Dec. 8, 1959 W. W. CUSHMAN 2,916,301

TRACTOR HITCH

Filed April 9, 1957

Fig. 1.

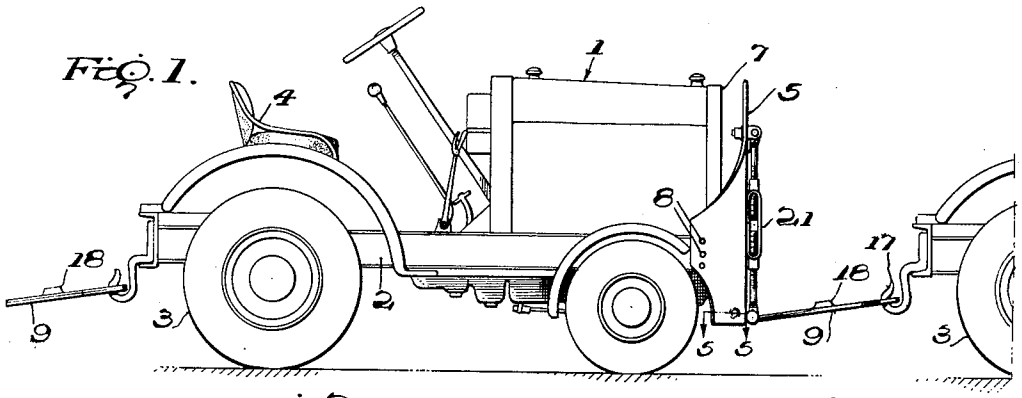


Fig. 2.

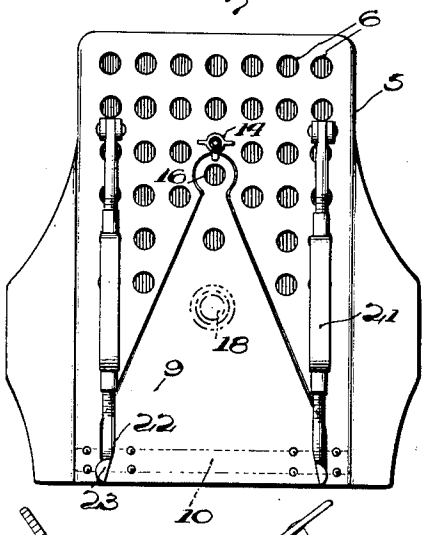
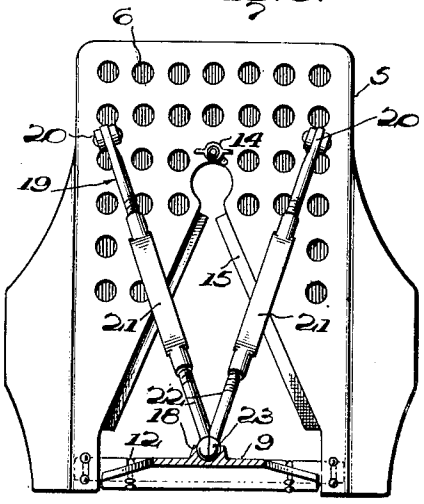


Fig. 3.



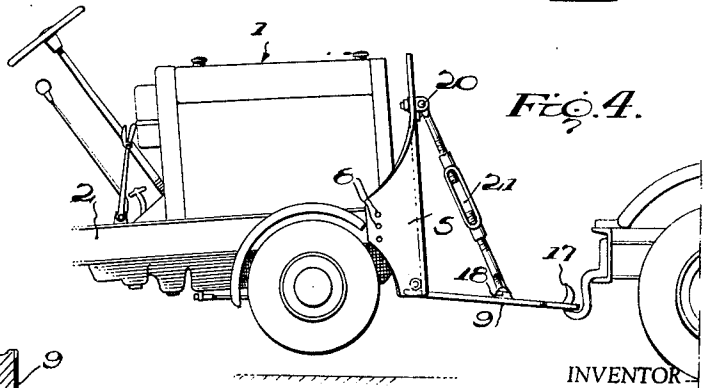


Fig. 4.

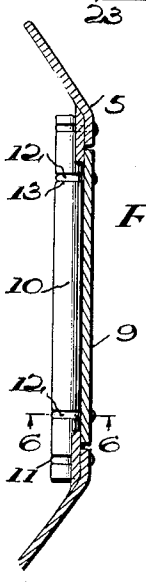


Fig. 5.

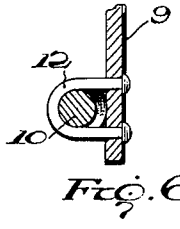


Fig. 6.

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2,916,301

TRACTOR HITCH

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Application April 9, 1957, Serial No. 651,768

3 Claims. (Cl. 280—491)

(Granted under Title 35, U.S. Code (1952), sec. 266)

The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

This invention relates to warehouse tractors and the like and has for its primary object to so modify the pusher plate on such vehicles that the latter may be readily connected together as a train and be pulled to and from the place of work by a leading vehicle, as desired.

Another object of the invention consists in modifying the conventional pusher plate by providing a hinged drawbar tongue thereon to serve as a hitch.

A still further object of the invention resides in incorporating in such a modified pusher plate a turnbuckle or other type of jack which may be employed in situ for raising the front of the vehicle when necessary.

Other objects and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawings, in which

Figure 1 is a side elevational view of a portion of a train of warehouse trucks in which the present tractor hitch is incorporated;

Figure 2 is a front elevation of the novel pusher plate;

Figure 3 is a similar view but showing the lift jacks in operative position;

Figure 4 is a fragmentary view of a train of the warehouse tractors in which the lift jacks have been put into operative position and manipulated to raise the front end of one of the tractors, and

Figures 5 and 6 are fragmentary sectional views taken on lines 5—5 and 6—6 of Figures 1 and 5, respectively.

Referring to the drawings in greater detail and by reference numerals, the numeral 1 indicates one of the warehouse tractors provided with the usual chassis 2, wheels 3, driver seat 4, etc.

Mounted on the front end of the warehouse tractor is a pusher plate 5 provided with the usual apertures 6 for the passage of air to the radiator 7 of the tractor. The usual and conventional rivets or the like 8 may be employed for securing the pusher plate 5 to the under frame of the vehicle.

Heretofore, it has been necessary to use a number of drivers in taking a plurality of the warehouse tractors from over-night storage to the point of use. The present invention is intended to obviate this unnecessary expense by providing a tractor hitch in the pusher plate itself. To this end the pusher plate is provided with a drawbar in the form of a cut-out tongue 9 as clearly indicated in Figure 2. This tongue is preferably of triangular construction and has its base portion at the bottom of the cut-out of the plate and is pivoted to it by means of a sturdy pintle 10 which has its opposite ends secured to the lower portion of the plate by means of staples 11. Fixed to the base portion of the triangular tongue 9 is a pair of eyes or loops 12 which are positioned in grooves 13 adjacent the ends of the pintle 10. By means of this construction it will be apparent that the triangular tongue

9 may be swung downwardly or upwardly as desired and in order to releasably maintain the tongue in its closed or inoperative position a latch 14 is provided on the pusher plate 5 just above the upper end of the tongue 9. Flanges 15 are formed on the edges of the opening in the pusher plate and serve as a stop or stops for limiting the inner movement of the tongue 9 when it is swung to its inoperative position. In other words, the latch 14 and flange 15 serve to secure the tongue 9 against any movement whatever about the pintle 10.

The upper end of the drawbar tongue 9 is provided with an aperture 16 adapted to engage over a hook 17 of a forward vehicle in the train of warehouse tractors as clearly indicated in Figures 1 and 4. Formed on the inner face of the drawbar tongue 9 is a socket 18 for a purpose which will now appear.

Swivelly and pivotally connected to the upper end of the pusher plate 5 is a pair of lift jacks 19. These lift jacks may be of any desired construction but in the present illustration they are shown as being of the turnbuckle type as indicated more clearly in Figure 1. These turnbuckle jacks are pivoted to the plate 5 as indicated by numeral 20 and of course, include a turnbuckle 21 and the upper and lower rods 22 which form a part of a turnbuckle structure. On the lower ends of the rods 22 are semi-spherical enlargements 23, one on each lower bar 22, which together form a sphere of the approximate diameter of the socket 18. Should it be desired to repair a tire or for any other reason be necessary to raise the front end of one of the vehicles while in the train, this may be done by swinging the lift jacks about their pivots into position shown in Figure 3, in which the semi-spherical enlargements are positioned in the socket 18 and the turnbuckle operated to extend the jack and thereby raise the front end of the trailing vehicles as indicated in Figure 4.

From the foregoing description taken in connection with the accompanying drawings it will be obvious to those skilled in the art that I have devised an exceedingly simple construction of tractor attachment by taking advantage of the usual pusher plate incorporated in warehouse tractors to provide a drawbar tongue which may be readily moved to either operative or inoperative positions and that by the simple attachment thereto of the turnbuckle jacks any one of the trailer vehicles in the train of vehicles may have its forward end lifted for the purpose of tire repair, etc.

In accordance with patent laws, I have described what I now consider to be the preferred form of the invention but since minor structural changes may obviously be made without departing from the spirit of the invention, it is intended that all such changes be included within the scope of the appended claims.

I claim:

1. In a warehouse tractor having a vertically disposed pusher plate mounted at the front thereof, said plate provided with an opening extending from the lower edge of the plate a substantial distance vertically thereof, a flange on the rear face of the plate partly surrounding said opening, a drawbar tongue pivoted at the lower edge of the plate and normally positioned in the opening in inoperative position in the plane of the plate and against said flange, and means for releasably holding the tongue in its inoperative position.

2. In a warehouse tractor having a vertically disposed pusher plate mounted at the front thereof, said plate provided with a triangular opening extending from the lower edge of the plate a substantial distance vertically thereof, a flange on the rear face of the plate surrounding a portion of said opening, a drawbar tongue of substantially the size and shape of said opening pivoted to

the lower edge of the plate and normally positioned in the opening in inoperative position in the plane of the plate and against the flange, and means for releasably holding the tongue in its inoperative position within said opening.

3. In a warehouse tractor a vertically disposed pusher plate mounted at the front thereof, a drawbar tongue pivoted to the lower edge of the plate, means for normally holding the tongue in inoperative position, a pair of lift jacks pivoted on the front face of the plate adjacent the upper end of the plate and on opposite sides of the center line of the plate, said tongue provided with a centrally disposed recess for the reception of the free ends of the lift jacks when in operative positions.

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