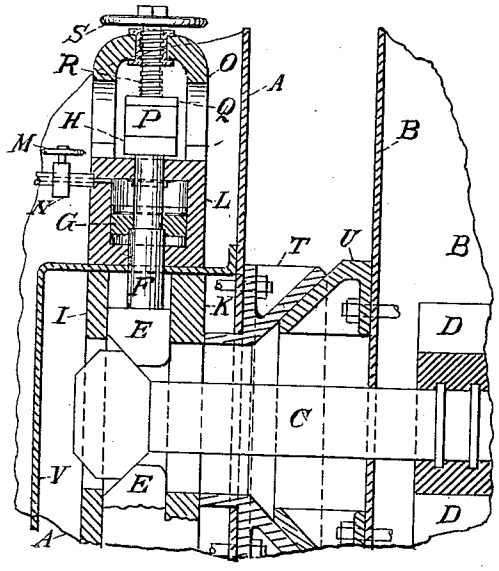
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SECTIONAL SEA-GOING VESSEL.

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1,084,975.

Patented Jan. 20, 1914.



Witnesses:
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CHARLES R. STEINER, OF RICHMOND, VIRGINIA.

SECTIONAL SEA-GOING VESSEL.

1,084,975. Specification of Letters Patent. Patented Jan. 20, 1914.

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To all whom it may concern:

Be it known that I, CHARLES R. STEINER, a citizen of the United States, residing at Richmond, in the county of Henrico and the State of Virginia, have invented a new and useful Sectional Sea-Going Vessel.

When ships were damaged, so as to endanger the lives of the passengers and the crew, the well known means to save lives have proved insufficient. Notwithstanding the best utilization of modern telegraphy the help by other ships may be delayed for hours so that on a rough sea, even with sufficient lifeboat equipment, the fate of passengers and crew has been uncertain. It is therefore desirable, to have a large vessel at hand at all times. Moreover it is a natural fact, that in ships, damaged by fire or concussion, the original cause of danger is located in some particular part of the ship, but hardly ever will spread at once over the whole.

My invention provides means, whereby after an accident, all persons and even much of the valuable cargo may be transferred onto the undamaged part of the ship and the damaged part may be cut loose and separated from the former at a moment's notice and without danger, even in a rough sea. For this purpose it is necessary to construct new ships and to transform old ones in such a manner, that they are divided transversely in two or more independently floating parts, usually connected firmly together, so as to form an absolutely smooth surface at the joints and so as to have sufficient strength as a whole, while yet they are always ready to be separated without danger. The couplers proposed for this purpose can be placed at a distance of a few feet from one another along the inside of the hull, next to the joint of aforesaid partition-vessels. They are to be firmly connected with the hull, especially to the bottom and the upper decks, so as to efficiently resist the strains from exterior forces.

One of the couplers is shown by accompanying drawing, in which the part above the center-line of piece C represents one half of the coupler, whereof its symmetrical counterpart is partly shown below the centerline.

Similar letters refer to similar parts.

A, A and B, B represent the end walls and hulls of two partition vessels. The coupling-rod C is fixed to the hull B, B, by means of a support D, D and is shaped at its other end in a prismatic head with a cross-section about as the figure shows. The coupler-head can be made to engage and rest against the two sliding blocks E, E, by plane contact surfaces of equal inclination. Each sliding block is firmly connected with a piston rod F, which carries a piston G and ends in a head H.

I and K are the guides for sliding block E.

L is a cylinder for high oil- or water-pressure.

M is one of the pipes for filling and emptying the cylinder, it is provided with a valve N.

O is a support with a cylindrical bore having a strong screw-thread.

P is a cushion of some tough, inflammable and combustible material, such as celluloid.

Q is a loose metal-plate to distribute the pressure from the screw R, which may be operated directly by the handwheel S or by the nut attached to the same.

T and U are two strong cushions attached each to one partition vessel and having conical contact-surfaces of same inclination. They serve to prevent lateral motion.

V represents a watertight casing, which makes the cylinders and pistons accessible for inspection at any time.

The locking-device of the coupler may be single, instead of double, in which case the head of coupling rod C is guided by a cushion on the side opposite to the locking-device.

The drawing shows the coupler in the usual, locked position. In this case all strains from the hulls of the ship, to which the cylinders L, the guides I and K, the supports O and D and cushions T and U are firmly and permanently connected, will then be transmitted by the coupling rod C and the cushions T and U. However, as soon as the pressure on the sliding-blocks E from rod F is relieved, they will slide away from the couplerhead, thus disengaging the coupler.

The operation of connecting is as follows: In port, or elsewhere, in sufficiently still water, the partition vessels are brought together, so that all contact cushions T meet with the opposite U. High pressure is then admitted to the cylinders of all couplers so as to tightly lock the couplers. While the pressure is on, the screws, with the inter-

mediate, combustible blocks, are tightened up thoroughly against piston rods F. After this the fluid pressure in the cylinders can be relieved and the ship is assembled for a voyage.

The operation of separating the partition vessels from one another, in case of accident, is as follows: High pressure fluid will be admitted to all coupler-cylinders. All screws will then be loosened to relieve their pressure and, where not otherwise possible, the combustible blocks P will be burnt for this purpose. When all screws at couplings are sufficiently cleared, orders for a sudden change of ship-velocity, by means of the propellers, should be given and when so done the pressure in all coupling-cylinders may be relieved at one stroke, thus disengaging all couplings almost simultaneously. Owing to its momentum one partition vessel will continue its motion, decreasing its velocity very slowly, while the other changes its speed rapidly. Hence, right after the unlocking, the two parts will vigorously and safely depart from one another.

Instead of two sets of cylinders and screws per coupler three or more might, of course, be used.

In case of still water, as for instance on some river- and lake-boats, it may be permissible to omit the whole fluid pressure-apparatus in all couplers and to rely on screws (or wedges) and combustible blocks alone. Moreover the combustible blocks may be omitted and the coupling rods made combustible.

Where hydraulic pressure is used in my couplings, it is preferred to have the locking-blocks moved back not by the water pressure but by the pull on the coupling-rods, when the sections are moved apart in the manner described. In this case there will be provided a circuit of pressure water-pipes, connecting all couplings of one joint. Where the combustible blocks or combustible coupling rods are relied upon, without water pressure, arrangements will be made to ignite all combustible parts of one joint by means of an electric circuit, connecting them.

Since I began developing my invention I have noticed a proposition, to subdivide the ship in a different manner, namely by horizontal joints, thus forming inhabitable pontoons on top, which will float by themselves as soon as the underlying part of the ship sinks down in the water. I make no claims relating to this arrangement of detachable parts; but

I claim as points of novelty:

1. In a sectional, seagoing vessel, a plurality of crossdivided watertight sections, comprising the body of the vessel, releasable means coupling the sections together to form a complete sea going vessel, and means for releasing said couplings to detach any one or more of said sections from the others, whereby any damaged section sinking or liable to sink may be readily detached after the passengers, etc., are transferred therefrom, substantially as described.

2. In a sectional vessel, couplings for uniting the sections, each coupling comprising a lock engaging member, projecting from one section, locking blocks on an adjacent section, adapted to engage said projecting member, high pressure cylinders and their pistons, for operating said locking-blocks, substantially as described.

3. In a sectional vessel, couplings for uniting the sections, each coupling comprising a lock engaging member, projecting from one section, locking blocks on an adjacent section, adapted to engage said projecting member and combined means for retaining or releasing said blocks from their locked position, substantially as described.

4. A sectional vessel, composed of independently floating sections, and rigid locking-couplings for said sections, a portion of each locking-coupling being made of combustible material, whereby, when said combustible portions are ignited, said sections will be disconnected.

CHARLES R. STEINER.

Witnesses:
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JULIUS PARTOS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."