Ship elevators essays example

Law, Security

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Abstract

An elevator refers to mechanical equipment used to transport goods and people between different floors of the building, decks of a vessel or levels of any other structure. The different types uses, advantages and disadvantages of ship elevators are presented in this essay. The elevators are named based on features and functions as personnel elevator, cradle, standing, swinger, hydraulic, cradle and so forth. The safety features, capacities to lift loads, and such other modern gadgets are also discussed. Elevators are of great use for transporting men and material. Technological developments have facilitated manufacturing of customized elevators to suit a particular dock operation.

Introduction

It is important to know about an elevator before one understand ship elevator. An elevator or a lift refers to equipment used to transport goods and people vertically between different floors of the building, decks of a vessel or levels of any other structure. Elevators usually get power by

electric motors that counterweight systems such as a pump hydraulic fluid, or a hoist to lift a cylindrical piston as a jack. An elevator for use in manufacturing is conveyor equipment employed to lift things into silos or bins. Different kinds of elevator include chain and bucket elevator, grain auger screw conveyor based on Archimedes' principle, and the chain and forks/paddles of hay elevators. Elevators are legal requirements in multistory buildings. An escalator is a mechanical staircase moving and transporting a large number of people between two floors incessantly, but slowly. It is safe in the sense that even in an emergent situation no harm is expected to the people using it. On the other hand, an elevator in a building or a mall transports a limited number of people to different floors very fast (Gayleian). The present essay on Ship Elevator will dwell upon its definition, types, uses, advantages and disadvantages.

A ship elevator or boat lift refers to a machine used to transport boats from one level of water to another. It is a substitute for canal inclined plane and canal lock. The ship elevator may move vertically as the ship elevators in Belgium and Germany, the elevator at " Les Fontinettes" in France or Anderton boat elevator in England, or it may move in rotation as in the case of Falkirk Wheel in Scotland (" Boat lift").

A Synopsis on Ship Elevators

Ship elevators are used for transporting boats, ships, goods, and people. There are a number of service providers designing and manufacturing such elevators, and these are safe, convenient, reliable, and capable of lifting large loads for various marine applications. The essential features that make a marine elevator great include safety allowances, fire proof landing doors,

home landing operations, riding comfort, energy saving control and drive system, and accurate and efficient landing control system. The installation and maintenance of the elevator are kept easy and non-complicated. There is adequate provision for CO2, fire or Halon alarm to protect against fire and gas leakage. The landing doors should be fire proof, and so designed as to conform to specifications set by respective national marine authorities. The control panel containing PC boards, main inverter, relays, and switches for operation must be of high quality and conform to standards. As for safety equipments, door interlock has an electromechanical lock in the series with the safety circuit. Emergency exit switch, speed regulator, the brake system, and the likes are essential components of an elevator (" Marine Elevators"). There are different types of ship elevators employed to lift different kinds of goods, people, and materials. A type of elevator called ‘ personnel elevator' is used for offshore crew members and personnel and has a capacity of 300 kg, and 3200 kg in steps, and 180 starts per hour. It is designed to suit in any environment such as calm, stormy, or rainy. There are other heavy duty elevators that are capable of transporting ship’s provisions and stores with capacity to transport people. Business houses engaged in this pursuit also produce elevators that could be installed in existing ships. HEISPLAN, an organization dealing with ship elevators, in collaboration with GEDA, have developed the rack and pinion elevators for use in ships, and for offshore units. This lift has proved its credentials with a track record of several years and is suited for any harsh environment. The dumbwaiters for ships and offshore vessels, rigs, and platforms are employed to transport food items and other small goods. These have been specifically designed and produced

for marine purposes, but could be used in other disciplines, too (“ Personnel elevator for offshore crew”)

There are several other kinds of elevators based on features. There are “ standing lifts”, “ swinger lifts”, “ hydraulic lifts”, “ cradle lifts”, “ platform lifts”, “ one cylinder lifts”, and “ dual cylinder lifts”. Standing lifts include cantilever and davit lifts that are usually employed to lift heavy loads, and are presently employed as a mechanism of boat lift usually in coastal environments. The greatest advantage of these kinds of lifts is that their no part is under waterline, and these can be mounted on docks, seawalls, or piles. Swinger lifts can rotate 180 degrees, and hence, it is capable of lifting a ship from the water to the dock and swinging the ship to place it at the right place on the dock. There is another kind of lift called sing lift which is not only cost effective but also suitable to lift small boats (“ Elevator”)

Cradle lifts /or elevators, as per name, cradle a boat, and firmly hold the vessel in the right position. Under coastal environments, cradle lifts are defined with cradle bunks connected to crossbeams that are attached through cables to beams piling mounted. It is through cables that vessels are raised or lowered. However, there are also beamless cradle lifts that are popular in the mid-Atlantic region as they provide unobstructed reach to the vessel. The advantages of cradle lifts include no part below the waterline, and comprehensive nature of construction of the lift.

Hydraulic elevators are positioned below the waterline to lift boats. These kinds of elevators may have one cylinder or more, and are capable of lifting heavy loads. These are designed to fit in any boat, any make, and any model, and hence, no additional attachments are required to connect to a

boat of a particular specification. It is easy to install, and experienced workers can install the platform within two days. The main disadvantage of traditional ship elevator is space occupancy by its machinery. Moreover, they cannot be used in emergency situations (“ Elevator”).

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Pessimists may refer to snapped cables and broken gears to discredit and belittle ship elevators. They provide durability and functioning of these elevators that are subject to the normal process of wear and tear like any other mechanical equipment. Moreover, this function in water that makes them more susceptible to corrosion and such other complications. An appropriate maintenance regimen can accomplish the needful (“ Sea Lift”).

Conclusion

A ship elevator is an equipment to lift ships, boats, goods, and people from one level to another level, usually to a higher level. There are various kinds of elevators suitable for different dock environments. The elevators are designed for any marine applications and any budget. Some elevators like standing lifts or swinger lifts function from above waterline while a few others like hydraulic elevators are submerged in the water. Elevators are of great use for transporting men and material. Technological developments have facilitated manufacturing of customized elevators to suit a particular dock operation. The advantages of ship elevators far outweigh disadvantages, if any. It is complex equipment fitted with nuts and bolts, pistons and axels, and the likes requiring constant maintenance for its durability and functioning. It is an essential component of marine activities.

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