No. 804,155. PATENTED NOV. 7, 1905.

H. C. MORSE.

SPRAY AND WATER GUARD FOR BOATS.

APPLICATION FILED NOV. 12, 1904.

2 SHEETS—SHEET 1.

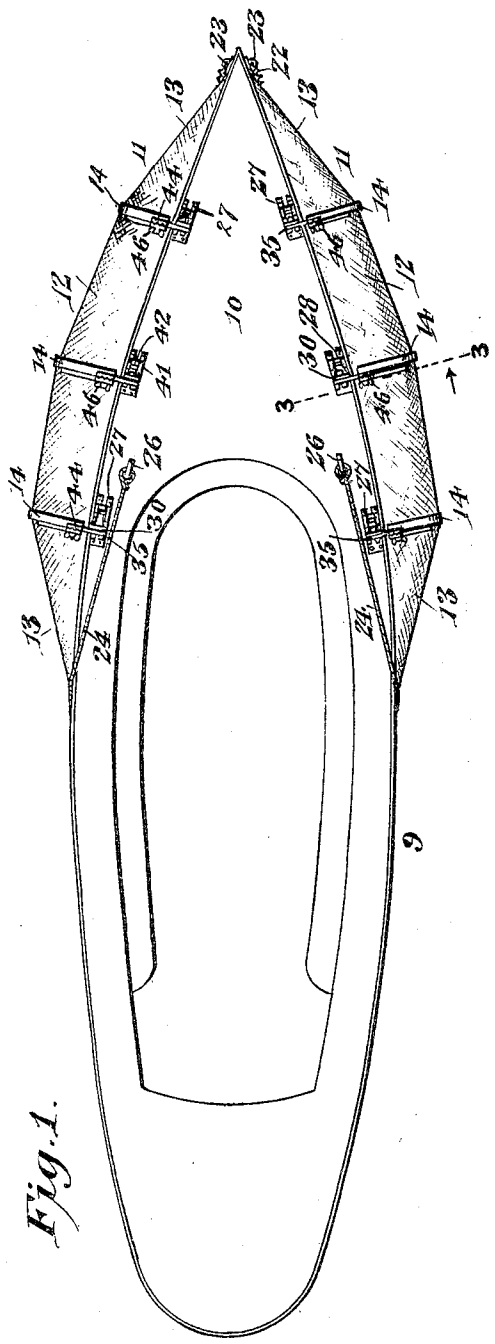


Fig. 1.

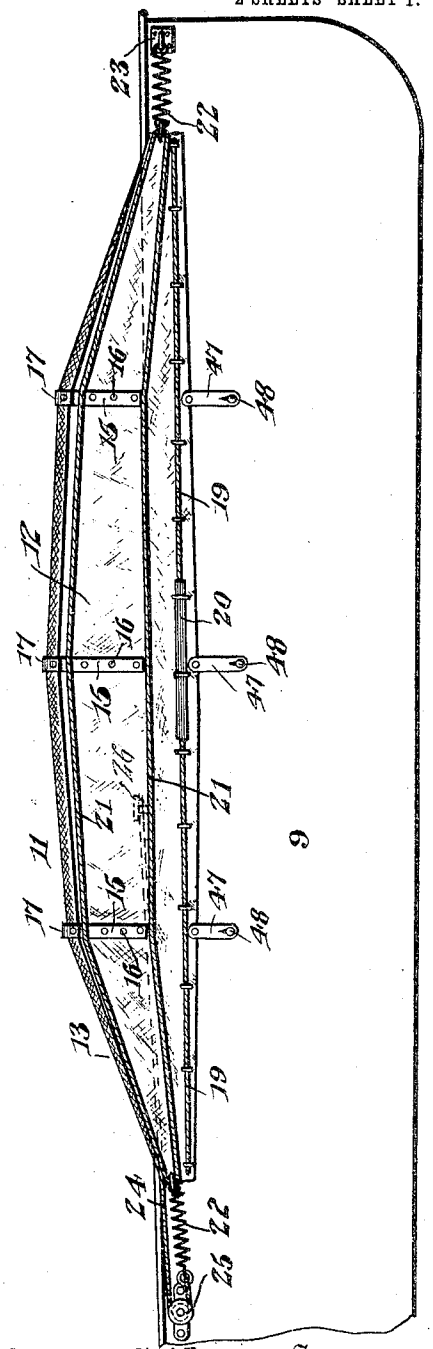


Fig. 2.

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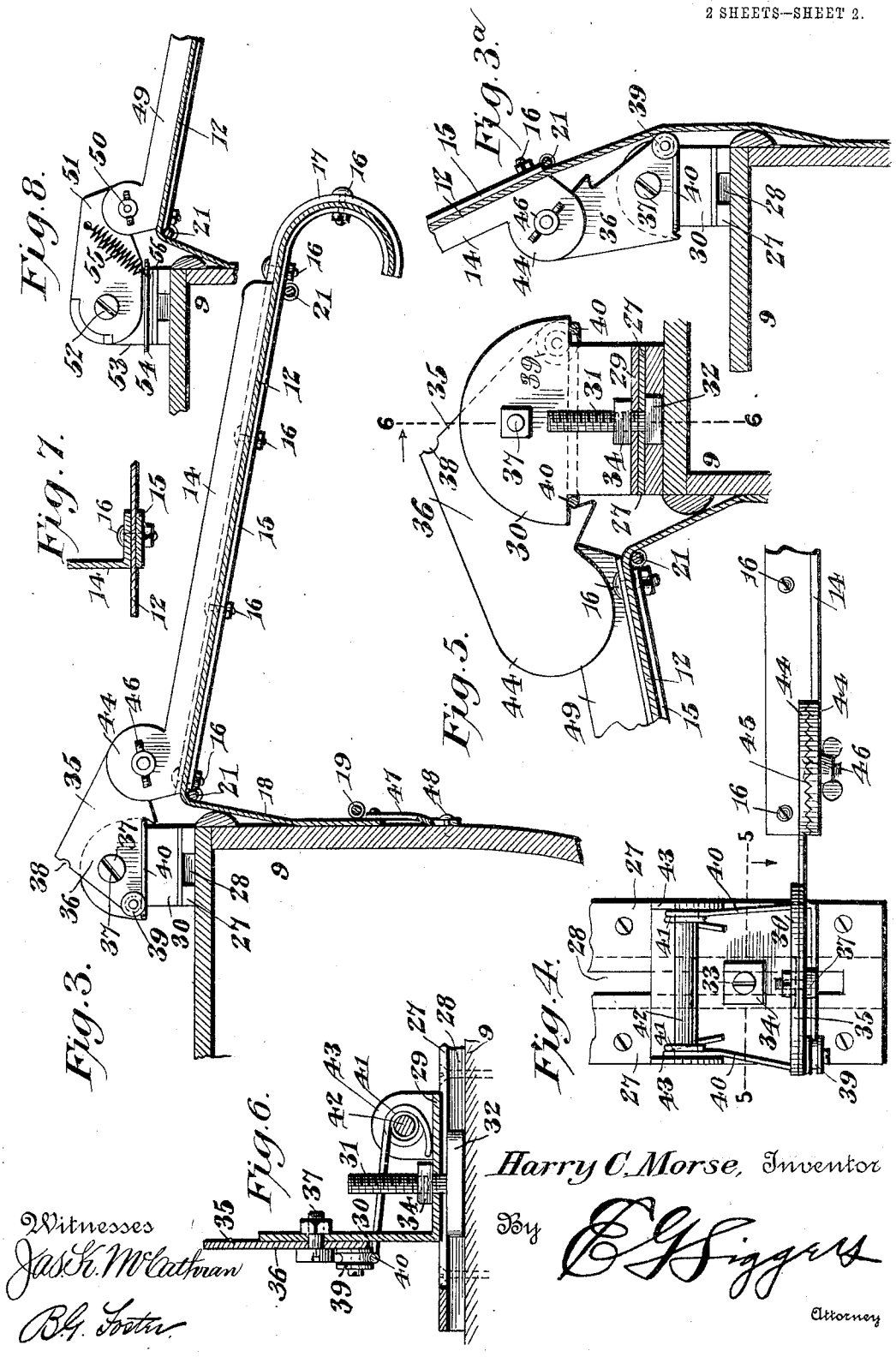
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UNITED STATES PATENT OFFICE.

HARRY COREY MORSE, OF PENN YAN, NEW YORK.

SPRAY AND WATER GUARD FOR BOATS.

No. 804,155. Specification of Letters Patent. Patented Nov. 7, 1905.

Application filed November 12, 1904. Serial No. 232,449.

To all whom it may concern:

Be it known that I, HARRY COREY MORSE, a citizen of the United States, residing at Penn Yan, in the county of Yates and State of New York, have invented a new and useful Spray and Water Guard for Boats, of which the following is a specification.

This invention relates to means for arresting the spray caused by the impact of waves against a boat, which often, dashing over the sides thereof, drenches the occupants.

More particularly the invention has relation to that type of guard set forth and claimed in a copending application, filed March 25, 1904, Serial No. 199,997.

One of the principal objects is to provide an improved structure of this character that may be more readily swung between its operative and inoperative positions and which will yield to the impact of any heavy bodies of water, thereby avoiding injuries to the structure as well as shocks and jars to the craft.

Another object is to provide means which will permit the adjustment of the wing so that its operative position may be varied to suit the different conditions of use and when so adjusted will always assume the desired position when placed in operation.

A further object is to provide a spray-arresting wing that may be used indiscriminately on either side of the bow and will prevent water flying outward beyond the margins from beneath the wing.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a plan view of a boat, showing the improved guards applied thereto. Fig. 2 is a side elevation of a portion of the same with the adjacent guard elevated. Fig. 3 is a cross-sectional view, on an enlarged scale, through one of the wings and taken on the line 3 3 of Fig. 1. Fig. 3^a is a similar view, but showing the wing elevated. Fig. 4 is a top plan view of the connections between one of the ribs and the boat. Fig. 5 is a sectional view therethrough on the line 5 5 of Fig. 4. Fig. 6 is a detail sectional view taken on the line 6 6 of Fig. 5. Fig. 7 is a detail cross-sectional view through one of the ribs. Fig. 8 is a view in elevation of a slightly-modified form of connection between the rib and the boat.

Similar reference-numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated the boat 9 may be of any well-known shape, having the usual bow 10, on the opposite sides of which are placed the guard-wings 11. These wings consist of flexible sheaths 12, constructed of canvas or other material that will turn water dashed thereagainst, said wings having correspondingly-tapered ends 13 and being provided between said ends with transversely-disposed ribs. The ribs are preferably, though not necessarily, constructed of sheet metal, each rib consisting of an upper angle-iron section 14, one flange of which rests flat upon the sheath 12, and an under plate-section 15, arranged beneath the sheath, the sections being secured together by bolts 16, rivets, or the like. The outer ends of these ribs are downwardly and inwardly curved, as shown at 17, and the sheath extends to the terminals, so that said sheath is formed with an under curved outer margin, the terminal edge of which is spaced from and located beneath the main body. The inner margin of said sheath is in the form of a depending apron 18, adapted to lie alongside the boat-body and having a binding-cable 19, including an elastic section 20. A stretching-cable in the form of a loop is secured longitudinally to the under side of the sheath and has spaced portions 21, one of which extends along the apron 18, preferably touching the inner ends of the ribs, the other being located contiguous to the outer margin of the wing. The terminals of this loop have secured thereto springs 22, one of which is adapted to be secured to a suitable eye 23, fastened at the bow of the boat, the other having a cable 24 secured thereto, which cable passes about a pulley 25, fastened to the boat, and is adapted to have its free end fastened, as shown at 26, upon the bow or any other suitable point. These springs serve to equalize the strain without regard to the position of the guard.

So far as thus described, with the exception of the curved outer margin and the springs 22, the structure is substantially the same as that illustrated in the copending application, to which reference has already been made.

One of the principal features of the present improvement is the means for pivotally connecting the ribs to the boat. To the bow portion and preferably along the outer margin of the deck are secured attaching-cleats comprising plates 27, having undercut longitudinally-disposed guideways 28. Attaching de-

vices comprising bases 29, having upstanding ears 30, are adapted to be placed upon the cleats and are provided with studs 31, having heads 32, that engage in the guideways. These heads are preferably oblong, so that they will not turn in the guideways, and in order to indicate the direction of extension of said heads the upper ends of the studs 31 are provided with indicating-marks, (shown at 33 in Fig. 4.) Nuts 34, threaded upon the studs, are arranged to clamp the attaching devices to the cleats and yet will permit slight play under abnormal conditions. Adjusting devices comprising plates 35 have ear portions 36, which are pivoted by suitable devices 37 to the ears 30 of the attaching devices. The ears 36 have rear preferably flat ends provided with seats 38 and also carrying rollers 39, the rollers being offset, so as to swing to opposite sides of the axis of movement of the adjusting devices 35 when said devices are swung upon their pivots. The rollers 39 run on yielding yokes 40, embracing the ears 30 of the attaching devices and terminating in coiled springs 41, that surround a retaining-rod 42, fastened in upstanding ears 43, located on the base. It will thus be clear that when the attaching devices are swung their movements will be opposed by the spring-yokes until the rollers have passed the dead-centers and that said yokes will serve to yieldingly retain the adjusting devices in either of two positions. The outer ends of the adjusting plates or devices overlap ears 44, located at the inner ends of the ribs, and these overlapping portions are preferably roughened, as shown at 45 in Fig. 4. A clamping device 46 connects the ears and serves to normally hold the ribs and adjusting devices against relative movement, yet permitting the change of position of the ribs, and consequently of the wing, with relation to the said devices 36. Directly beneath the ribs the apron 18 is detachably connected at its lower edge with the sides of the boat by means of yielding extensible straps 47, preferably secured to the apron and having detachable engagement with headed studs 48 on the boat.

With this structure it will be apparent that when the wing is depressed or in operative relation spray and water dashed upwardly by striking the boat will be turned downwardly by the wing, and if shot outwardly by its impact will be caught in the trough formed at the outer edge of the wing and thus prevented from escaping beyond the same. Consequently there is little danger of the spray being caught by the wind and being driven over or into the boat. The wing can be swung from operative position to an elevated position inboard, where there is no danger of its contact with a wharf or piles. This movement, while opposed by the springs, is effected without the necessity of loosening any of the parts, but by merely overcoming this resistance. Moreover, these springs serve to yieldingly sustain the wing in operative position, and if heavy bodies of water should strike the same said wing will yield sufficiently to break the force of the impacts, thereby avoiding injury to the parts and jars to the boat. In sail-boats it will of course be apparent that it is only necessary to have the wing on the weather-bow in operative position and it is desirable to have the lee wing raised so that it will be out of contact with the water. With the structure herewith presented this disposition of wings may always be readily maintained without regard to the number of tacks made, as it is only necessary to draw one up and push the other down when the course is changed. Furthermore, it will be apparent that it is desirable to change the pitch or inclination of the wings according to the amount a boat may heel, or in case of power-launches the amount of freeboard. This angular disposition can be readily obtained between the ribs and the adjusting-plates, and when obtained the depressed position of the wing becomes fixed, though said position may be varied as desired. Thus the structure is adapted for use on various types and shapes of boats, and, as the wings are correspondingly shaped at both ends, they may be used indiscriminately on either side of the boat.

As an example of how the structure may be modified attention is invited to Fig. 8, wherein a rib 49 is shown having an adjustable clamping connection 50 with an adjusting-plate 51. This plate is pivoted, as shown at 52, to an attaching device 53, which carries a track or guideway 54. A coiled spring 55 has one end attached to the adjusting device or plate 51, while its other end is slidably mounted, as shown at 56, upon the track or guideway. It will be apparent that this arrangement operates in substantially the same way as the other, for when the wing is in operative position and the rib depressed the spring 55 will yieldingly maintain said wing in operative position, and, on the other hand, when the wing is elevated the lower end of the spring will slide to the opposite end of the track or guideway 54, thus maintaining said wing in its operative position.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a guard of the class described, the combination with a spray-arresting wing having

intermediate transverse stretching means and end portions that are of the same length and equally tapered in order to permit either end being placed foremost, of means for attaching the wing along its inner margin to a boat and in projecting relation to the bow of said boat, and means for securing the tapered ends under tension to the boat.

2. In a guard of the class described, the combination with a spray-arresting wing, of means for attaching the same to a boat in projecting relation thereto, said wing having a depending inwardly-turned outer margin.

3. In a guard of the class described, the combination with a spray-arresting wing, of means for attaching the same along one margin to a boat and in projecting relation thereto, said wing having its other or outer longitudinal margin curved downwardly and inwardly.

4. In a guard of the class described, the combination with a spray-arresting wing, of means for attaching the same to a boat in projecting relation thereto, said wing having an under and inwardly-turned margin, the free edge of which is located beneath and in spaced relation to the body of the wing.

5. In a guard of the class described, the combination with ribs, of hinges for connecting the inner ends of the ribs to a boat, the outer ends of said ribs being downwardly and inwardly curved, and sheathing secured to said ribs and extending about the curved portions thereof.

6. In a guard of the class described, the combination with a spray-arresting wing, of means for hingedly attaching the same at its inner margin to a boat in projecting relation to the side of the same, said means permitting an up-and-down movement of the wing, and means for yieldingly maintaining the wing in elevated position.

7. In a guard of the class described, the combination with a spray-arresting wing, of means for hingedly attaching the same at its inner margin to a boat in projecting relation to the side of the same, said means permitting an up-and-down movement of the wing, and means for yieldingly maintaining the wing in depressed position.

8. In a guard of the class described, the combination with a spray-arresting wing, of means for hingedly attaching the same at its inner margin to a boat in projecting relation to the side of the same, said means permitting an up-and-down movement of the wing, and a spring for yieldingly maintaining the wing in depressed position.

9. In a guard of the class described, the combination with a spray-arresting wing, of means for hingedly attaching the same at its inner margin to a boat in projecting relation to the side of the same, said means permitting an up-and-down movement of the wing, and a spring located at the hinge connection and bearing against the wing.

10. In a guard of the class described, the combination with a wing, of means for pivotally mounting the same on a boat to permit its upward-and-downward movement, and yielding means for holding the wing in its upward and downward positions.

11. In a guard of the class described, the combination with a wing, of means for pivotally mounting the same on a boat to permit its upward-and-downward movement, and a spring for holding the wing in its upward and downward positions.

12. In a guard of the class described, the combination with a wing, of means for pivotally mounting the same on a boat to permit its upward-and-downward movement, and a spring arranged to act against the wing on opposite sides of its axis of movement accordingly as said wing is moved from one position to another.

13. In a guard of the class described, the combination with a wing, of means for pivotally mounting the same on a boat, said means comprising hinge members, and a spring carried by one member and having an engagement with the coacting member to normally hold said members against movement.

14. In a guard of the class described, the combination with a wing, of means for pivotally mounting the same on a boat, said means comprising pivoted hinge members, a yielding holder carried by one member, and a bearing carried by the other member and movable upon the holder to opposite sides of the pivot-axis when the wing is swung.

15. In a guard of the class described, the combination with a wing, of pivoted hinge members, one of which is carried by the wing, means for mounting the other on a boat, a spring-yoke carried by the latter member, and a device carried by the other member and movably bearing upon the yoke.

16. In a guard of the class described, the combination with a wing, of hinge members, one of which is carried by the wing and has an ear, the other comprising a base-plate having an ear pivoted to the first-mentioned ear, means for detachably mounting the base-plate upon the boat, a spring-yoke carried by the base-plate and surrounding the ear thereof, and a roller carried by the other ear and bearing upon the yoke.

17. In a guard of the class described, the combination with a wing including a flexible sheath and a rib secured transversely thereof, of means for hingedly connecting the rib to a boat, and a spring element having an engagement with the rib to normally hold the same against movement.

18. In a guard of the class described, the combination with a spray-arresting wing comprising a flexible sheath and a plurality of transverse ribs secured thereto, of hinge elements carried by the ribs, means for detachably mounting certain of said hinge elements

upon a boat, and yielding means engaging the elements to normally hold them against relative movement.

19. In a guard of the class described, the combination with a wing, of means for pivotally mounting the wing upon a boat to permit its movement between elevated and depressed positions, and automatic means for holding the wing in said positions.

20. In a guard of the class described, a movable wing, means for arresting the wing at a predetermined position when said wing is moved, and other means for determining said position.

21. In a guard of the class described, a wing movable to elevated and depressed positions, means for arresting the wing, and separate means for varying the location of the wing.

22. In a guard of the class described, a swinging wing, means for pivotally connecting the wing to a boat, said means including a device having a fixed path of movement, and another device having a variable path of movement.

23. In a guard of the class described, a swinging wing, means for pivotally mounting the wing upon a boat, said means including a device having a fixed path of movement, and another device adjustably connected to the first-mentioned device.

24. In a guard of the class described, a swinging wing, means for pivotally connecting the wing to a boat, said means including a device having a fixed path of movement, and an adjustable connection between the wing and device.

25. In a guard of the class described, the combination with a wing, of an adjusting device having a pivotal connection with the wing, and attaching means having a pivotal connection with the adjusting device.

26. In a guard of the class described, the combination with a wing, of an adjusting device having a pivotal connection with the wing, attaching means having a pivotal connection with the adjusting device, and means for normally preventing the pivotal movement of one of said connections.

27. In a guard of the class described, the combination with a wing, of an adjusting device having a pivotal connection with the wing, attaching means having a pivotal connection with the adjusting device, and means for normally holding the wing and adjusting device against relative movement.

28. In a guard of the class described, the combination with an attaching-ear, of a wing having an ear, and an adjusting device having pivotal connections with said ear.

29. In a guard of the class described, the combination with an attaching-ear, of a wing having an ear, an adjusting device having a pivotal connection with one ear and an adjustable clamp connection with the other ear.

30. In a guard of the class described, the combination with a movable wing, of means for holding the wing against movement at a predetermined position, and other means for determining such position.

31. In a guard of the class described, the combination with a movable wing, of automatic means for holding the wing at a predetermined position, and manually-operated adjusting means for determining such position.

32. In a guard of the class described, the combination with a wing movable from and to depressed positions, of means for arresting the wing in its depressed positions, and other means for determining such position.

33. In a guard of the class described, the combination with a wing having a rib, of an adjusting-plate, a pivot-clamp connecting the plate and rib, and means for pivotally mounting the plate upon a boat.

34. In a guard of the class described, the combination with a base having an upstanding ear, of an adjusting device having an ear pivoted to the ear of the base, a yielding holding device carried by the base and engaging said ear, a spray-arresting wing having a rib, and a pivoted clamp connection between the rib and adjusting device.

35. In a guard of the class described, the combination with a spray-arresting wing, of means for stretching the same longitudinally along a boat, said means including a spring having a connection with the wing.

36. In a guard of the class described, the combination with a spray-arresting wing of flexible material, of a cable extending longitudinally of the wing, a spring connected to the cable, and means for placing the wing under longitudinal tension, said means being connected to the spring.

37. In a guard of the class described, the combination with a spray-arresting wing of flexible material, of a looped cable secured longitudinally of the wing, springs connected to the cable at the ends of the wing, means for securing one of said springs to a boat, and means for stretching the wing, said latter means being attached to the other spring.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HARRY COREY MORSE.

Witnesses:
CLINTON B. STRUBLE,
NORA L. RYAN.