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(54) **NEVER SHIP EMPTY - A SYSTEM FOR INTERCHANGING SUPERSTRUCTURES AND HULLS FOR OCEAN GOING VESSELS IN WHICH THE SUPERSTRUCTURE IS REMOVABLE AND INTERCHANGEABLE WITH COMPATIBLE HULLS**

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(57) **ABSTRACT**

A system for interchanging superstructures and hulls for ocean going vessels in which the superstructure of a vessel is removable and interchangeable with compatible hulls. A removable superstructure of a vessel is removed from its inbound hull upon arrival into port by a crane apparatus and placed on top of a specifically designed deck of an awaiting outbound hull. The superstructure is coupled to the outbound hull by secure fasteners which ensure safe and secure voyage but can be easily unfastened at the port. The superstructure having all necessary electronics for navigation and the hull having all necessary propulsion. A system that maximizes the overall efficiency of the industry, directly increasing the volume of goods or commodity across large bodies of water. Faster turn-around time will result in significantly reduced overhead costs, lower cost of goods and commodity for the international markets, and higher profit margins for the shipping industry. In addition, U.S. Homeland Security initiatives will benefit from this system.

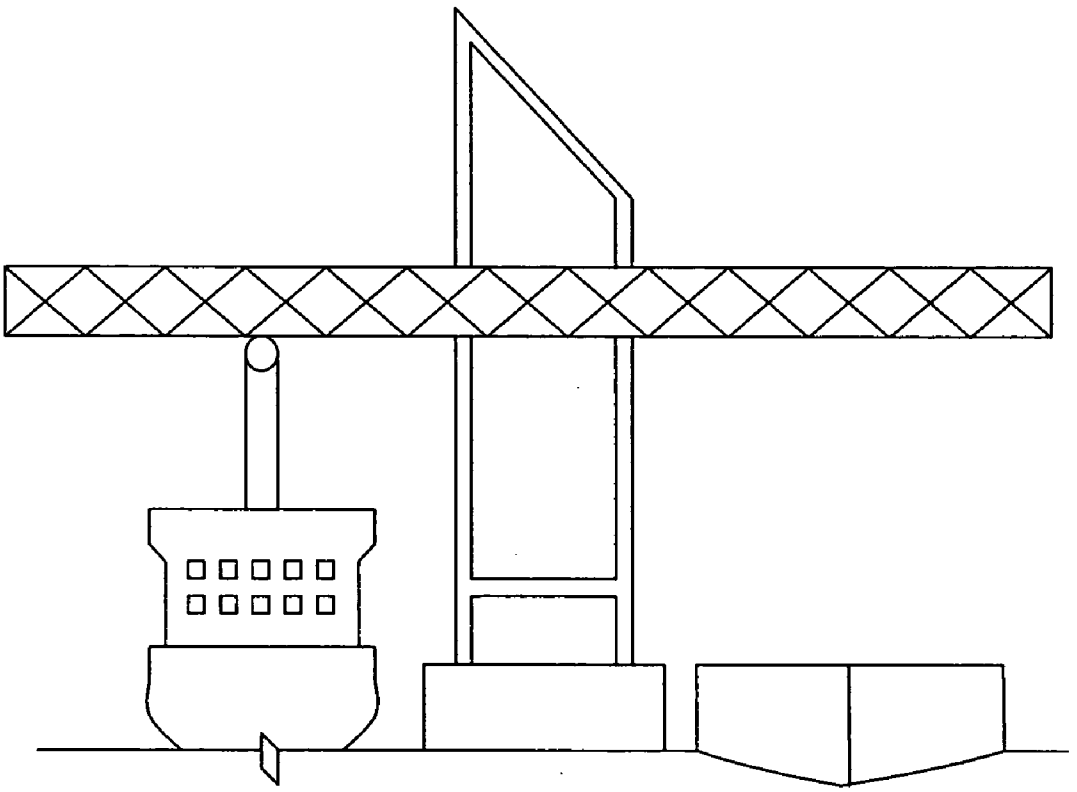


FIG 1

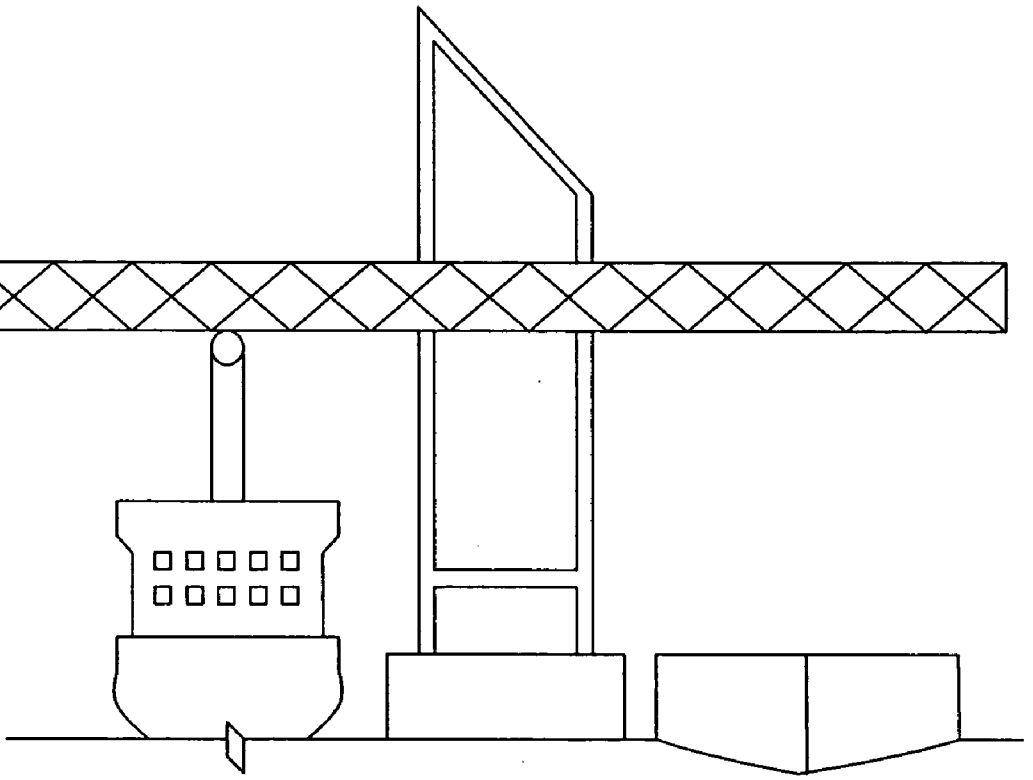


FIG 2

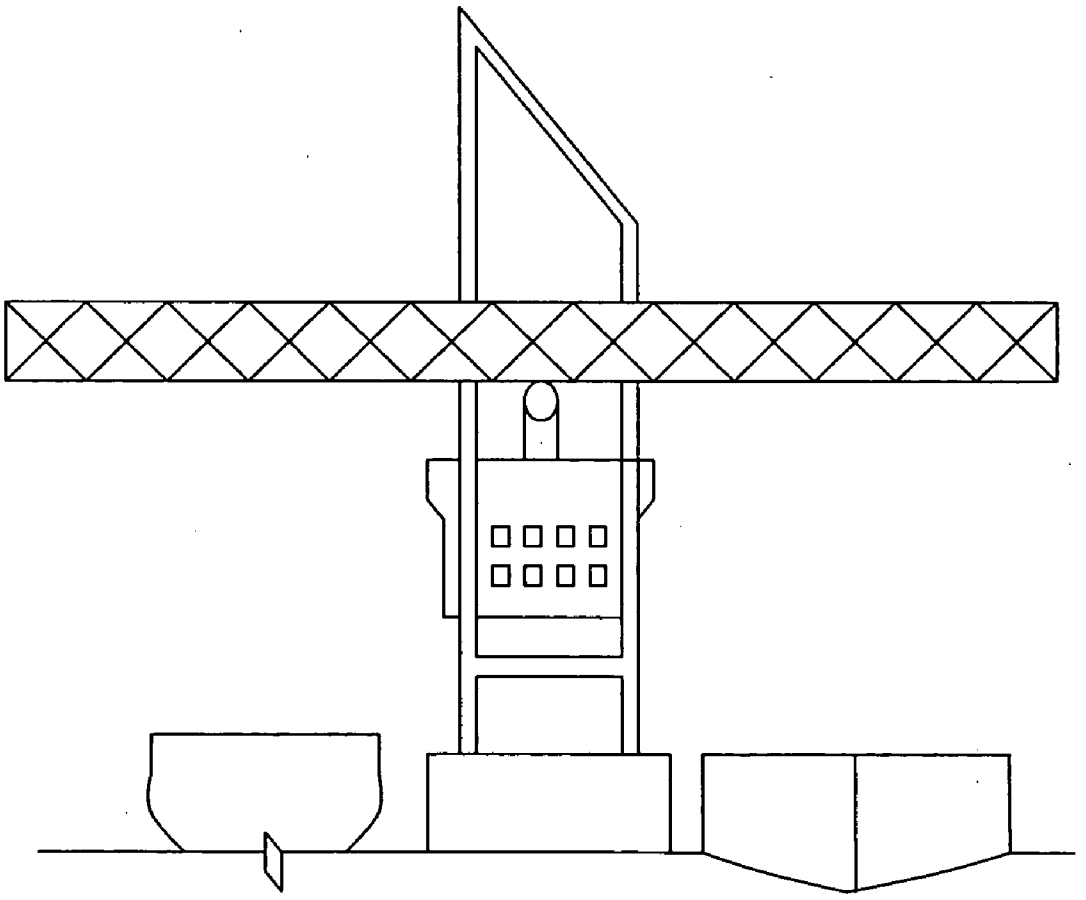
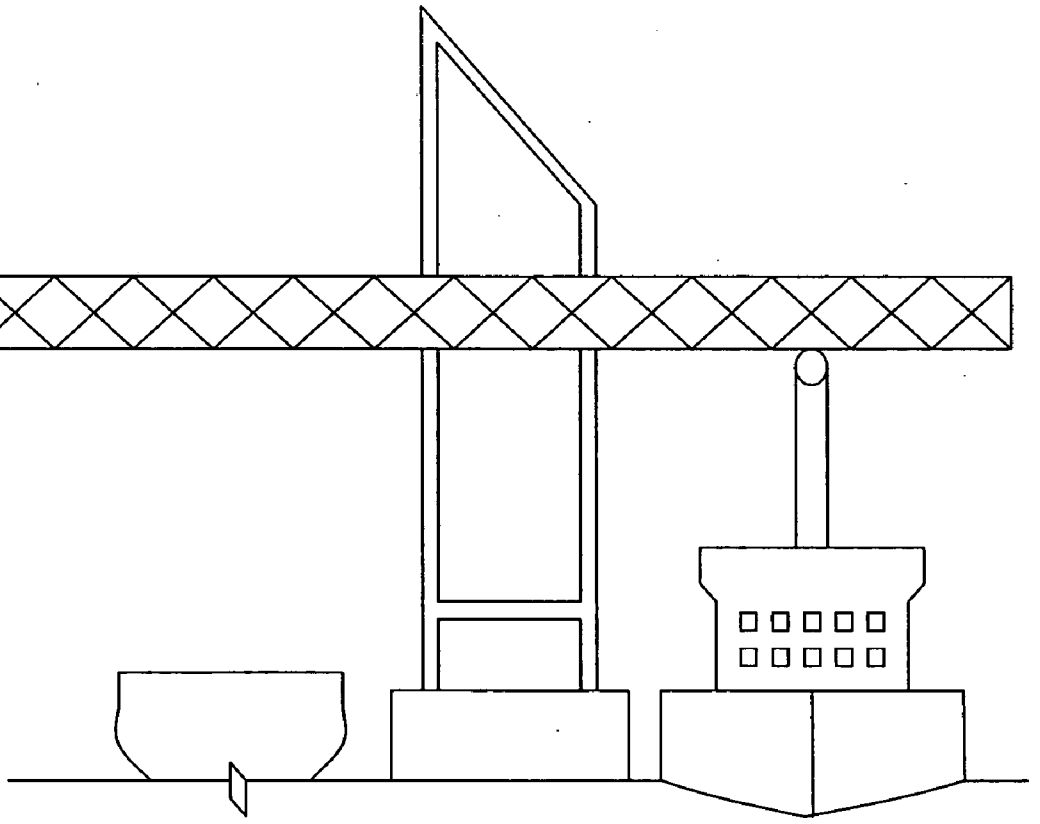


FIG 3



NEVER SHIP EMPTY - A SYSTEM FOR INTERCHANGING SUPERSTRUCTURES AND HULLS FOR OCEAN GOING VESSELS IN WHICH THE SUPERSTRUCTURE IS REMOVABLE AND INTERCHANGEABLE WITH COMPATIBLE HULLS

BACKGROUND OF THE INVENTION

[0001] 1. This invention relates to a system for interchanging specially designed ocean going vessel superstructures with specially designed ocean going vessel hulls.

[0002] 2. Description of the Prior Art

[0003] Upon arrival into a port, current shipping techniques require ample time to both unload and then reload a vessel with goods or liquid commodity. Unloading and loading a vessel is extremely labor intensive and time consuming, resulting in excess down time for the ship and its crew. Other disadvantages of the prior art include an increased burden to U.S. Homeland Security and U.S. Customs inspectors due to compressed scheduling and maintaining oversight of crew members of foreign carriers. Current requirements to unload and reload a vessel demand maximum resources and also require a vessel to remain docked for extended periods of time. The result of this process is slower turn-around time, leading to higher costs of goods or commodity and lost profits for the shipping industry.

BRIEF SUMMARY OF THE INVENTION

[0004] 1. A system for ocean going vessel superstructures to be interchangeable with specially designed hulls.

[0005] (1) A system that allows a superstructure to be removed from a hull-inbound, and fastened on top of another hull-outbound.

[0006] (2) A system that limits the turn around time of ocean transport to only that which is necessary to remove an existing superstructure and place that same superstructure or a different superstructure of like-kind on another hull.

[0007] (3) A system that will minimize time required for a ship and its crew to remain in port

[0008] (4) A system that will greatly increase the efficiency of the shipping industry and better address U.S. Homeland Security concerns.

[0009] 2. A superstructure that possesses all necessary equipment for safe navigation.

[0010] (1) A superstructure with a specially designed lower portion that allows for safe, secure, and rapid attachment and detachment onto a specially designed hull once in port.

[0011] 3. A hull that possesses all necessary equipment for propulsion.

[0012] (1) A hull with a specially designed upper portion of the deck that allows for safe, secure and rapid attachment and detachment of a specially designed superstructure once in port.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] In drawings which illustrate the embodiment of the invention

[0014] FIG. **1** illustrates a partial front view of the proposed system in relative scale and placement, with a superstructure fixed to its inbound hull, and its relationship to an outbound hull without a superstructure.

[0015] FIG. **2** illustrates a partial front view of the proposed system in relative scale and placement, with a superstructure removed from its inbound hull and its relationship to the outbound hull without a superstructure.

[0016] FIG. **3** illustrates a partial front view of the proposed system in relative scale and placement, with a superstructure fixed to its outbound hull, and its relationship to the inbound hull without superstructure.

DETAILED DESCRIPTION OF THE INVENTION

[0017] Records of existing dock manifests indicate the time required to off-load and reload a large cargo or container/liquid container vessel varies but may require several days or even weeks to execute. In addition, extensive coordination must be conducted both prior to and during arrival before loading operations can begin. If goods and commodity are not off-loaded in a precise and efficient manner, costly delays can ensue, ultimately preventing other inbound vessels from docking on time. Cargo vessels are particularly susceptible to fluctuations in port schedules and the shipping industry bases its revenue upon the amount of goods delivered and the number of voyages completed. Lastly, the U.S. Department of Homeland Security, specifically the U.S. Immigration and Customs Enforcement Agency, is integrally involved in the operations of each foreign carrier that arrives in a U.S. port. Both the cargo and crew are subject to inspection. Due to compressed time scheduling and unplanned factors, often a thorough inspection is not feasible, leaving the port and the U.S. as a whole susceptible to national security threats. The said invention is intended to minimize turn-around time, increase overall volume of U.S. and international trade, and help mitigate threats to National Security. By utilizing an "assembly line" approach and removing the superstructure upon arrival rather than the cargo/commodity, a vessel can begin its next voyage within hours instead of days. Once a superstructure is removed from its hull, the hull can be relocated and off-loaded in a standardized manner that maximizes efficiency while not utilizing valuable dock space or interfering with turn-around time. Also, U.S. federal law enforcement officials can maximize the time required to inspect cargo that would otherwise be lost if a vessel was pending other actions. Once off-loaded, the hull can be inspected, reloaded and made ready for the next superstructure. A strategic benefit will be a significant increase in the volume of arriving and departing goods, resulting in increased port business, employment of personnel, and annual tax revenue. By significantly decreasing the turn-around time, the number of voyages per year, per ship may increase by as much as 50%, stimulating international trade, increasing gross national product, and impacting the overall global economy in a positive manner.

[0018] Referring to FIG. **1**. in greater detail, there is shown the proposed system which involves an inbound cargo vessel

secured at a dock. The cargo vessel comprises of a superstructure and hull. Situated adjacent to the cargo vessel is a standard heavy-lift crane apparatus. The vessel's load includes shipping containers and is awaiting off-loading (containers used as an example for this illustration only but may also apply to liquid container ships and other cargo). The superstructure is awaiting removal by the adjacent crane apparatus. The superstructure and hull are both specifically designed for rapid attachment and detachment.

[0019] Referring to FIG. **2**. in greater detail, there is shown the proposed system which involves an inbound cargo vessel hull secured to a dock. The cargo vessel hull is without superstructure. Situated adjacent to the cargo vessel is a standard heavy-lift crane apparatus supporting the superstructure. Both hulls include shipping containers, the inbound is awaiting off loading and the outbound has been preloaded and is awaiting the superstructure (containers used as an example for this illustration only but may also apply to liquid container ships and other cargo). The superstructure is awaiting connection to the outbound hull secured to the opposite side of the dock. The superstructure and hulls are both specifically designed for rapid attachment and detachment.

[0020] Referring to FIG. **3**. in greater detail, there is shown the proposed system which involves an inbound cargo hull secured at a dock without a superstructure and awaiting offloading. Situated adjacent to the inbound cargo hull is a standard heavy-lift crane apparatus used to remove the superstructure from the inbound hull and place it on an outbound hull. Adjacent to the crane apparatus is the outbound hull complete with superstructure (making the vessel complete). The vessel's load includes shipping containers (containers used as an example for this illustration only but may also apply to liquid container ships and other cargo). The superstructure is awaiting authorization for embarkation from the dock. The superstructure and hull are both specifically designed for rapid attachment and detachment.

1) A system which allows specially designed vessel superstructures to be interchangeable with specially designed vessel hulls.

2) A system that minimizes the turn-around time for ocean going vessels to include cargo and liquid container ships.

3) A system which will maximize the efficiency of U.S. Homeland Security efforts and U.S. Customs inspections.

4) A standardized design of vessel superstructure which incorporates:

a) A specially designed lower end portion which fastens on a specially designed vessel hull

b) All necessary equipment and electronic components for safe navigation

c) All necessary crew support areas (helm, cabins, galley, head)

5) A standardized design of ship hull which incorporates:

a) A specially designed hull which allows the specially designed superstructure to be fastened

b) All necessary components to propel and maneuver the vessel once mated with the superstructure (engine, rudder, and sonar dome)

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