Feb. 21, 1933. P. EARNHEART ET AL 1,898,483

TANK WAGON CONSTRUCTION

Filed Oct. 22, 1931

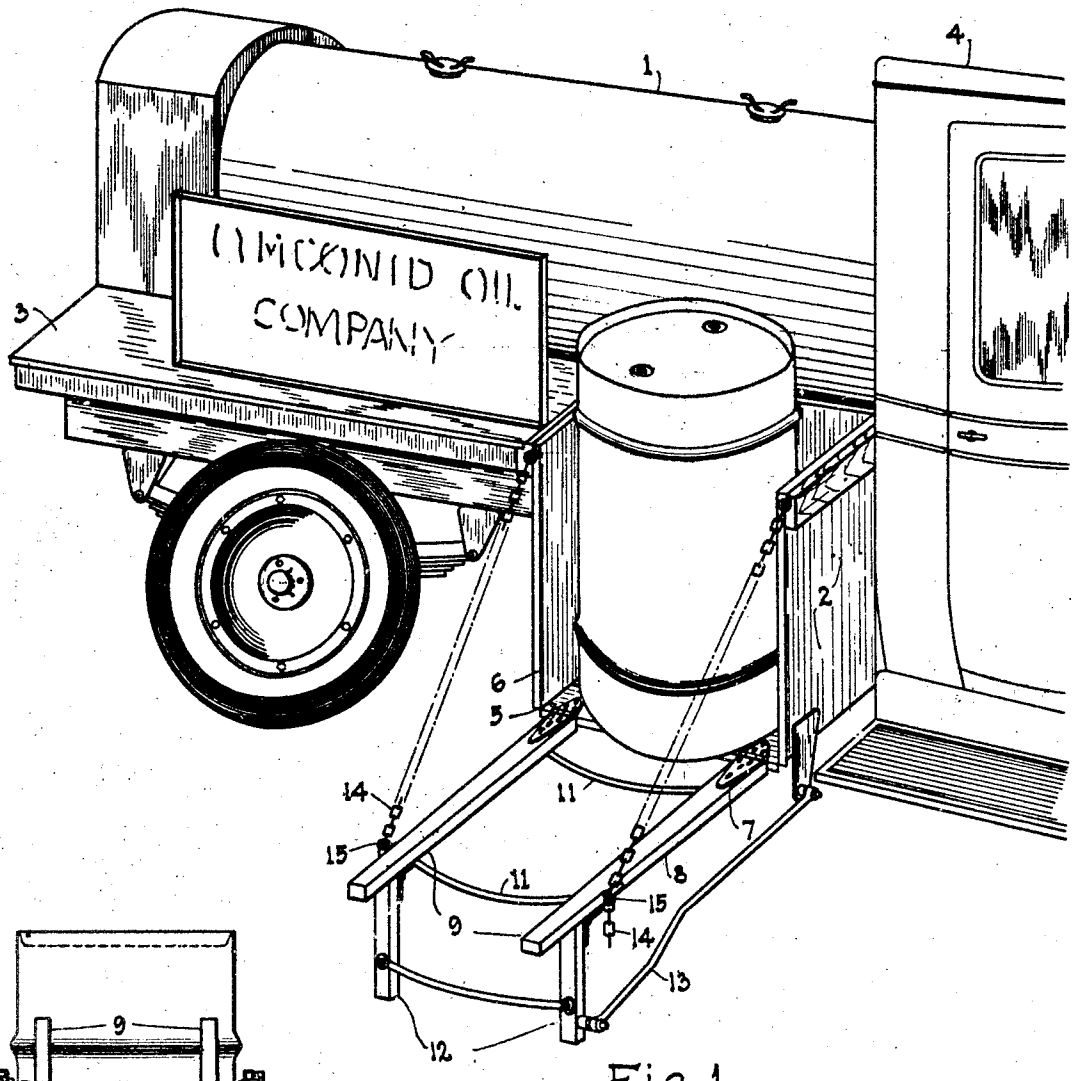


Fig. 1

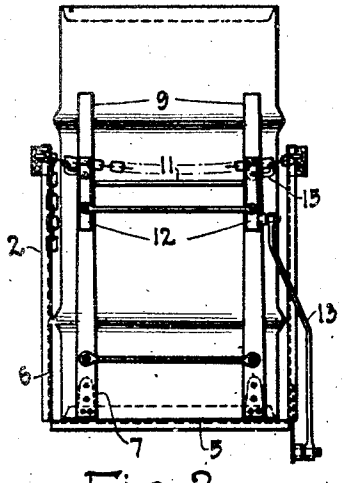


Fig. 2

Inventors
Paul Earnheart
Clyde W. Smith
By Bruce K. Brown Atty.

Patented Feb. 21, 1933

1,898,483

UNITED STATES PATENT OFFICE

PAUL EARNHEART, OF DE SOTO, KANSAS, AND CLYDE W. SMITH, OF HAMMOND, INDIANA, ASSIGNORS TO STANDARD OIL COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF INDIANA

TANK WAGON CONSTRUCTION

Application filed October 22, 1931. Serial No. 570,356.

This invention relates to the construction of a tank wagon for transporting and distributing petroleum products and more particularly to an improved stirrup construction for carrying oil barrels at the sides of the tank wagon on a level with the running board.

In the transportation and delivery of petroleum oils it is usually necessary to carry a variety of oils at the same time. This problem is met to some extent by providing compartments in the main tank of the tank wagon. However, because of the large and rapidly increasing number of petroleum products, such as the various grades of gasoline, kerosene oil and lubricating oil, it has been difficult to provide a sufficient number of separate containers to accommodate all these products. Previously it has been customary to carry extra barrels of lubricating oils and other petroleum products on platforms ranging along the side of the main oil tank and extending over the rear wheels of the tank wagon. However, a great deal of difficulty has been encountered with loading and unloading barrels of oil from these high platforms because of the great weight of these containers when filled. In order to elevate a loaded barrel of oil to a platform on the tank level, the assistance of several men has been necessary and the operation is accompanied by considerable danger, due to the hazard involved in barrels evading the grip of the operators and crashing to the ground. Another disadvantage of carrying extra barrels of petroleum supplies in this elevated position arises from the difficulty in dispensing small quantities of liquid from them when desired.

In accordance with the invention hereinafter described, we have provided a means for carrying oil drums and particularly barrels, in stirrups conveniently located at the side of the tank wagon just behind the driver's cab and elevated from the ground approximately to the level of the running board. We have found that one or more barrels may be carried on each side of a tank wagon in this position without extending beyond the extremities of the wagon sufficient to interfere seriously with its highway clearance. In addition to the carrying stirrup and in cooperation therewith, we have also provided a skid or rack by which the loading and unloading of barrels is facilitated. This rack forms an important part of our invention and its construction and operation will be clearly understood by referring to the accompanying drawing in which:

Figure 1 shows a convenient construction of the rack in the extended position, and

Figure 2 shows a method of folding the rack when not in use.

Tank wagon 1 which may be of conventional design is constructed with a stirrup 2 at the side and in a position intermediate between the front and rear wheels of the tank wagon. It may be conveniently located just ahead of the platform 3 and behind the cab 4. The stirrup is constructed of a base platform 5 and supporting members 6 which may be conveniently made of sheet steel or steel rod members.

Attached to the outer edge of the stirrup 2 by means of hinges 7 is rack 8 which is so constructed that it may be moved when desired to a vertical position. When in the vertical position as shown in Figure 2, the side members 9 of the rack are arranged to recede within the extremities of the barrel rim and thus do not further reduce the highway clearance space of the tank wagon. This result is achieved by making the cross stays 11 of the rack in a bowed form corresponding to the circular form of the barrel.

When in the horizontal position the rack may be supported by means of the hinged leg member 12 which may be automatically brought to position by means of the actuating rod 13, which is pivotally attached to the leg member and the side of the stirrup, as shown in Figure 1, when the rack is lowered to the horizontal position. When the rack is folded, the legs are automatically drawn against the side of the barrel by the same mechanism. This, of course, is an operating detail and is not essential to the usefulness of the device.

When the rack is used in places where the ground is uneven and sloping, some difficulty

may be encountered in properly supporting the rack by means of the legs as described. For situations such as this, we have provided suspension chains 14, which support the rack in the horizontal position. By means of the hooks 15 it is possible to adjust the position of the rack to any angle desirable by engaging different links of the chain with the hooks. When the rack is in the upright position the supporting chains may conveniently be used to secure the rack in this position when not in use, as shown in Figure 2.

In operation our improved carrying stirrup and loading rack may be employed in the following manner. The rack 8 may be lowered until the ends of the side members 9 rest on the ground. A barrel may then be inclined against the rack with the bottom end upward. By raising the rack to a vertical position the barrel can be conveniently elevated into the carrying stirrup, an operation which is not difficult because of the low elevation of the stirrup which may be only one or two feet above the ground level and also because of the lever action and the firm grip provided by the rack member. The rack may be secured in the vertical position, thus acting as a retainer for the barrel in transportation from place to place. If it is desired to remove the barrel from the tank wagon, it is only necessary to drop the rack to the ground and tip the barrel upon it. Or the barrel may conveniently be made fast to the rack with a chain and the barrel and rack lowered together. In this way, the rack provides a grip to assist in lowering and raising the barrel, greatly increasing the safety of the operation. If it is desired to remove only a part of the contents of the barrel, the rack may be lowered to the horizontal position and supported in that position by means of the supporting chain members 14 or the leg member 12. In this position the rack forms an ideal support on which to rest the barrel while withdrawing oils from the outlets provided in the head for that purpose.

In setting forth our invention, we have described a particular embodiment thereof, however we do not wish our invention to be limited by the exact form of the construction illustrated. We contemplate employing any form of construction which embodies the principle of our invention. Thus we may use rigid members in place of the chains described for supporting our improved barrel loading rack. We may likewise omit the leg member 12, or the actuating member 13, when desired, and we may attach the rack to the stirrup with hooks instead of hinges, thus permitting its ready removal. We may also construct the barrel stirrup 2 in semicircular form to conform to the shape of the barrel. We intend that the scope of our invention shall be construed from the following claims.

We claim:

1. An improvement in tank wagon construction relating to the transportation of oil in barrels, comprising a barrel carrying stirrup located at the side of the wagon intermediate the ground and the tank level and parallel with the running board, and a rack cooperating with said carrying stirrup facilitating the loading of barrels thereon.

2. An improvement in tank wagon construction relating to the transportation of oil in barrels comprising a barrel carrying stirrup located at the side of the wagon intermediate the ground and the tank level, a rack cooperating with said carrying stirrup and means for supporting said rack in a substantially horizontal position.

3. An improvement in tank wagon construction relating to the transportation of oil in barrels comprising a barrel carrying stirrup located at the side of the wagon intermediate the ground and the tank level, a rack attached to said carrying stirrup by a hinge member permitting it to be raised to a vertical position and retaining means cooperating with said rack whereby the barrel is confined within said carrying stirrup.

4. An improvement in tank wagon construction relating to the transportation of oil in barrels comprising a barrel carrying stirrup located at the side of the wagon intermediate the ground and the tank level, a rack cooperating therewith, said rack being characterized by having a form which permits its recession within the outer boundary of said barrel when folded adjacent thereto, thus avoiding reduction of highway clearance.

5. An improvement in tank wagon construction relating to the transportation of oil in barrels comprising a barrel carrying stirrup located at the side of the wagon intermediate the ground and the tank level, a rack cooperating therewith, and adjustable means for supporting said rack in an extended substantially horizontal position, when the wagon is stationed on a side incline.

6. An improvement in tank wagon construction relating to the transportation of oil in barrels comprising a barrel carrying stirrup located at the side of the wagon intermediate the ground and the tank level, a rack member cooperating with said stirrup and chain members removably secured to said rack member whereby the latter may be supported in a substantially horizontal position or may be elevated to a vertical folded position adjacent said barrel and secured thereto by means of said chain members.

7. An improvement in tank wagon construction relating to the transportation of oil in barrels comprising a barrel carrying stirrup located at the side of the wagon intermediate the ground and the tank level, a rack cooperating with said carrying stirrup

and leg members attached to said rack whereby it may be supported substantially horizontally when in an extended position.

8. An improvement in tank wagon construction relating to the transportation of oil in barrels comprising a barrel carrying stirrup located at the side of the wagon intermediate the ground and the tank level, a rack member cooperating with said carrying stirrup and rotatable from a horizontal to a vertical position, a leg member hingedly fixed to said rack, and a leg actuating member cooperating with said leg member whereby the latter is caused to move into a supporting position when said rack is horizontal and is drawn into a folded position when said rack is vertically folded adjacent said barrel.

PAUL EARNHEART.
CLYDE W. SMITH.