Oct. 22, 1940. O. K. KJOLSETH 2,219,187

RECEPTACLE

Filed Sept. 17, 1938

Fig. 1.

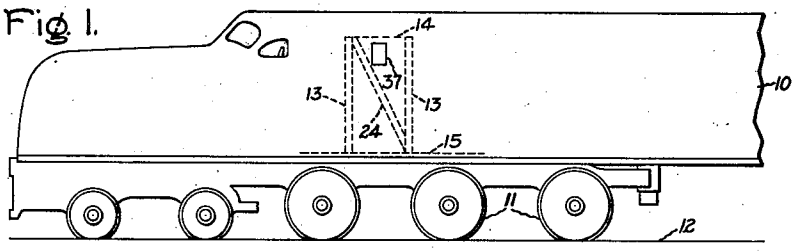


Fig. 2.

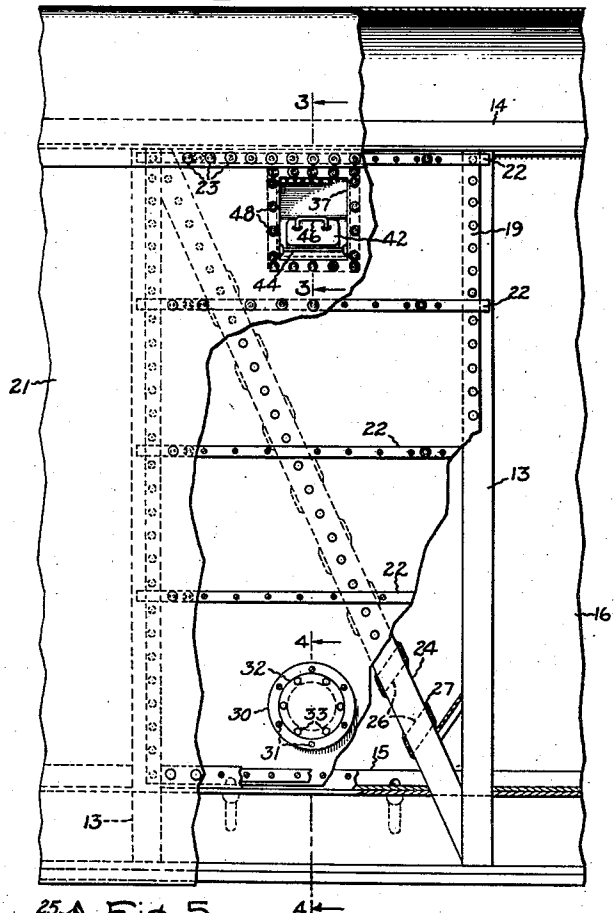


Fig. 3.

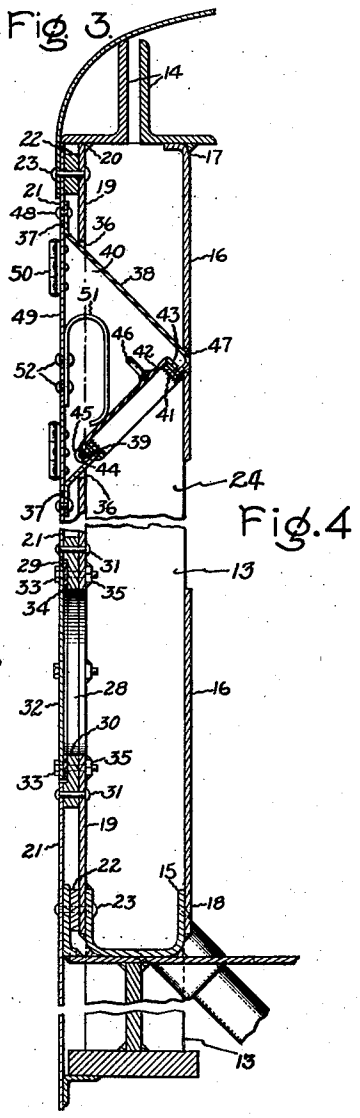
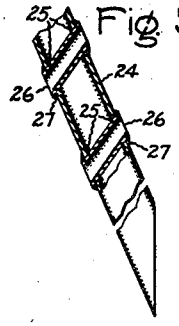


Fig. 4

Fig. 5.



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UNITED STATES PATENT OFFICE

2,219,187

RECEPTACLE

Ole K. Kjolseth, Erie, Pa., assignor to General Electric Company, a corporation of New York

Application September 17, 1938, Serial No. 230,446

5 Claims. (Cl. 291—38)

My invention relates to receptacles and more particularly to that type receptacle used as a sand box for vehicles.

An object of my invention is to provide an improved receptacle compactly arranged as a sand box on a vehicle.

Further objects and advantages of my invention will become apparent and my invention will be better understood from the following description referring to the accompanying drawing, and the features of novelty which characterize my invention will be pointed out with particularity in the claims annexed to and forming part of this specification.

In the drawing, Fig. 1 is a fragmentary side elevation of a railway locomotive provided with a sand box embodying my invention; Fig. 2 is an enlarged view, partly broken away to illustrate the relative arrangement of the various elements forming my improved sand box; Fig. 3 is a sectional view taken along line 3—3 of Fig. 2; Fig. 4 is a sectional view taken along line 4—4 of Fig. 2; and Fig. 5 is an enlarged fragmentary view, partially in section, of the diagonal frame member or truss shown in Fig. 2.

Referring to the drawing, I have shown in Fig. 1 a locomotive 10 provided with driving wheels 11 arranged to support and propel the locomotive on rails 12. Under certain load conditions, driving wheels of railway vehicles have a tendency to slip on the supporting rails, as the adhesion between the wheels and the rails is not sufficient to prevent this slippage. It is conventional practice to increase the adhesion under these conditions by sanding the surface of the rails, and railway vehicles generally are provided with some device for carrying and distributing sand for use on such occasions. It is essential that the sand can be readily distributed when desired, and therefore, the receptacle for storing the sand should be conveniently located on the vehicle, and yet it should be arranged with the sacrifice of as little space within the vehicle as possible. I have shown a sand box which is arranged in the side walls of the locomotive 10 between vertically extending side frame members or posts 13 forming part of the locomotive frame structure. These posts form the side walls of the sand box, and longitudinally extending beams 14 adjacent the roof of the locomotive and a longitudinally extending channel member 15 adjacent the floor of the locomotive form the top and bottom walls, respectively, of the sand box. The inner wall of the sand box is formed by a sheet metal plate 16 welded along the upper edge 17 to the inside beam 14 and adjacent its lower edge 18 to the channel member 15. The outer wall of the sand box is formed by a similar sheet metal plate 19 welded at 20 adjacent the upper end thereof to the outer beam 14, and adjacent the lower end thereof to the channel member 15. All welded joints of the sand box are made air and water tight to prevent the escape of sand and the entrance of moisture into the box. The outer wall 19 is spaced apart from a locomotive side wall 21 by a series of spacing bars 22, and is secured to the locomotive side wall 21 by a series of rivets 23 extending through the sand box wall 19, the spacing bars 22, and the locomotive side wall. The locomotive frame also is provided with a series of diagonal frame members or trusses 24 which extend from adjacent the upper end of one of the posts 13 to adjacent the opposite lower end of the next adjacent post 13. These diagonal trusses are formed of tubular elements of the same width as the vertically extending posts 13. One of these diagonal frame members 24 also is arranged between the two posts 13 which form the side walls of the sand box, and divides this box into two compartments arranged on each side of the diagonal truss. In order to utilize fully the space between the two posts 13, it is desirable that the sand in the compartment on the upper side of the diagonal truss 24 should be free to pass to the compartment on the under side of the diagonal truss 24. Communicating passages are provided between these two compartments and the desired rigidity and strength of the diagonal truss 24 is maintained by providing a series of openings 25, formed transversely through the diagonal member 24, and arranging reinforcing tubular elements 26 in these openings. The elements 26 may be formed of small sections of conventional pipe arranged to extend through the transverse openings 25 and welded at 27 adjacent the ends of the elements 26 to the transverse truss 24. The openings through these tubular elements 26 provide communicating passages between the compartments on the two sides of the transverse member 24 and provide for the free passage of sand from the upper to the lower compartment of the sand box. In this type sand box, it is desirable to be able to inspect the condition of the sand, and since the transverse truss 24 forms a diagonal dividing wall between the two compartments of the sand box, I have found it desirable to form an inspection opening 28 through the outer sand box wall 19 and a corresponding inspection opening 29 through the locomotive side wall plate 21. An annular frame or ring 30 is secured about the openings 28 and 29 by a series of rivets 31 and a removable closure plate or cover 32 is adapted to be secured by a plurality of bolts 33 over a gasket 34 arranged on the outer edge of the plate 30. In order to facilitate the removal of the cover 32, nuts 35 for the bolts 33 are welded to the inner side of the plate 19 so that the threaded openings in these nuts are in alignment with corresponding holes through the plate 19 and the ring 30.

In order to replenish the sand supply in the sand box, a filling opening 36 is formed in the outer side wall 19 of the sand box, and a corresponding filling opening 37 is formed in the side wall 21 of the locomotive and provides a communication from the exterior of the vehicle into the sand box and the interior of the upper compartment of the box. A cover frame is arranged about the filling openings 36 and 37 which includes a V-shaped plate 38 formed with an opening 39 in one side thereof. The ends of the plate 38 are closed by triangular side walls 40, and a flange 41 is arranged within the plate opening 39 and extends outwardly about this opening. This flange is welded to the edges of the opening 39 and provides a substantially moisture-proof joint with the plate. A cover 42 is arranged to close the opening 39 in the frame plate 38 and is provided with a flanged edge 43 adapted to extend about the outside of the flange 41 when the cover is arranged over the opening 39. The cover 42 is pivotally supported on the filling opening frame by a hinge pin 44 which is welded to the lower side of the flange 43 of the cover. This hinge pin is rotatably supported in a pair of bosses 45 which are welded to the side frame plates 40. A handle 46 is welded to the top of the cover 42 to facilitate opening the same. The filling opening frame 38 is arranged about the filling openings 36 and 37 in the side walls 19 and 21, respectively, and the inner end thereof extends into an opening 47 formed in the sand box inner side wall plate 16. This end of the frame is welded to the edges of the opening 47, and the outer sides of the frame are secured to the side walls 21 of the locomotive by a series of rivets 48. As is more clearly shown in Fig. 3, the sides of the V-shaped frame 38 extend inwardly from the filling openings, and the lower side thereof is inclined upwardly from the lower edge of these openings. A closure plate 49 is secured by hinges 50 to the side wall 21 of the locomotive and is arranged to close the filling opening of the sand box. It is desirable that the cover 42 over the opening in the frame plate 38 should be closed at all times when the closure plate 49 is in closed position with respect to the filling opening. In order to insure this condition, a resilient biasing spring 51 is secured by rivets 52 to the inner side of the closure plate 49 and is arranged between the closure plate and the cover 42, so as to bias the cover to closed position over the frame plate opening when the closure plate 49 is in closed position, as shown in Fig. 3. This sand box filling opening double closure construction is not my invention, but is the invention of Basil S. Cain, and is described and claimed in his copending application, Serial No. 230,439, filed September 17, 1938, and assigned to the assignee of this application.

Thus, it is seen that I have provided an improved and simplified compact receptacle adapted to be used as a sand box on vehicles and arranged to utilize minimum space within the vehicle, as well as a minimum of material to form the walls of the receptacle.

While I have illustrated and described a particular embodiment of my invention, modifications thereof will occur to those skilled in the art. I desire it to be understood, therefore, that my invention is not to be limited to the particular arrangement disclosed, and I intend in the appended claims to cover all modifications which do not depart from the spirit and scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In a vehicle having vertically extending side frame post members, a sand box having inner and outer side walls and including said vertically extending frame post members as walls thereof, a diagonally extending frame member having a transverse opening therethrough arranged between said vertically extending frame members and dividing said sand box into a plurality of compartments, and a filling opening into said sand box communicating with the exterior thereof.

2. In a vehicle having vertically extending side frame post members, longitudinally extending frame members, a diagonally extending frame member having a transverse opening therethrough arranged between said vertically extending frame members, a sand box having inner and outer side walls and including said frame members as walls thereof, and means including a filling opening into said sand box arranged to communicate with the exterior thereof for replenishing the sand supply in said box.

3. In a vehicle having vertically extending side frame post members, longitudinally extending side frame members, a sand box having inner and outer walls and including said frame post members as walls thereof, a diagonally extending frame member arranged between said vertically extending frame post members and dividing said box into a plurality of compartments, said diagonal frame member having a transverse passage therethrough providing a communication between said compartments of said sand box, and means including a filling opening into said sand box arranged to communicate with the exterior thereof for replenishing the sand supply in said sand box.

4. In a vehicle having vertically extending side frame post members, a sand box having inner and outer side walls and including said vertically extending frame post members as walls thereof, a diagonally extending frame member arranged between said vertically extending frame post members and extending from adjacent an upper edge of said box to adjacent the opposite lower edge thereof dividing said box into a plurality of compartments, said diagonal frame member being of tubular section and having a plurality of transverse openings therethrough, and reenforcing tubular elements extending through said diagonal member openings and secured to said diagonal member arranged to provide communicating passages between said sand box compartments.

5. In a vehicle having vertically extending side frame post members, a sand box having inner and outer side walls and including said vertically extending frame post members as walls thereof, a diagonally extending frame member arranged between said vertically extending frame post members and dividing said box into a plurality of compartments, said diagonal frame member having a plurality of transverse passages therethrough providing communicating passages between said sand box compartments, an inspection opening formed in said sand box adjacent the bottom thereof, and a closure plate adapted to be secured to said sand box for closing said inspection opening.

OLE K. KJOLSETH.