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L. ANGLE

2,188,238

SANDING DEVICE

Filed March 6, 1939

Fig. 1.

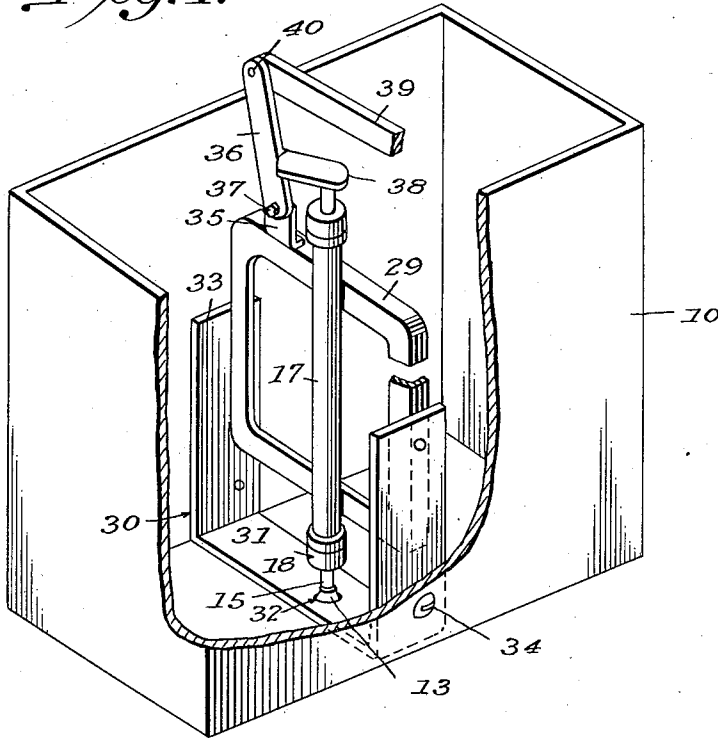


Fig. 4.

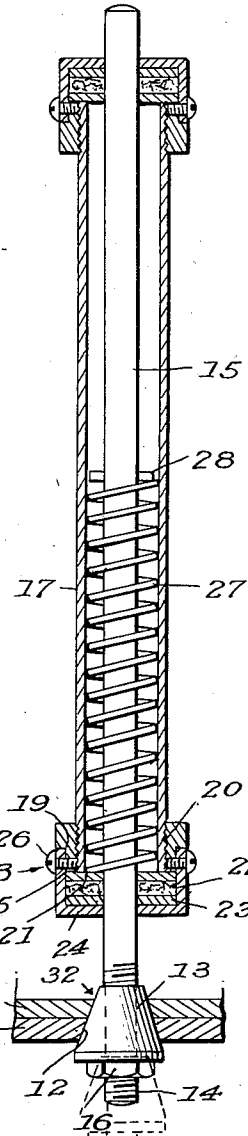


Fig. 2.

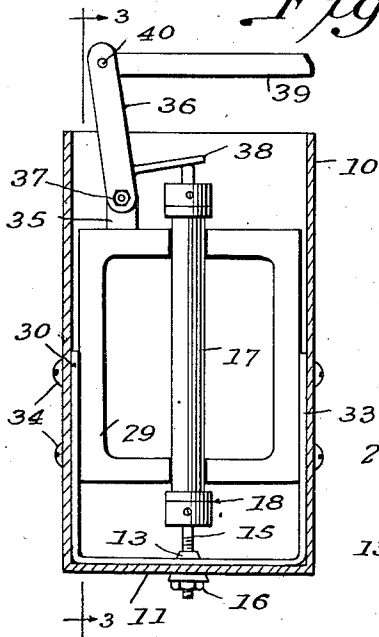
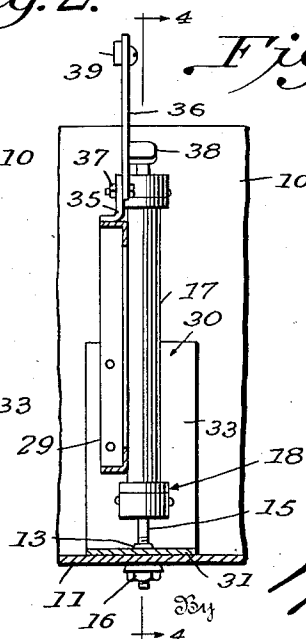
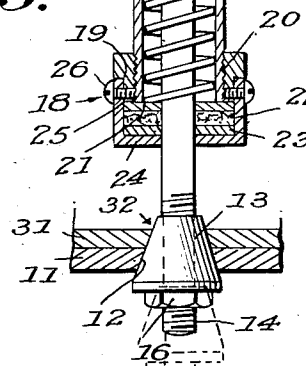


Fig. 3.



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UNITED STATES PATENT OFFICE

2,188,238

SANDING DEVICE

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3 Claims. (Cl. 291—36)

This invention relates to a sanding apparatus primarily adapted for use on automotive or other vehicles for manual operation to discharge sand at desirable times on a slippery road bed or track adjacent to one or more wheels so as to prevent skidding, slippage, or spinning when applying the brakes.

One important object is to provide such a construction having a normally closed discharge valve associated with novel means to mount, protect and operate the same, substantially unaffected by the presence of the sand, to avoid "freezing", clogging, or other interference with efficient and expeditious operation.

A further aim is to produce such a device as is capable of manufacture in the form of a unitary attachment for existing trucks, as well as being built into the same initially, and which consists of novel and suitable parts capable of expeditious attachment and detachment to facilitate installation, inspection and repair.

Another aim is to provide an apparatus of the present character having a novel lever mechanism particularly suitable for manual operation to control the opening of a discharge valve.

Various additional objects and advantages will become apparent from a consideration of the description following, taken in connection with the accompanying drawing illustrating an operative embodiment.

In said drawing:

Figure 1 is a view in perspective, partly broken away, illustrating the invention;

Figure 2 is a vertical cross sectional view illustrating the invention;

Figure 3 is a vertical sectional view taken on the plane of line 3—3 of Figure 2; and

Figure 4 is an enlarged view primarily in section taken on the plane of line 4—4 of Figure 3.

Referring specifically to the drawing wherein like reference characters designate like or similar parts, a box or receptacle is provided at 10, of wood, metal, or other suitable material, which is adapted to be fastened in any desirable manner to an automotive truck, or other vehicle, at a position to advantageously discharge sand therefrom on to the road bed, track, or the like with a view to minimizing danger of skidding, slippage, or spinning when applying the brakes of the vehicle. The bottom wall 11 of such receptacle 10 has a discharge opening 12, substantially centrally thereof, through which the sand passes under control of a valve head 13.

Said valve head 13 is preferably tapered in an upward direction, as shown, and it is screw

threaded on to the screw threads 14 of an elongated stem or rod 15. The threading referred to permits adjustment of the valve head and also accommodates a nut 16 below the same to lock the valve head in position. Said rod 15 is vertically slidable and is carried by and centrally of a tubular barrel 17, vertically disposed substantially centrally of the receptacle 10.

Said barrel 17 is located above the bottom wall of the receptacle 10 and at opposite ends is closed by similar closures or cap devices, generally designated 18. These devices consist of ring nuts 19 detachably screw threaded at 20 to the barrel and they have integral lateral walls 21 provided with openings through which the rod 15 slides. Disposed against the walls 21 are felt or other washers 22 and engaging the latter are metallic or other washers 23. Cap shape elements 24, forming sections of the closures 18, enclose the washers 22 and 23, and fit over reduced portions 25 of the rings 19, being removably secured thereto by screws 26. Although the receptacle 10 will be filled with sand, the latter cannot enter the barrel because the rod 15 is closely fitted by the washers 23 and the washers 22 are in wiping contact therewith.

The valve head 13 is normally closed and is urged to that position through the expansion of a coil spring 27 located within the barrel 17, surrounding the rod 15, abutting one wall 21 at one end and a pin or abutment 28, of rod 15, at the other end. The aforesaid barrel 17 is mounted in any suitable way within the receptacle 10, but preferably by means of a rectangular or other skeleton frame 29, with which it may be integral or to which it may be welded or otherwise fastened. Said frame 29 is preferably of angle-iron form in cross section, as best seen in Figure 3. A mounting bracket, generally of U-shape, is employed at 30, having a bottom or base wall 31 resting on the bottom wall 11, and provided with a discharge opening 32 aligned with that at 12 and which is fitted by the valve head 13. Bracket 30 has upright members 33 between which the frame 29 is removably disposed in spaced relation to base 31. Screws, bolts, or the like 34 may pass through the receptacle 10, upright members 33 and frame 29 to removably secure these parts in place.

On the frame 29, at one side of the barrel 17, a lug 35 is welded or cast and a lever 36 is pivoted thereto, at 37. Said lever 36 has an arm 38 extending rigidly therefrom and contacting the upper end of the rod 15, which extends above the uppermost closure 18. Lever 36 may be operated

in any suitable manner so that the arm 38 will depress the rod 15 to lower or open the valve head 13, as suggested by the dotted lines in Figure 4, thereby permitting the sand to discharge by gravity through the openings 32 and 12. By way of example, a link 39 is pivoted at 40 to the lever 36, and such link may be operated in any suitable manner by a conventional lever or latch control, located at a position accessible from the driver's seat of the vehicle, or otherwise, as preferred.

Normally the parts are in the full line position shown in the drawing and are so maintained through the expansion of spring 37. However, when sand is to be discharged on to the road bed, track, or the like, the operator of the vehicle through manual control draws forwardly on the link 39 thus rocking lever 36 on its pivot 37 and moving arm 38 downwardly so as to depress rod 15 and valve head 13, thereby exposing the openings 32 and 12 so that the sand will flow there-through by gravity. The valve head 13 will automatically close or return to closed position through the action of the spring 27, when the link 39 is released.

Various changes may be resorted to provided they fall within the spirit and scope of the invention.

I claim as my invention:

1. A sanding device comprising a receptacle having opposed side walls and a bottom wall provided with a discharge opening, a downwardly movable closure valve at said opening, and a substantially unitary valve mounting and control structure in said receptacle; said structure comprising an open frame disposed across the receptacle, an attaching bracket for the open frame having a portion spaced below said open frame and engaging the bottom of the receptacle, legs on said attaching bracket extending between and secured to said frame and said side walls, a vertical barrel crossing and carried by said open frame, a rod carrying said valve, said rod being vertically slidable in said barrel and projecting above the latter, means normally biasing said valve to closed position, said bracket portion having an opening therethrough in alignment with said discharge opening in which said valve is seated, and actuating means to open said valve mechanically coacting with said rod above the barrel.

2. A sanding device comprising a receptacle having opposed side walls and a bottom wall provided with a discharge opening, a downwardly movable closure valve at said opening, and a substantially unitary structure in said receptacle; said structure comprising an open frame, a U-shaped bracket for the latter having a portion spaced below said open frame and engaging the bottom of the receptacle and legs extending between and secured to said frame and said side walls, a vertical barrel carried by said open frame extending above and below the latter, a rod carrying said valve, said rod being vertically slidable in said barrel and projecting above the latter, devices at opposite ends of the barrel to exclude sand and function as bearings for the rod, said bracket portion having an opening therethrough in alignment with the discharge opening and in which the valve is seated, means normally biasing said valve to closed position, and actuating means for said rod mounted on the frame adjacent the top of the latter and mechanically coacting therewith above the barrel to open said valve.

3. A sanding device comprising a receptacle having opposed side walls and a bottom wall provided with a discharge opening, a downwardly movable closure valve at said opening, and a substantially unitary structure in said receptacle; said structure comprising an open frame, an attaching bracket for the latter having a portion spaced below said open frame engaging the bottom of the receptacle and legs extending between and secured to said frame and said side walls, a vertical barrel secured against one side of said open frame extending above and below the latter, a rod carrying said valve, said rod being vertically slidable in said barrel and projecting above the latter, means closing the barrel at opposite ends to exclude sand and function as bearings for the rod, said bracket portion having an opening therethrough in alignment with the discharge opening and in which the valve is seated, means within the barrel normally urging upward movement of the rod to close the valve, and a lever pivoted to the top of the open frame operably associated with the upper portion of said rod to depress the latter to open the valve.

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