

In the United States, except for the specialized facilities for tanker vessels, there are two basic ship berthing facilities: (1) the simple straight pier or so-called finger pier, and (2) the marginal wharf or quay. A pier type of structure projects into a body of water at an angle with the shoreline normally permitting the berthing of vessels on the two sides of the pier and if the structure is sufficiently wide at the head of the pier as well. The wharf type of structure parallels the shoreline and provides berthing for vessels at its offshore face only.

(b) *Services Rendered*

Commercial areas: The port provides the whole range of services and the various kinds of accommodations which are usually grouped under the heading of terminal facilities for ships, passengers, and cargoes. The most important of all ship servicing elements are the berthing facilities provided at marine terminal facilities. Adequate berthing facilities in a port serve the demands of shipowners and steamship operators for piers and wharves at which to berth their ships and work cargo with safety, economy, and dispatch. Berthing facilities should be backed up by adequate transit sheds, warehouses, open storage areas, and sufficient mechanical cargo handling equipment to meet the needs of the entire marine terminal complex.

Other terminal facilities necessary for the servicing of ships include outfitting berths, repair berths, and bunkering berths. The common utilities available at these and other berths are electricity, fresh water, steam, and compressed air. Finally, specialized terminal facilities serve the needs of special purpose ships and their cargoes. These include petroleum storage and pipeline systems for loading and discharging bulk petroleum products, grain elevators for transferring bulk grain, loading and unloading equipment with conveyor belt systems and car dumper facilities for handling bulk coal and ore, wharf cranes fitted with grab buckets for handling miscellaneous bulk cargoes, conveyor systems for handling bananas and other delicate fruits, and swift handling arrangements for moving frozen meats and and produce between ship and cold storage facilities.

A port of reception may be illustrated as follows: Imported goods are first landed on the wharf apron from the ship; moved to the transit shed at shipside where they are checked, tallied, sorted, and inspected by customs; they are then transferred to a storage warehouse from where all or only part of the goods may be transported out of the port area by railroad, motor truck, lighter, barge, or coastwise vessel. The marine passenger terminal provides facilities for accommodating passenger ships and the ocean passenger traffic through the port. This passenger trade through the port requires terminals designed with certain special features for expediting baggage handling and customs inspection and other facilities such as restaurants, restrooms, offices for conducting immigration formalities, and port health requirements.

Most port administrative agencies have control over waterfront industrial site areas. The port authorities have developed so-called industrial zones for the purpose of encouraging industry participation in port expansion programs. These zones and the industrial plants which locate there are often served by modern port and terminal facilities as well as by connecting highways, railroads, electrical facili-