

J. PATRONAGGIO.
COLLISION SHOCK ABSORBER FOR SHIPS.
APPLICATION FILED APR. 26, 1910.

970,848.

Patented Sept. 20, 1910.

2 SHEETS-SHEET 1.

Fig. 3.

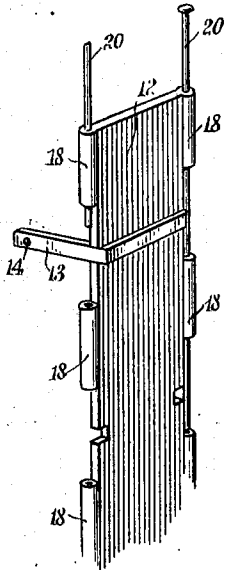


Fig. 1.

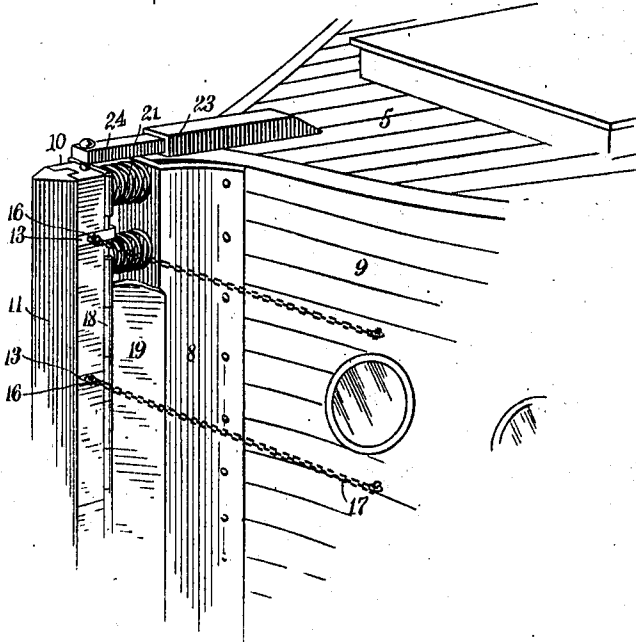
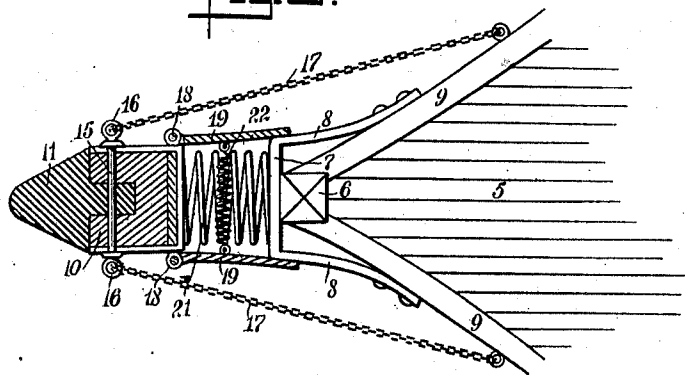


Fig. 2.



WITNESSES:

E. B. Marshall
E. B. Marshall

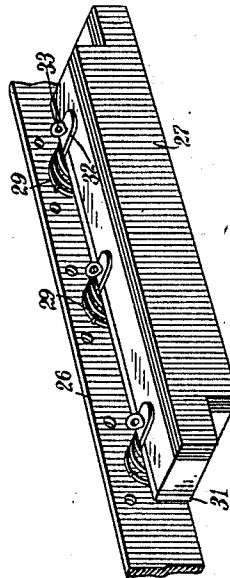
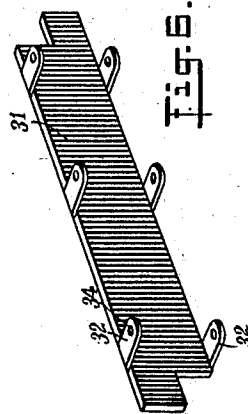
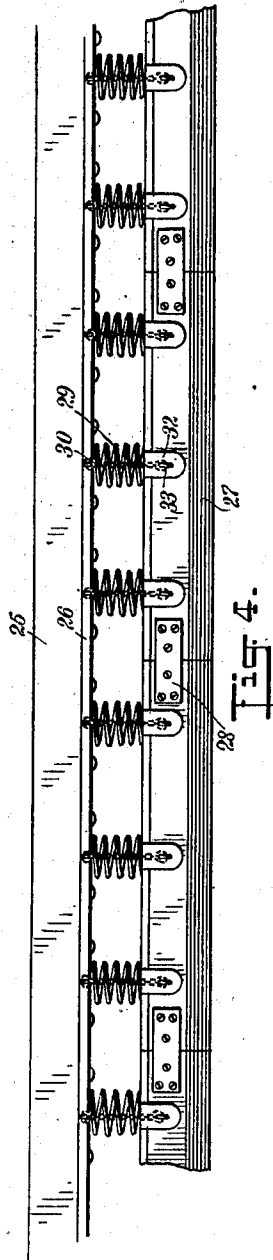
INVENTOR
Joseph Patronaggio
BY *Mumford*
ATTORNEYS

J. PATRONAGGIO.
COLLISION SHOCK ABSORBER FOR SHIPS.
APPLICATION FILED APR. 28, 1910.

970,848.

Patented Sept. 20, 1910.

2 SHEETS-SHEET 2.



WITNESSES:

E. B. Marshall
E. B. Marshall

INVENTOR
Joseph Patronaggio
BY *Minwco.*
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH PATRONAGGIO, OF NEW YORK, N. Y.

COLLISION-SHOCK-ABSORBER FOR SHIPS.

970,848.

Specification of Letters Patent. Patented Sept. 20, 1910.

Application filed April 26, 1910. Serial No. 557,687.

To all whom it may concern:

Be it known that I, JOSEPH PATRONAGGIO, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Collision-Shock-Absorber for Ships, of which the following is a full, clear, and exact description.

My invention relates to collision shock absorbers for ships, and it has for its object to provide means which will not impede the vessel when driven through the water and, while not weakening the construction in other respects, will absorb the shock and prevent injury should the ship run down another vessel or be run down.

Another object of the invention is to hold the cut-water yieldingly extended from the stem, with members hinged to the cut-water which engage the sides of flared side members of the stem, and means for holding the hinged members yieldingly against the side members to prevent seaweed and refuse from collecting between the cut-water and the stem.

Still other objects of the invention will appear in the following complete description.

In this specification I will describe the preferred form of my invention, it being understood that the scope of the invention is defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a perspective view showing the forward part of a vessel provided with my shock absorber; Fig. 2 is a sectional plan view of the same; Fig. 3 is a perspective view showing the plate, which is secured to the rear of the cut-water, provided with knuckles for hinging the members thereto; Fig. 4 is a plan view of a fragment of the side of a ship, showing another form of the invention; Fig. 5 is a fragmentary, perspective view showing the same construction shown in Fig. 4; and Fig. 6 is a perspective view showing the form of plate secured to the beams in the construction shown in Figs. 4 and 5.

By referring to the drawings, it will be seen that the bow 5 of the ship has a stem 6,

having a member 7 disposed across the forward end, the member 7 extending beyond the sides of the stem 6, the sides 8 of the member 7 being flared outwardly and having their inner terminals bolted to the sides 9 of the ship. Spaced from the stem 6, is a cut-water 10, having a forward end 11 constructed of rubber or other resilient material. To the rear of this cut-water 10, is secured a plate 12, shown in Fig. 3 of the drawings. This plate 12 has bands 13, which extend forwardly at its sides, these bands having orifices 14, through which are disposed bolts 15, the bolts 15 being also disposed through orifices in the cut-water, and having eyes 16 at their terminals, to which are secured chains 17, the rear terminals of these chains 17 being secured to the sides 9 of the ship. The plate 12 has hinge knuckles 18 at each of its sides, members 19 being provided with similar knuckles, which are disposed in alignment with the knuckles 18, pins 20 being disposed through these knuckles to effect a hinged joint between the members 19 and the plate 12. These members 19 are curved slightly outward and their inner terminals are disposed against the sides of the side portions 8 of the member 7.

Springs 21 are disposed between the cut-water 10 and the stem 6, the terminals of the springs 21 resting against the cut-water and the member 7 of the stem respectively. These springs 21 are spaced apart and between them are disposed springs 22, which have their terminals secured to the members 19. These springs 22 are provided to hold the inner terminals of the members 19 yieldingly against the sides 8 of the member 7.

As shown in Fig. 1 of the drawings, an elongated guide member 23 is secured to the top of the stem of the ship, a bolt 24 being secured to the cut-water and being adapted for moving forwardly and rearwardly in this guide member 23, the guide member 23 and the bolt 24 being provided to assist in preventing the cut-water 10 from moving laterally out of normal position.

As shown in Fig. 4, to the sides 25 of the ship are secured plates 26, and spaced from these plates 26 are beams 27, said beams being constructed preferably in sections 27, as shown in Fig. 5 of the drawings, said sections being mortised and being secured together by plates 28, which extend across

the terminals of the sections and are secured thereto by screws or bolts. Springs 29 intervene the plates 26 and the beams 27, the inner terminals of the springs being secured to the plates 26 and the outer terminals being secured to the beams 27. The springs hold the beams 27 yieldingly outward, the outward movement of the beams being limited by chains 30, which have their inner terminals secured to the plate 26 and their outer terminals secured to the beams 27.

As shown in Figs. 5 and 6 of the drawings, a plate 31 may be provided to face the inner sides of the beams 27, said plate having lugs 32 which are disposed against the upper and lower sides of the beams 27 and are secured thereto by means of screws 33, which are passed through orifices 34 in the lugs 32.

When a ship has been provided with the shock absorber which I have described, it will be readily understood that should another vessel run into the side of the ship so protected, the shock of the collision will be absorbed by the springs 29, and the side of the ship will not be seriously damaged. The beams 27 are disposed just above the water line, so that they will not interfere with the progress of the ship through the water. Should the ship run down another vessel, the shock of the collision will be absorbed by the resilient material 11 and by the springs 21, so that the stem 6 and the bow of the ship will not be damaged. As the cut-water 10 is pushed aft, when the ship runs down another vessel, the terminals of the members 19 will slide rearwardly against the outer sides of the members 8, the springs 22 permitting the members 19 not only to move rearwardly, but to move outwardly on the hinged sections with the plate 12. Immediately on the recovery from the collision, the springs 21 will force the cut-water 10 to its normal position, the bolt 24 moving outwardly and thereby guiding the cut-water, and the chains 17 assisting in preventing any displacement of the cut-water.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a shock absorber for ships, a ship having a stem with side members, a cut-water spaced from the stem, springs for holding the cut-water yieldingly extended from the stem, members pivoted to the cut-water which rest against the sides of the side members, and spring means for holding the pivoted members yieldingly against the sides of the side members.

2. In a collision shock absorber for ships, a ship having a stem with side members, a cut-water spaced from the stem, springs for holding the cut-water yieldingly extended from the stem, members pivoted to the cut-

water, which rest against the sides of the side members, and flexible members secured to the cut-water and to the sides of the ship.

3. In a collision shock absorber for ships, a ship having a stem with side members, a cut-water spaced from the stem, springs for holding the cut-water yieldingly extended from the stem, members pivoted to the cut-water, which rest against the sides of the side members, and springs connecting the members pivoted to the cut-water for holding them yieldingly in position.

4. In a shock absorber for ships, a ship having a stem with side members flared outwardly, a cut-water spaced from the stem, springs for holding the cut-water yieldingly extended from the stem, curved members pivoted to the cut-water, which rest against the sides of the side members, and spring means for holding the curved members yieldingly against the sides of the side members.

5. In a collision shock absorber for ships, a ship having a stem with side members flared outwardly, a cut-water spaced from the stem, springs for holding the cut-water yieldingly extended from the stem, members pivoted to the cut-water, which have inner terminals which rest against the sides of the side members, springs connecting the members pivoted to the cut-water, for holding them against the sides of the side members of the stem, and members having terminals secured to the cut-water and to the sides of the ship.

6. In a collision shock absorber for ships, a ship having a stem with side members flared outwardly, a cut-water spaced from the stem, springs for holding the cut-water yieldingly extended from the stem, members pivoted to the cut-water, which have inner terminals which rest against the sides of the side members, springs connecting the members pivoted to the cut-water, for holding them against the sides of the side members of the stem, members having terminals secured to the cut-water and to the sides of the ship, a guide member secured to the stem, and a bolt secured to the cut-water for traveling in the guide member.

7. In a shock absorber for ships, a cut-water, members pivoted, one at each side of the cut-water, springs secured to the rear of the cut-water, between the members and means for holding the members yieldingly together.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH PATRONAGGIO.

Witnesses:

EVERARD B. MARSHALL,
PHILIP D. ROLLHAUS.