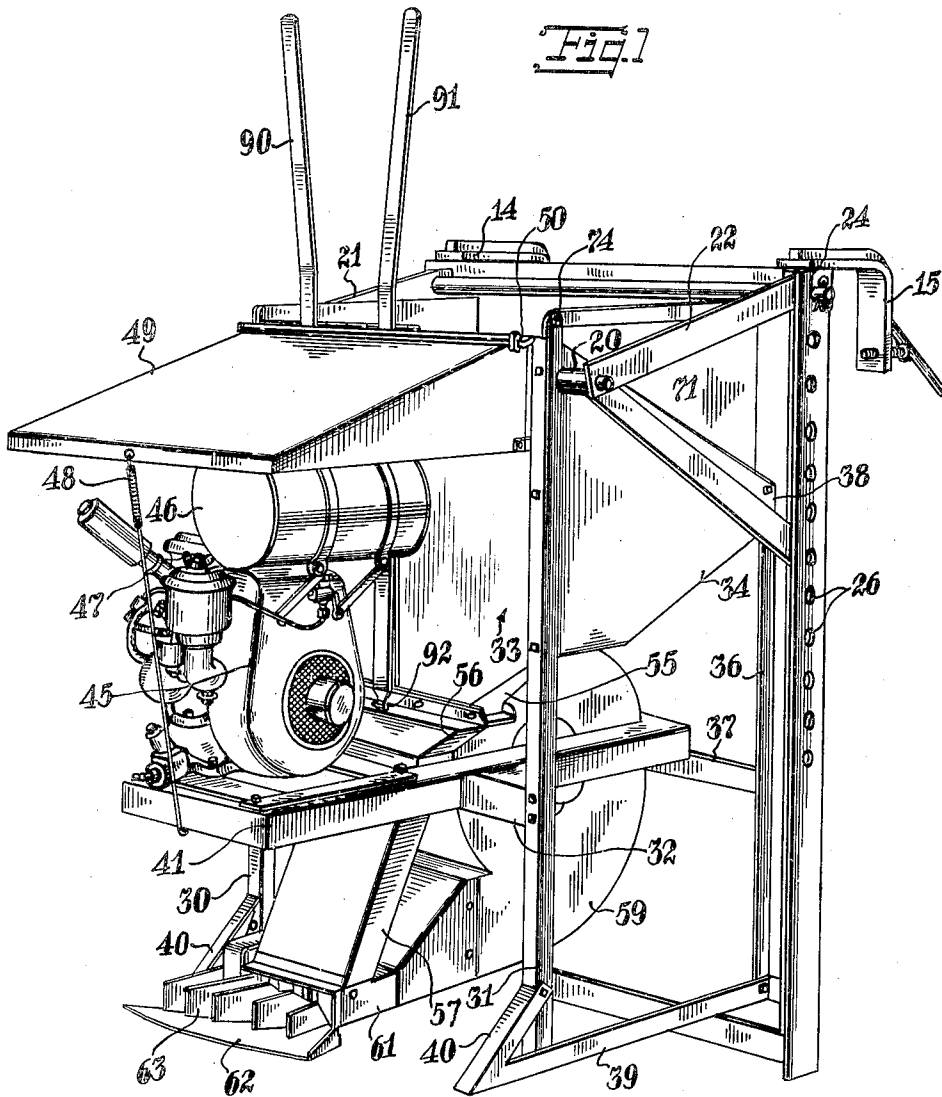
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2,496,504

SPREADER HOPPER AND MOUNTING ATTACHMENT

Filed Aug. 9, 1946

3 Sheets-Sheet 1



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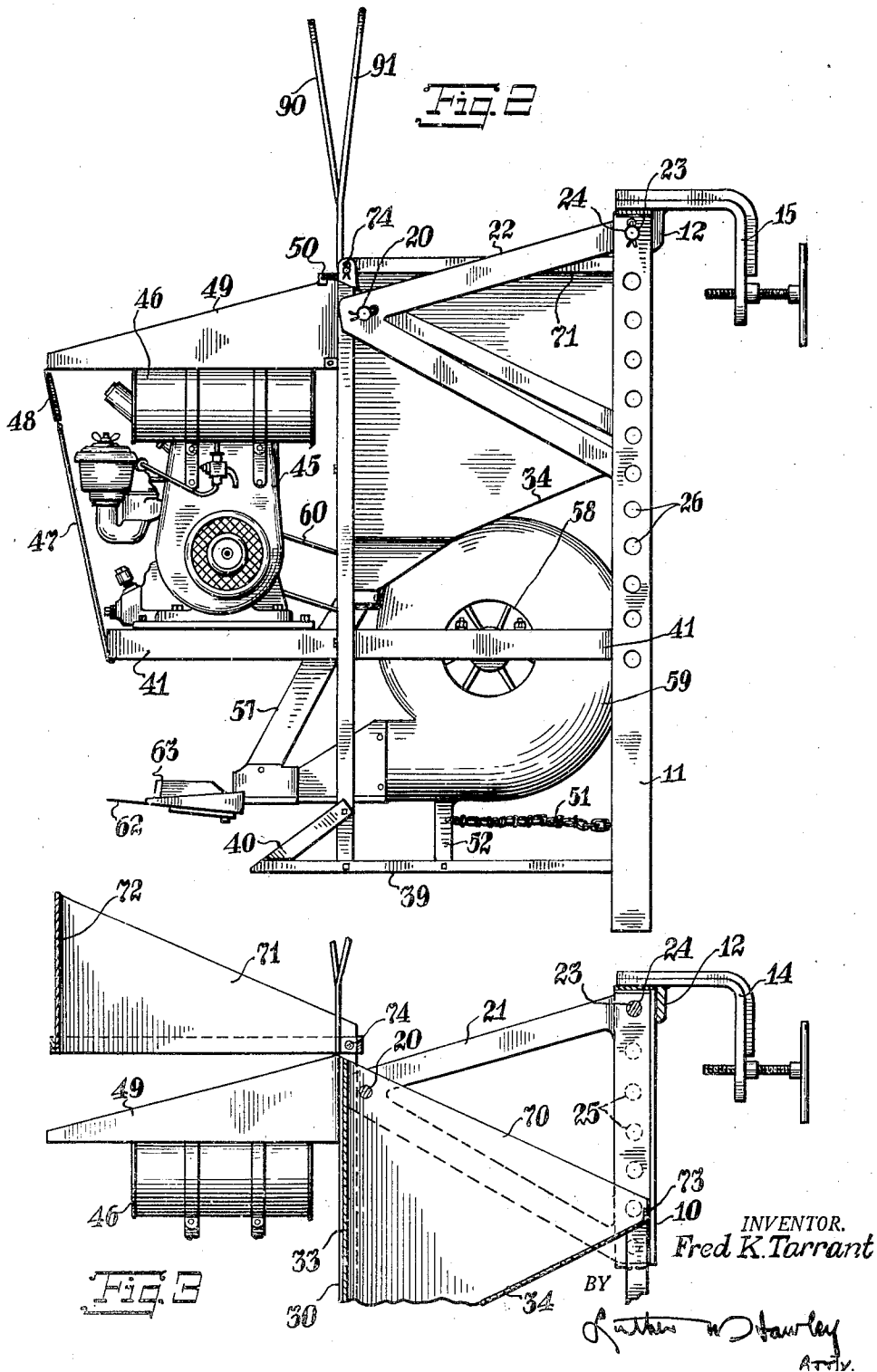
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Fig. 4

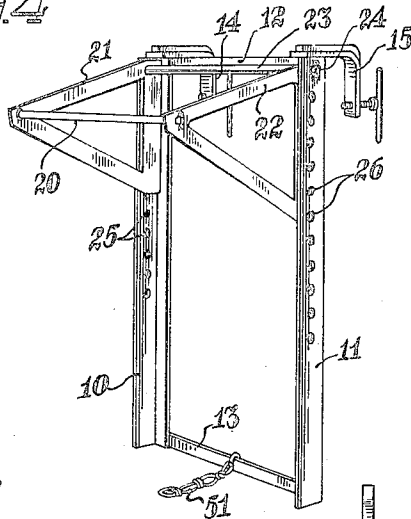


Fig. 6

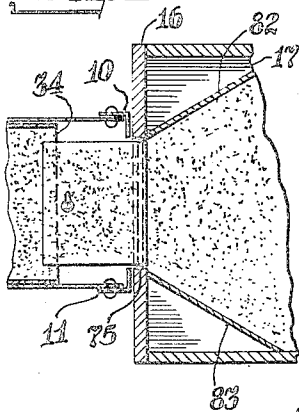


Fig. 7

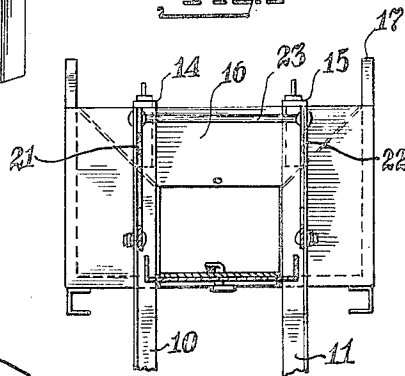
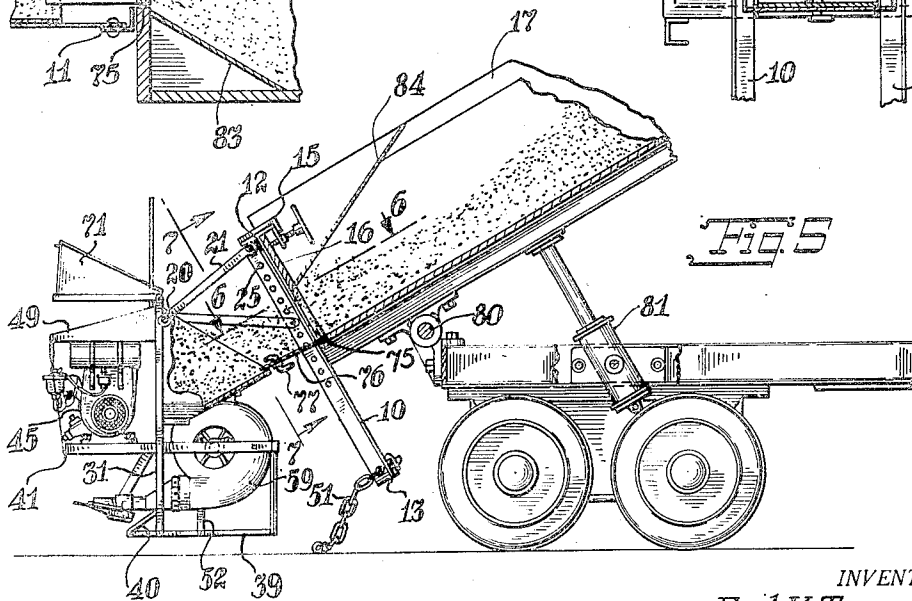


Fig. 5



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SPREADER HOPPER AND MOUNTING
ATTACHMENT

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3 Claims. (Cl. 275—1)

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This invention relates to a dispensing or spreading device.

More particularly stated, the invention relates to a device adapted to be mounted on the rear end or tail gate of a truck for spreading material, such as salt or sand, on highways.

The invention has for its object to provide a device of the character described so constructed and so mounted that it will remain substantially horizontal whether the truck body is horizontal or tilted.

Another object of the invention is to provide a device of the character described so constructed as to facilitate the filling of the hopper from bulk or bag material.

Further objects of the invention will appear from the following specification taken in connection with the drawings which form a part of this application, and in which

Fig. 1 is a perspective elevation of a device constructed in accordance with the invention;

Fig. 2 is a side elevation of the device shown in Fig. 1;

Fig. 3 is an enlarged elevation, partly in section and partly broken away, showing the top portion of the hopper tilted rearwardly to permit material to flow into the hopper from the truck body;

Fig. 4 is a perspective elevational view of the frame on which the mechanism is mounted;

Fig. 5 is an elevational view, partly in section, showing the rear portion of a truck body in tilted position and illustrating how the material can pass through an opening in the end gate into the hopper of a spreading device;

Fig. 6 is a sectional elevation taken substantially on line 6—6 of Fig. 5, looking in the direction of the arrows; and

Fig. 7 is a sectional elevation taken substantially on line 7—7 of Fig. 5, looking in the direction of the arrows.

In the particular embodiment of the invention illustrated in the drawings, the spreading mechanism is mounted on a frame illustrated particularly in Fig. 4 and comprising vertical angle irons 10 and 11 connected at their upper ends by a cross bar 12 and at their lower ends by a cross bar 13. Clamping brackets 14 and 15 are secured to the upper ends of the angle iron frame members 10 and 11 for the purpose of clamping the frame to the tail gate 16 of a truck body 17 illustrated in Fig. 5.

The spreading mechanism is pivotally mounted on a cross rod 20 secured to a pair of triangular frame members 21 and 22 which are connected

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at their upper ends by a rod 23. The rod 23, in the form of the invention shown, is mounted in aligned openings 24 formed in the upper ends of the angle-iron members 10 and 11 and these angle irons are provided with a series of additional aligned openings 25 and 26 so that the triangular frames can be mounted in a plurality of vertical positions on the angle irons.

The spreading mechanism is mounted on a frame comprising upright frame members 30 and 31 which are connected by a cross bar 32 intermediate their ends and by a rear wall 33 of a hopper 34. The supporting frame for the dispensing mechanism also comprises upright frame members 36 which are connected together by a cross bar 37 and by a rear wall 38 of the hopper 34. The lower ends of the upright frame members 36 are connected to the lower ends of the frame members 30 and 31 by bars 39 which are braced with reference to the frame members 30 and 31 by angularly disposed members 40.

A platform or support 41 is mounted on the bars 32 and 37 and supports the engine 45 for operating the fan and dispensing mechanism, the engine preferably being an internal combustion engine having a fuel supply tank 46 and the usual parts required for such an engine. A tie rod 47, to which is connected a spring 48, is connected to the platform 41 and to a cover 49 which is pivoted at 50 to the upper ends of the vertical frame members 30 and 31.

The upper ends of the vertically extending frame members 30 and 31 are mounted on the rod 20 and the frame carrying the spreading mechanism is freely pivoted on this rod. In order to prevent this frame from swinging when the truck body is horizontal, a chain 51 connects the cross bar 13 to a member or lug 52 secured to the frame member 39. When this chain is unhooked the frame in which the spreading mechanism is mounted can swing freely on the rod 20 in the manner shown in Fig. 5.

The lower end of the hopper 34 has a converging outlet spout 55 which leads to the flared upper end 56 of a chute 57 through which the material to be spread moves by gravity. This material is blown rearwardly by a fan 58 mounted in a fan casing 59, which in turn is mounted in and extends downwardly through the platform 41. The fan is driven by a belt 60 from the engine 45. The air blast from the fan is directed rearwardly through an outlet 61 which communicates with the lower end of the chute 57 and blows the material which is fed by gravity downwardly through the chute and rearwardly to a spreader plate 62.

Means is provided for directing the path of movement of the discharged material, this means consisting of vanes 63 which are angularly adjustable. The spreading mechanism is more particularly described in my copending application Serial No. 584,354, filed March 23, 1945, issued as Patent No. 2,476,465, July 19, 1949. Attention is called to the fact that the hopper 34 and the engine 45 are located on the opposite side of the pivot rod 20 from the engine and chute 57, thereby substantially balancing the mechanism mounted on the rod 20.

From the showing particularly in Fig. 3 it will be noted that the upper ends of the side walls of the hopper 34 are inclined, as shown at 70. However, the hopper is provided with an extension 71 having side walls inclined oppositely to the inclination of the side walls of the hopper indicated at 70 and having a wall 72 adapted to fit on the wall 73 of the hopper and to complete this wall so that the upper end of the hopper will be substantially horizontal when the truck body is horizontal. The extension 71 is shown in Fig. 3 as folded rearwardly and in Figs. 1 and 2 as disposed on the top of the hopper 34.

The purpose of the pivoted hopper extension 71 which is pivoted at 74 is to facilitate the feeding of the material into the hopper direct from the truck body in the manner shown particularly in Figs. 5, 6 and 7. The tail gate 16 is provided with an opening 75, on the lower end of which is pivoted a closure member or cover 76 which can be latched in closed position by a latch 77. When it is desired to feed the bulk material directly from the truck body into the hopper, as, for instance, when the truck body is tilted on its pivot 80 by a suitable hydraulic mechanism 81, the hopper extension 71 is swung rearwardly and the closure member 76 is lowered so that it rests on the portion 73 of the hopper. The material will then be fed by gravity or pushed rearwardly through the opening 75 in the tail gate into the hopper 34, and thence will be discharged through the chute 57 and will be scattered by the fan blast in the manner above described.

If the material is to be dumped into the hopper from bags, the extension 71 is swung to a position over the hopper, as shown in Figs. 1 and 2, and the hopper is filled from the bags.

If desired, the material in the truck body can be directed through the opening 75 by means of side walls 82 and 83 and a downwardly inclined wall 84. However, these walls are not necessary and the material can be pushed through the opening 75 or will pass through this opening by gravity, as when the truck body is tilted, as shown in Fig. 5.

It will be noted from the illustration in Fig. 5 that the chain 51 has been detached from the spreading mechanism frame and this mechanism has swung on the rod 20 so that it remains in a horizontal position or in the same position taken when the truck body is horizontal.

In the form of the invention shown, there are provided a pair of levers 90 and 91. One of these levers, as shown at 92, is provided for the purpose of controlling the amount of material passing through the outlet end 56 of the hopper 34, this lever being connected to operate a valve or gate of the usual construction. The other lever is connected at its lower end to the vanes 63 and has for its purpose to adjust these vanes to the desired angle.

Although one specific embodiment of the invention has been particularly shown and de-

scribed it will be understood that the invention is capable of modification and that changes in the construction and in the arrangement of the various cooperating parts may be made without departing from the spirit or scope of the invention, as expressed in the following claims.

What I claim is:

1. In a device for spreading material, a frame, means for supporting the frame on the tail gate of a truck, a hopper mounted on said frame for receiving and delivering material to be spread, said hopper having two sections, one above the other, the upper section being pivotally mounted on said frame and movable relative to the lower section from a position above the lower section to a position away from said lower section so as to permit the hopper to receive material from a lower level.

2. In combination, a body adapted to store and discharge material to be spread, means for receiving and discharging such material comprising a support, a frame pivoted on said support, a hopper mounted on said frame and receiving material from the body and delivering the material therefrom, a pivotally mounted extension on the upper end of the hopper, said body having a wall provided with an opening for the discharge of the material from the body into the hopper, means for securing the support on the wall with said hopper extension over the opening, said extension when moved away from the upper end of the hopper exposing said opening in the wall whereby the hopper can receive material from the body through said opening.

3. In combination, a body adapted to store and discharge material to be spread, a support mounted on said body, a frame pivoted on said support, mechanism on said pivoted frame, including a hopper formed of an upper section and a lower material-receiving section, said upper section being pivotally mounted on said frame, said body having a wall provided with an opening for the discharge of the material from the body into the hopper, means for securing the support on the wall with the upper section of said hopper over the opening, said upper section when pivotally moved away from the lower section of the hopper exposing said opening in the wall whereby the hopper can receive material from the body through said opening, and a closure on said wall opening adapted to rest on the hopper when opened to support and guide material thereinto.

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