

(No Model.)

S. KATZIN.
SHIP.

No. 549,319.

Patented Nov. 5, 1895.

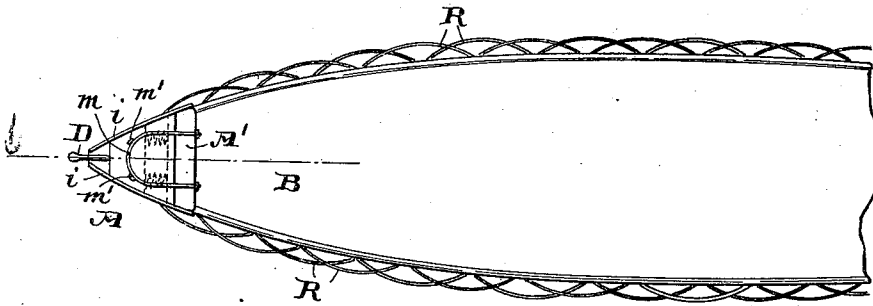


Fig. 1,

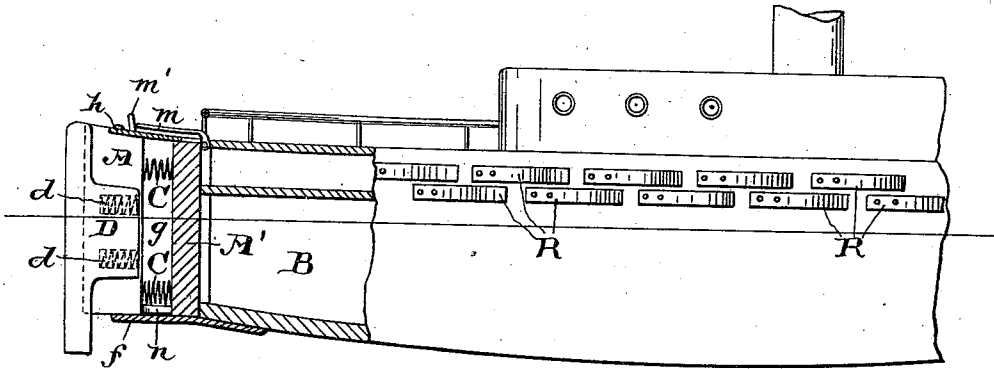


Fig. 2,

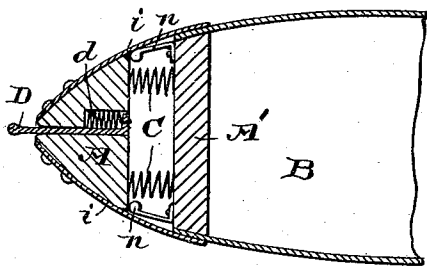


Fig. 3,

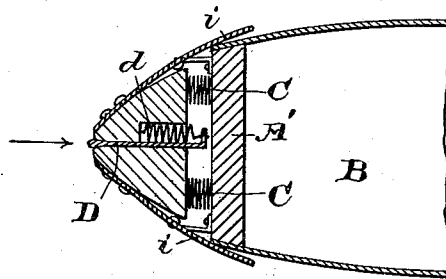


Fig. 4,

WITNESSES:

Robert Loeberger
Beatrice Charles.

INVENTOR,

Samuel Katzin.

BY Drak & Co. ATTY'S.

UNITED STATES PATENT OFFICE.

SAMUEL KATZIN, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-THIRD TO MORRIS KATZIN, OF SAME PLACE.

SHIP.

SPECIFICATION forming part of Letters Patent No. 549,319, dated November 5, 1895.

Application filed June 13, 1895. Serial No. 552,637. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL KATZIN, a subject of the Czar of Russia, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Ships; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to prevent the destruction of a ship by accidental collision, to reduce to a minimum the possible injury or damage that might result from such a striking together of ships, and to secure other advantages and results hereinafter more fully set forth in connection with the working parts.

The invention consists in the improved bumper for vessels and in the arrangement and combination of the parts thereof and connected therewith, as hereinafter set forth, and finally pointed out in the claims.

Referring to the accompanying drawings, in which similar letters of reference designate corresponding parts in each of the figures where they occur, Figure 1 is a top plan view of a vessel partly broken off and showing my improved bumper attached thereto. Fig. 2 is an elevation of the same, partly in section. Fig. 3 is a partial longitudinal sectional view of the bumper; and Fig. 4 is a similar view, but showing the bumper compressed.

In carrying out my invention I construct the bow A separate from the body B of the vessel and interpose between them springs C. Said bow is preferably made of two parts, between which works a plate D, to the rear end of which are secured one end of springs d, the other ends being fastened to the bow-bumper, as shown, the normal tendency of said springs being to keep the front edge of the plate D projecting forward of the bow to form a cut-water, as is clearly shown in Fig. 3. The bow rests and slides upon a plate f, which is secured at the rear end to the body of the ship and extends therefrom forward in a substantially horizontal direction. The space g between the body of the vessel and the bow is covered at the top by a plate h, Fig. 2, se-

cured at one end to the bow and sliding with the other end upon the partition A' of the body of the ship as the bumper is compressed. 55

Upon both sides of the bumper are firmly secured metal plates i, Figs. 1 and 3, which press with their rear ends by their own spring action against the sides of the ship, thus forming practically an extension of the hull of the ship at both sides thereof from the front end of the body or hull to the farthest point of the bow. Said metal plates i are capable of spreading out at their rear ends as soon as a pressure from a collision comes upon the bow, as will be understood upon reference to Figs. 3 and 4. 60 65

In order to stiffen the bow-bumper and prevent it from being compressed to too great an extent, I provide catches m and n, which are forced out of the way of the bow as soon as a pressure exceeding the ordinary water-resistance is exerted or works thereon. The catch m is pivoted to the partition A' and abuts against stops m' upon the bow, which are somewhat inclined and allow the catch to fly off when an abnormal pressure comes upon the bumper, while the catches n spread outward under the same condition, as will be understood upon reference to Fig. 4. 70 75 80

On the sides of the vessel spring-cushions R may be provided, which will also help to break the force of a shock or collision when coming from the side of the vessel instead of in front. Said cushions R are preferably located above the water-line, so as to offer no resistance to the progress of the ship, as will be understood. 85

If desirable, the plate D and corresponding spring may be omitted or dispensed with and the bumper A be made of one solid piece, rounded off in front. 90

It is obvious that various modifications in the construction of the bumper will suggest themselves to those skilled in the art without departing from the spirit or scope of the invention. Therefore 95

What I claim as new is—

1. The combination, in a ship, of a movable bow, springs between the bow and the hull, flexible plates secured to the bow and having their rear ends extending over a portion of the hull, a plate at the top of the bow extending back over the top of the hull, and a plate se- 100

cured to the bottom of the hull and extending forward under the bow, substantially as set forth.

2. The combination, in a ship, of a bow composed of two parts, and located at a distance in front of the hull, springs between the bow and the hull, a plate between the two parts of the bow, springs connected with the rear edge of the plate and with the parts of the
5
10 bow, whereby the front edge of the plate is

normally held in front of the bow, and plates for covering the space between the bow and the hull, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of 15
June, 1895.

SAMUEL KATZIN.

Witnesses:

OLIVER DRAKE,
ROBERT SOLLBERGER.