M. JELALIAN.

CUSHION BUNTER FOR SAILING VESSELS.

APPLICATION FILED JAN. 4, 1916.

1,187,841.

Patented June 20, 1916.

2 SHEETS—SHEET 1.

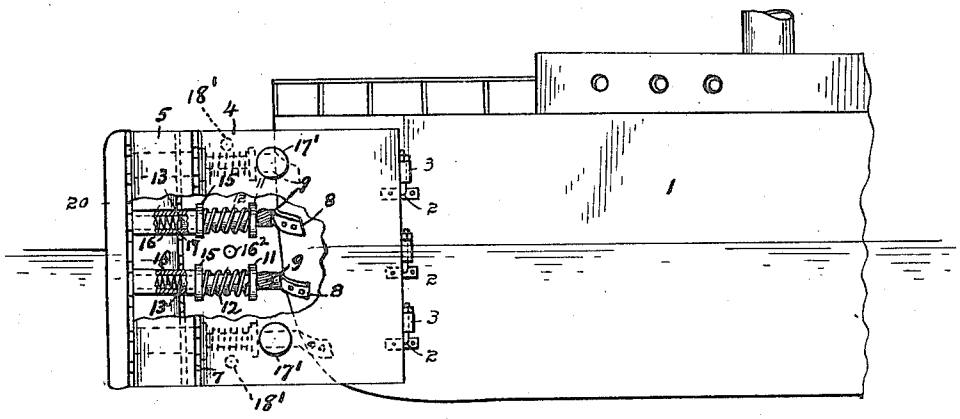


Fig. 1.

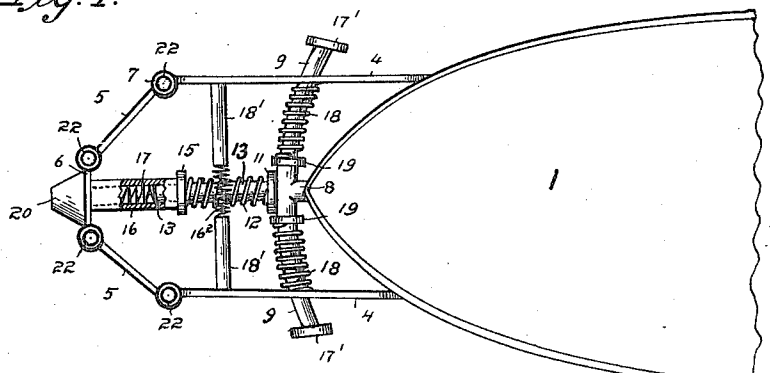


Fig. 2.

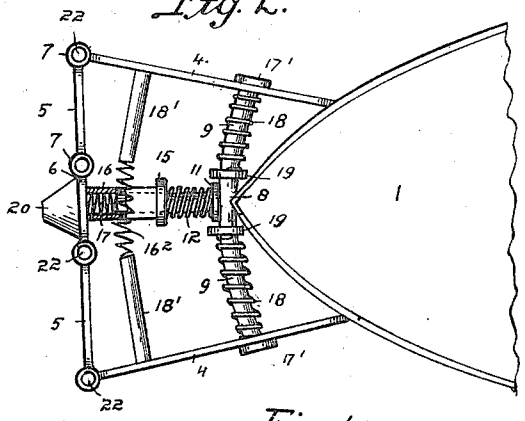


Fig. 4.

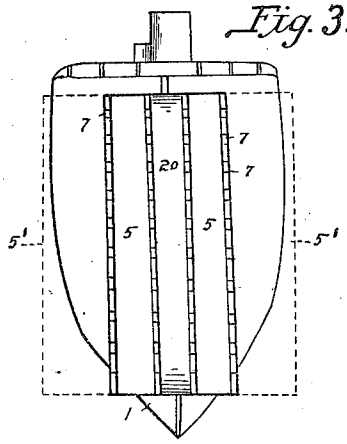


Fig. 3.

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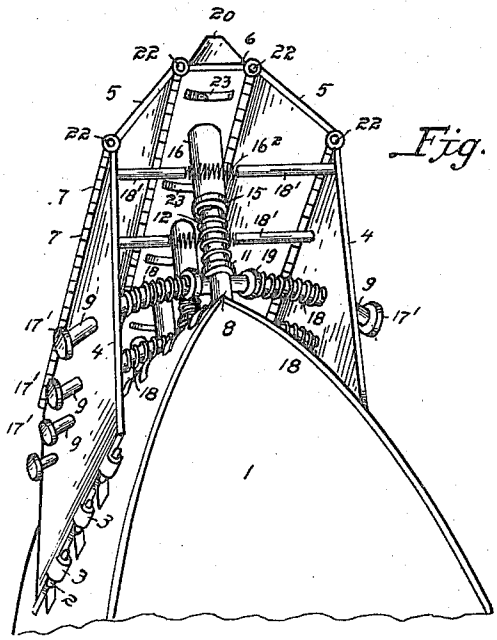


Fig. 5.

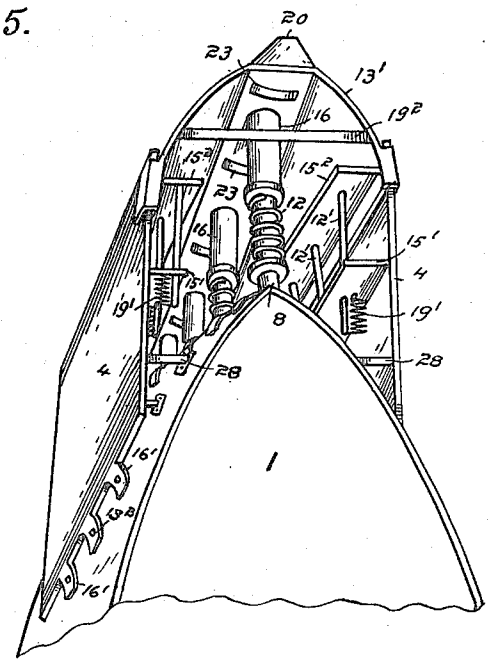


Fig. 6.

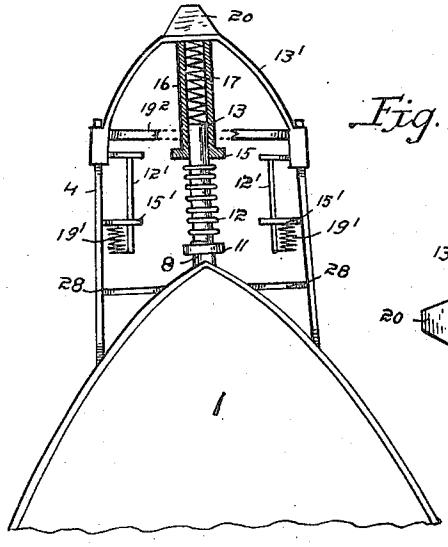


Fig. 7.

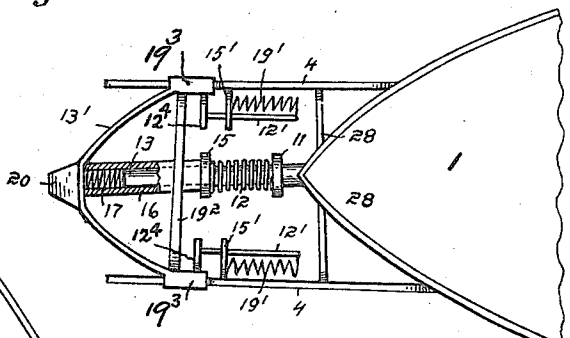


Fig. 8.

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UNITED STATES PATENT OFFICE.

MARTIN JELALIAN, OF CRANSTON, RHODE ISLAND.

CUSHION-BUNTER FOR SAILING VESSELS.

1,187,841. Specification of Letters Patent. Patented June 20, 1916.

Application filed January 4, 1916. Serial No. 70,156.

To all whom it may concern:

Be it known that I, MARTIN JELALIAN, a citizen of the United States, residing at the city of Cranston, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Cushion-Bunters for Sailing Vessels, of which the following is a specification.

This invention has for its object to provide a device adapted to be secured upon the bow of a sailing vessel and having a yieldable structure, to operate in preventing damage through collision to the bow of the vessel.

The invention consists of the peculiar features of construction and combination of parts, as hereinafter described and claimed, reference being had to the accompanying two sheets of drawings wherein like characters indicate like parts.

Figure 1 is a side view of my improved device as applied to the bow of a sailing vessel, and illustrating the device as partly broken away and showing its interior yielding construction; Fig. 2 is a plan view of Fig. 1, showing the normal position of the working parts of the device; Fig. 3 is a front end view of the device; Fig. 4 is a similar view, showing the position the working parts assume after the vessel meets with an obstruction; Fig. 5 is a perspective view of the device, showing the relative position of parts as in Fig. 2; Fig. 6 is a similar view, showing a modified construction of the device; Fig. 7 is a plan view of the arrangement of parts shown in Fig. 6, and, Fig. 8 is a similar view, showing the position the modified construction of parts assume through the yielding action of the device.

In carrying out my invention I employ a housing inclosing a yielding mechanism, to form a cushion bunter device.

Referring to Figs. 1 and 2, the housing comprises vertical plates which form side walls —4, 4—, that are hinged to the vessel near to the front of the bow thereof, as at points —2— and —3—; extension plates —5, 5— whose ends are pivotally connected to the front ends of said side walls, and also to a vertical head plate —6—, as at points —22, 22—. The housing, formed by the plates as described, projects about an equal distance above and below the water line, and said housing, which is open at the top and bottom, incloses a series of sets of cushioning means, and as each set is constructed alike an explanation of one set of cushioning means will suffice. A bracket —8— is bolted to the sides of the bow part —1— of the vessel, and said bracket has an integral shaft —13— whose axis is in a plane centrally and longitudinally of the vessel. Over the shaft 13 is a slidable member 16 integral with the head plate —6— of the housing. The bracket —8— has also integral transverse shafts —9, 9— projecting from each side thereof at a point near to the bow of the vessel. The shafts —9, 9— pass loosely through openings formed in the side walls —4, 4— of the housing, and each shaft —9— is curved around the bow of the vessel in order to permit the said walls to swing outwardly in the operation of the bunter device. Collars are formed on the bracket —8— at points surrounding its shafts —13— and —9, 9—, as at —11— and —19—. An expanding coil spring —12— surrounds the shaft —13— and has its ends secured to the collar —11— and free end of the tubular member —16—. The shafts —9, 9— also have expanding coil springs —18, 18— whose ends are secured to the collars —19, 19— and upon the inner face of the side walls —4, 4—. On the free ends of the shafts —9— are collars —17'— to limit the outward movement of the walls —4—. The head plate —6—, of the housing, carries a pad —20— composed of a suitable yielding material, and said pad is secured in place by means of straps —23—, see Fig. 5. The tubular member —16— contains an expanding coil spring —17— whose ends are secured to the head plate —6— and end of the shaft —13—, and said spring forms an auxiliary member designed to reduce the shock, by impact at the time of collision, and to assist the main spring —12— in the cushioning operation of the device. The members —18—, surrounding the shafts —9—, form pull-springs whose ends are attached to the collars —19— and walls —4—, and said springs —18— are adapted to keep the housing to the normal closed

condition, as shown in Fig. 2. To assist the action of the pull-springs —18— the walls —4— have a series of sets of projecting rods —18′— arranged in pairs, each pair of rods having a pull-spring connection therebetween.

When the bunter device meets in collision with an obstruction the latter forces the pad rearwardly and causes the housing to be brought to an opened condition, as shown in Fig. 4, and indicated by dotted lines 5 in Fig. 3. Should the bunter receive impact against either wall —4— or plate —5—, instead of against its pad —20—, the side spring —18— then serves as a cushion member in lessening the shock upon the bow of the vessel. Thus it is seen that the hinged or pivotal construction of the housing permits flexibility at all the points necessary to afford a proper yielding action of its spring members.

In the modified construction shown in Figs. 6, 7 and 8, the side walls —4—, of the housing, are secured by bolts —13²— to the sides of the bow of the vessel, and the front of this housing is constructed of one plate to form a head member —13′— which is, substantially, a front convex shape, in plan view, and said member has integral hangers —19³, 19³— arranged to have a sliding fit upon the top edges of the walls —4, 4—. This modified construction of housing is provided longitudinally with a series of sets of cushioning structures arranged in a similar manner as for the flexible housing already described, with the exception that the side shafts —9— and their springs —18— are not employed. In this modified construction a series of sets of springs —19′— extend longitudinally of the cushion members —12— and —13—, and each spring —19′— has one end attached to a bar —15′—, fast in the wall —4—, and its other end attached to the free end of a rod —12′—, which passes loosely through an opening in said bar and is made fast to a support —12⁴— integral of the head member —13′—. The side springs —19′— serve to assist the central cushion members —12— and —13— in affording the longitudinal yielding movement by this modified construction.

It is obvious that by my construction and arrangement of parts I provide a device that lessens to a degree the possibility of damage to the bows of sailing vessels, and at the same time a comparatively inexpensive structure to manufacture.

Having described my invention what I claim and desire to secure by Letters Patent, is:

1. In a device of the character described, a housing composed of vertical side walls, extension plates, and a plate head member, and said parts pivotally connected together to permit the housing to have flexibility longitudinally and transversely thereof; a pad of yielding material carried by the head member of the housing; a series of alike sets of cushion structures within the housing, and each set having means to maintain the latter normally in a closed condition.

2. In a device of the character described, a flexible housing adapted to be hinged to the sides of the bow of a sailing vessel; a pad of yielding material carried on the front part of the housing; a bracket adapted to be secured to the bow and having a central longitudinal integral shaft, and also transverse curved shafts passing through the sides of the housing; a tubular member receiving the free end portion of the central shaft and having an expanding coil spring therein; a main expanding coil spring surrounding the central shaft and having its ends secured against said tubular member and head part of said bracket; pull-springs carried by the curved shafts and adapted to keep the housing normally in a closed condition, and means carried by the housing to assist the action of the said pull-springs.

3. In a device of the character described, a housing composed of vertically-arranged plates pivotally connected together, and said housing designed to be hinged to the bow of a sailing vessel; a pad of yielding material carried on the front portion of the housing; a series of alike sets of spring-cushion structures mounted within the housing and designed to afford the latter with a longitudinal and transverse movement, and means to limit the outward movement of the side portions of the housing.

4. In a device of the character described, a hinged housing composed of side walls, extension plates, and a plate forming a head member, and the vertical adjoining edges of said walls, said plates, and said member pivotally connected together to permit the housing to have flexibility; a tubular member carried by the head member; a bracket having three integral shafts, one of which has a sliding fit within said tubular member, and the other two shafts passing loosely through the sides of the housing and having collars adapted to limit the outward movement of the side walls of said housing; an expansion spring within the tubular member; a main expansion spring carried by the shaft which enters said tubular member, and pull-springs carried by the shafts which pass through said walls and designed to keep the housing closed under normal conditions.

5. In a device of the character described, a housing composed of vertically arranged side plates and a front head member; a pad of yielding material carried upon the front face of said head member and provided with a series of alike sets of securing-straps passing through the head member to the inner

face of the same; a fixed bracket having an integral collar and also a central longitudinal shaft extending therefrom, a tubular member slidably mounted upon the free end portion of the central shaft and having an expanding coil spring therein; a main expansion spring between the collar of said shaft and the free end of said tubular member, and pull spring connections within each side of the housing to assist the action of said spring-cushion structures.

In testimony whereof I affix my signature in presence of two witnesses.

MARTIN JELALIAN.

Witnesses:
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JOHN COLANNINO.

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