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[54] **LIFT TRUCK ATTACHMENT**
3 Claims, 5 Drawing Figs.

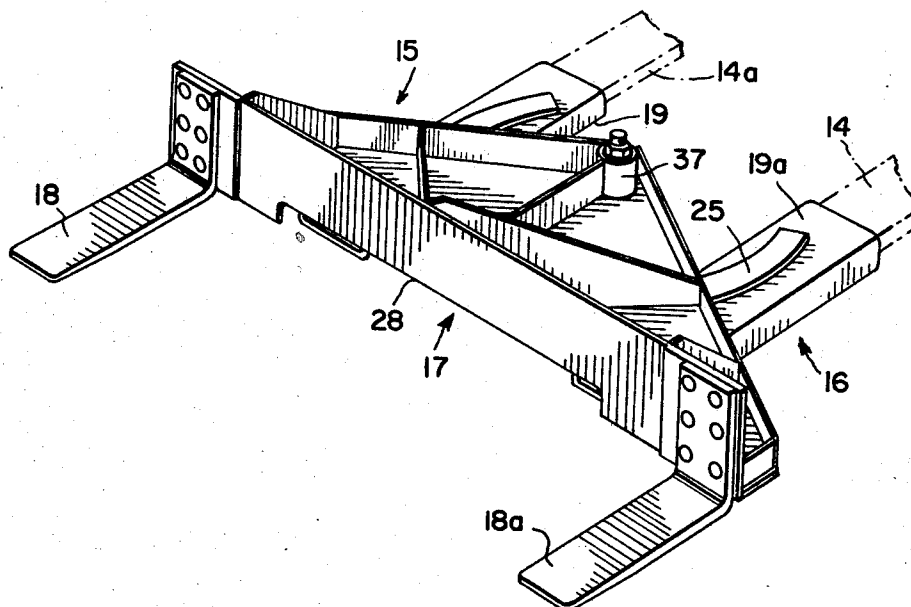
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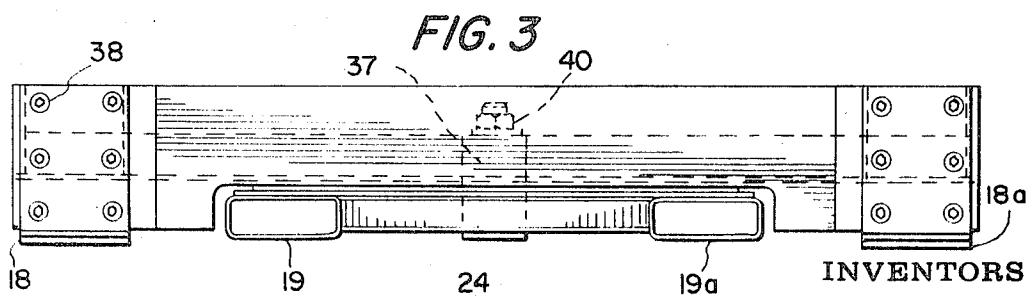
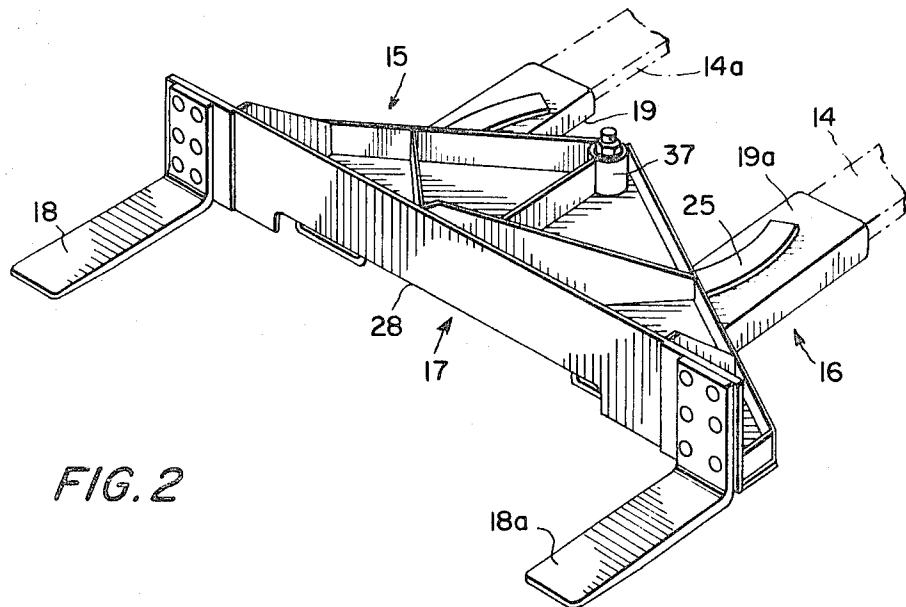
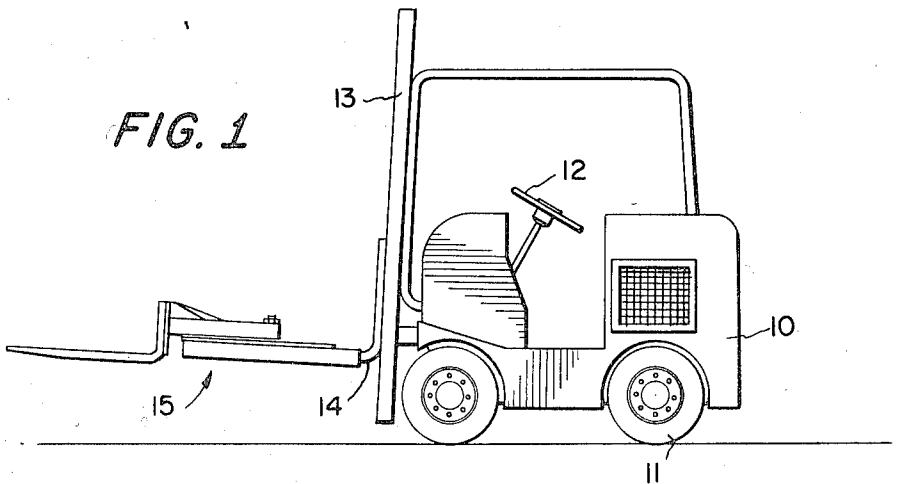
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ABSTRACT: The invention relates to a novel attachment device for use with fork lift trucks and the like to permit side loading from the truck in narrow aisles. The device comprises a platform containing sleeves engageable with the forks of the truck. A rotatable assembly is disposed on the platform which has a pair of forks disposed forwardly thereof.





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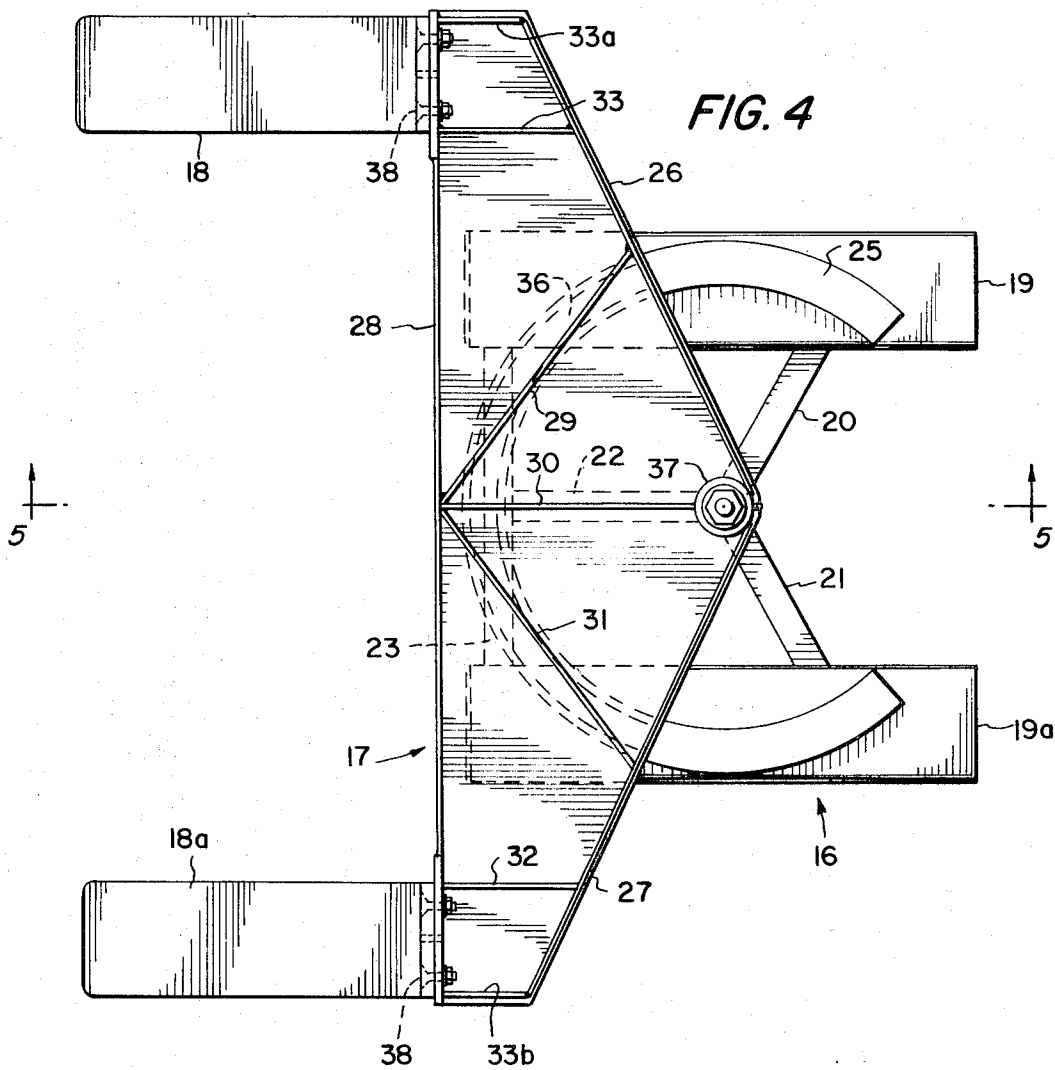


FIG. 4

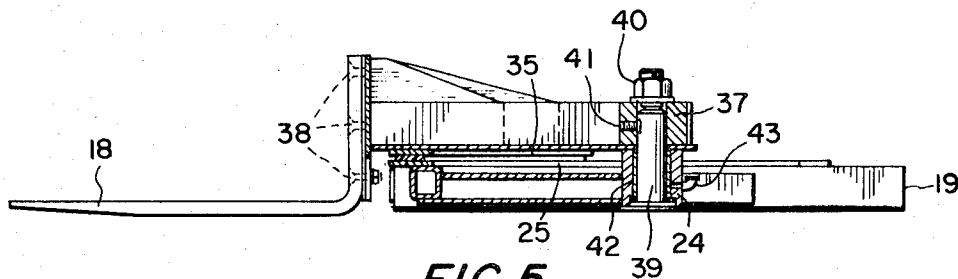


FIG. 5

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LIFT TRUCK ATTACHMENT

This invention relates to fork lift trucks and the like and more particularly to attachment means to fork lift trucks to permit side loading in narrow aisles.

Many industrial vehicles are commercially available for conveying loads from a platform to a storage area and vice versa. Fork lift trucks are particularly satisfactory since the load may be deposited at differing heights on top of another load. Problems arise when the trucks are used in narrow aisles and the like since it is difficult to turn the truck in order that the load may be discharged to the right or left of the aisle.

Various modifications of fork lift trucks have been proposed in order to alleviate the problem. Usually, the modifications are built into the truck permitting the forks to be turned to the left or right. Usually, the modifications comprise complicated devices involving expensive mechanisms, etc.

The purpose of this invention is to provide a device which is simple in design, economical and easy to construct and capable of being used to load and unload pallet loads to either side of a fork lift truck in narrow aisles and the like.

An object of this invention is to provide a device for use with fork lift trucks and the like which comprises a platform structure containing a pair of sleeve members which can engage the forks of a truck. A rotatable assembly is pivotally disposed on said platform and is pivotally secured thereto and is capable of rotating on said platform through an arc of at least 180°. A pair of forks are disposed on and forwardly of said assembly which are used to engage a pallet load and the like.

Another object is to provide a device as above wherein the assembly rotates on the platform on bearing surfaces disposed thereon.

Another object is to provide a device as above where the assembly rotates on said platform and is pivotally secured thereto by means of joined hub means on each member.

Other objects, advantages, and novel features of the novel side loading device will become apparent from the following description and drawings of a complete embodiment of the invention, wherein:

FIG. 1 is a view of the side loader in side elevation illustrating a vehicle upon which the same is mounted;

FIG. 2 is a perspective view of the side loader;

FIG. 3 is a rear elevational view of the side loader;

FIG. 4 is a top plan view of the side loader; and

FIG. 5 is a sectional view taken along line 5-5 of FIG. 4.

Referring to the drawings, which illustrate one embodiment of the invention and wherein similar reference numerals are used to denote the same elements throughout the various views shown, the numeral 10 generally indicates a load carrying vehicle, such as a fork lift truck of the counterbalanced type which may be provided with among other things balloon-type wheels 11, steering mechanism 12, and a hydraulic system with controls (not shown). The vehicle also includes a vertical mast structure 13 of any suitable character adapted to be traversed by a load bearing member vertically by means of the hydraulic system and controls. The structure 13 comprises a pair of forks 14 and 14a which are adapted to engage a loaded pallet or the like for transport thereof from place to place.

A disadvantage inherent in fork lift trucks described above is the fact that the load may be loaded and unloaded from the forward direction of the truck. Operation of the loaded truck within relatively narrow aisles of rack storage warehouses is quite difficult. Accordingly with the side loader device of this invention, one is able to operate with relative ease in narrow aisles and the like.

The numeral 15 generally designates the side loading attachment of the present invention. The side loader is adapted to engage the forks 14 and 14a of the fork lift truck.

The side loader comprises a sleeve platform generally designated by numeral 16, a swing arm generally designated by numeral 17, and L-shaped forks 18 and 18a. The platform

structure 16 comprises a pair of hollow sleeves 19 and 19a adapted to receive and engage the forks 14 and 14a of the truck. The sleeves form the platform with structural tubular members 20, 21, 22 and 23, which are all welded together as shown. The structural members 20, 21 and 22 are joined at the midsection of the platform to a hub 24. A circular bearing plate 25 is welded on the top of the platform over sleeves 19 and 19a and structural member 23.

The swing arm 17 is adapted to engage the platform 16 and swing horizontally through an arc defined by the bearing plate 25. The swing arm 17 comprises a framework of structural members 26, 27, 28, 29, 30, 31, 32, 33, 33a and 33b, all of which are welded to a horizontal plate 34 and to each other. On the underneath side of plate 34, a circular bearing plate 35 is welded. Bearing plate 35 has the same circular radius as bearing plate 25, and is adapted to traverse and swing horizontally along bearing plate 25 to the limits thereof. To facilitate movement between the two surfaces of the bearing plates 25 and 35, a bearing pad 36 is bonded on the surface of bearing plate 35.

Structural plates 26, 27 and 30 and plate 34 are joined together and welded to a hub 37.

The upstanding portion of forks 18 and 18a are rigidly secured to the outer faces of vertical structural plate 28 by means of a series of nuts and bolts 38. In this manner various lengths of forks as desired may be interchanged.

The swing arm 17 is rotatably attached to the platform 16 by aligning hubs 24 and 37 and securing them by means of stud 39 and locknut 40. A setscrew secures stud 39 against hub 37. A bearing 42 is inserted in hub 39 whereby stud 37 may freely rotate therein. An oil cup 43 is also provided for lubrication of the bearing.

The simplicity of the side loader makes the operation thereof simple while at the same time reliable and durable. When it is desired to use a fork lift truck in narrow aisles and the like, one needs only to engage the side loader to truck forks 14 and 14a by means of sleeves 19 and 19a. The side loader is at once ready for use and when it is desired to pick up a load in a narrow aisle, one needs only to manually turn the swing arm 17 to any angle necessary to engage or discharge a pallet load or the like with forks 18 and 18a. Since the swing arm may be rotated at least 180°, one can pick up or discharge loads to the right or left of the truck. The rear wheels of the truck are normally turned by the steering wheel. Thus, maneuvering of the load in and out of storage is simplified since the load is self-aligning. Thus, in order to deposit a load in a storage area to the right of a narrow aisle, one would turn the swing arm 17 to align it with the space into which the load is to be deposited. Thereafter, the load is guided into the area by jockeying the truck forwardly and backwardly while turning the rear wheels, whereby the truck is eventually turned towards the area in which the load is to be deposited. To pick up a load out of storage, the procedure is reversed.

It is also understood that the truck may load or unload forwardly of the truck in the usual manner when employing the side loader. Another apparent advantage of the side loader is in facilitating a loaded truck to negotiate turns from one narrow aisle to another.

While a specific embodiment of the invention has been described, it is to be understood that the invention is not limited to the specific features shown and various changes may be made in its construction by those skilled in the art.

We claim:

1. An attachment device for use with a fork lift truck and the like comprising:

a pair of horizontal, parallel fork receiving members joined together by structural members to form a platform; hub means disposed on said structural members and centrally disposed between said fork receiving members; an arcuate load bearing surface of at least 180° disposed on and integral with the top of said platform and spaced radially from said hub means;

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a rotatable assembly disposed substantially forwardly of said hub means on said platform and having a cooperating arcuate integral load bearing surface on the underside thereof smaller than said platform load bearing surface for contacting said platform load bearing surface and capable of being rotated through an arc of at least 180°, and hub means disposed radially to said load bearing surface rotatably engaging said hub means of said platform; said rotatable assembly having structural members extending beyond said fork receiving members;
a pair of parallel fork means mounted on and disposed forwardly of said structural members of said rotatable as-

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sembly;

whereby said assembly is capable of being rotated on said platform through said defined arc by movement on said bearing surfaces, and whereby said assembly is laterally stabilized by said cooperating portions of said bearing surfaces.

2. The device of claim 1, wherein a bearing pad is disposed on said bearing surface of said rotatable assembly.

3. The device of claim 1, wherein said rotatable assembly and said platform are pivotally engaged to each other by stud means disposed through said hub means.

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