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THE FORK LIFT TRUCK

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During the war, with manpower shortages in practically all industries, labour-saving machinery played an important part in production, handling and transport and facilitated the work of maintaining adequate supplies of equipment, stores and foodstuffs to the fighting forces. Considerable publicity has been given to different types of plant utilised for the planting and processing of primary products but little has been said concerning machinery introduced to Australia in recent years for expediting the handling and loading of war supplies.

An important unit was the Fork Lift Truck which has revolutionised the unloading, stacking and reloading of service requirements where the volume of supplies has been sufficient to warrant its use and this machine offers great possibilities for post-war operations. The Fork Lift Truck is used largely in association with pallets which are described under a separate heading. In order that the uninitiated may visualise the machine and thus obtain a better understanding of its operation, the following illustration demonstrates it in use at any Army Depot in Sydney.



The Fork Lift—Stacking Crates of Potatoes.

There are a number of variations of Fork Lift motor driven models. Indoor types have a capacity for lifting from 2,000 to 6,000 lb., with lifts ranging from 60 to 168 inches, under a hydraulic system. Outdoor trucks range up to 15,000 lb. capacity, with lifts from 60 to 210 inches. Battery driven models are also manufactured with a lifting capacity of from 2,000 to 4,500 lb. It has been stated that a man with a Fork Lift truck

can pick up unaided a load of 1 to 3 tons and carry it at a speed of 500 feet per minute; whereas a man working with a two wheel hand truck carries a maximum of 500 lb. at 150 feet a minute.

In Service Stores during the war these Fork Lifts proved to be extremely efficient and were specially advantageous in speeding up deliveries to ships when supplies were urgently required and it was of paramount importance that there should be the utmost expedition in the turning round of vessels engaged in transporting the troops.

The Pallets.

A pallet is a small wooden platform upon which containers are loaded in unit blocks. The size may vary, but types commonly used are 3 feet x 3 feet, 4 feet x 4 feet and 4 feet x 5 feet in size. Certain commodities are best handled on special pallets built to fit.

There are three common types of pallets:—

- (a) *Open Face Pallet.*—This consists of a single platform with stringers underneath to provide clearance for the tines of a Fork Lift Truck. This type of pallet may be set down on top of wooden boxes, barrels, drums, etc., which will not be damaged by the concentrated pressure of the stringers.
- (b) *Double Faced Pallet.*—This type comprises double platforms separated by stringers. The tines of the Fork Lift Truck enter between the two platforms. The boards of the lower platform are separated to make room for the drop wheels of hand fork trucks. The smooth bottom surface distributes pressure equally over the pallet load stored beneath.
- (c) *Box Pallet.*—Consists of an open front box framework, built over a double-face pallet for small, odd-sized or crushable items.



Loading Lorry—Fork Lift in Operation.

The principal factors which must be considered in designing pallets are:—

- (a) Size of packages or pieces of material to be stored.
- (b) Distance between warehouse columns.
- (c) Distance between loading or unloading points and points of storage.
- (d) Width of aisles required for type of Fork Lift Trucks to be used.
- (e) Lay-out of storage space; location of aisles, whether pallets are to be placed at 90 degrees or 45 degrees angle to aisles.
- (f) Whether pallets are to be used in hoisting operations.
- (g) Whether pallets are to be used for shipping purposes.
- (h) Maximum weight to be stored on a pallet.
- (i) Floor load-weight limit.
- (j) Whether pallets are to be used for storage in the open.
- (k) Whether pallets must be passed through doors of rail-road cars.

The Value of the Fork Lift.

The advantages of the Fork Lift may be summarised as follow:—

- (a) Handling time is reduced 20 per cent. to over 80 per cent. because large units are moved at one time by mechanical equipment.
- (b) Capacity of storage areas is increased by space-saving high piling.
- (c) Damage to materials is reduced and safety of personnel is improved since there is less manual handling of individual packages.
- (d) Floor racks can be eliminated and less dunnage need be handled.
- (e) Using uniform or standard pallet loads as a storage unit speeds up inventories, sorting and inspecting. Inventory aisles can be eliminated.
- (f) Supplies on pallets can be re-located easily and quickly.

Price.

No survey has been made as to cost of the Fork Lift Truck but some Australian firms have quoted prices for different models ranging from about £1,300 to £2,200.