A. GEERING.

FENDER FOR VESSELS.

APPLICATION FILED JAN. 10, 1911.

991,055.

Patented May 2, 1911.

Fig. 1.

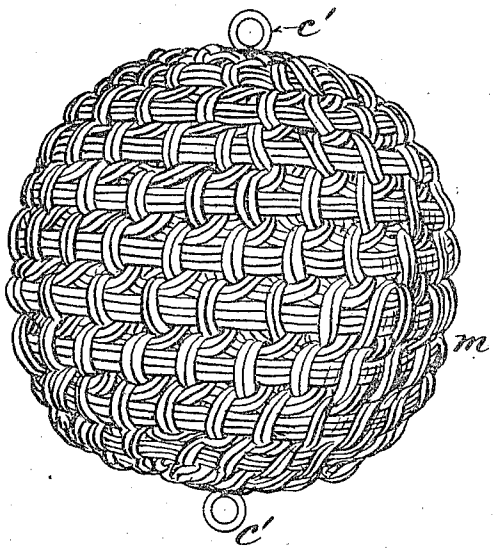


Fig. 2.

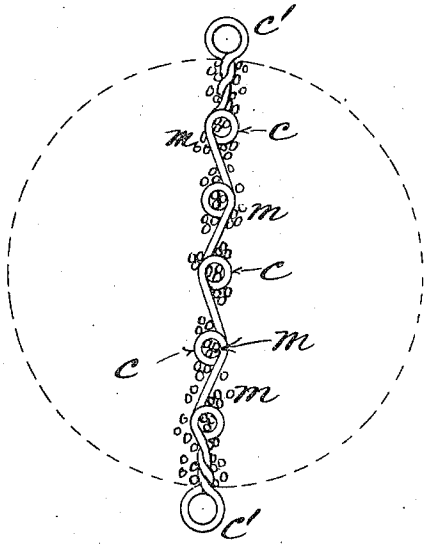
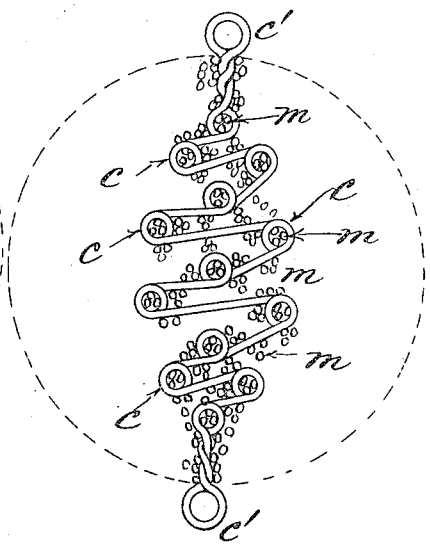


Fig. 3.



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UNITED STATES PATENT OFFICE.

ADOLPH GEERING, OF NEW YORK, N. Y.

FENDER FOR VESSELS.

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To all whom it may concern:

Be it known that I, ADOLPH GEERING, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Fenders for Vessels, of which the following is a specification.

The object of my invention is to provide a fender of exceptional resilience, strength and durability, the distinguishing feature consisting essentially in the use of a core of resilient metal formed with loops through and around which the buffing material is plaited and wound so that the core becomes an integral part of the fender, as hereinafter set forth.

In the accompanying drawings, Figure 1, is a side elevation of my improved fender; Fig. 2, is a diagrammatic representation of a central vertical sectional elevation of a fender provided with an elastic resilient metallic core formed with reinforcing loops through and around which the buffing material is woven and wound; Fig. 3, is a similar view showing a modification of the core.

My invention relates more particularly to the class of fenders in which strips of buffing material, as rope, cane, reeds &c. are plaited and woven together to form the body of the fender, and the main object is to afford a core for the same that will not only unite the parts into one integral unit, but which will also increase its strength and resilience,—the core not only acting as a reinforcing and binding medium but also distributing and neutralizing the strain to which the fender is subjected in use. Furthermore, the core being practically embedded in and incorporated with the buffing material, is less likely to strain or injure the fabric, or become detached therefrom.

By way of illustration I have herein represented in Fig. 1, an exterior view of a fender of the class to which my invention relates, the buffing material of which the body is composed being made preferably, although not necessarily of what is known commercially as "Spanish cane" although strips of other cane, reeds, rope or any suitable material *m*, capable of being wound and plaited may be used in connection with my elastic resilient reinforcing core C, as may be found most expedient in adapting the fender to the various conditions of use, from the requirements of a small boat to those of a battle ship.

Owing to the difficulty of showing the intricate plaiting and winding of the buffing material in cross section, I have in Figs. 2 and 3 simply indicated the lacing of the buffing material *m*, through and immediately around the retaining loops *c*, of the elastic resilient metallic core C, by which it will be seen that the core and buffing material become practically one and integral,—especially where the core is formed with lateral branches or extensions after the manner represented in Fig. 3.

My elastic resilient metallic core C, is preferably made of a single piece of metallic wire, wire rope, or a steel or other metallic rod of suitable temper and resilience,—the engaging loops *c*, as well as the end suspender loops *c'*, being set in shape without interfering materially with the elasticity and resilience of the core as a whole, but rather augmenting the same.

It will readily be seen that my elastic resilient core is essentially the base and foundation of the structure, strengthening and reinforcing the buffing material and increasing the resilience of the device as a whole. It also prolongs the life of the fender as a whole, by distributing and neutralizing the strain of compression in use, thereby protecting all parts of the buffing material against rupture or disintegration.

I have herein shown my elastic resilient metallic core C, as incorporated in a fender of spherical shape, although it is equally adapted to other shapes of fenders in vogue, or that may be required for special purposes.

What I claim as my invention and desire to secure by Letters Patent, is—

1. A fender of the character designated, comprising a core of elastic resilient metal formed with end suspender loops and with intermediate retaining loops, and a body of buffing material interlaced through said re-

taining loops and around the said core for the purpose described.

2. A fender of the character designated, comprising a core of elastic resilient metal formed with end suspender loops and with intermediate lateral extensions formed with retaining loops, and a body of buffing material interlaced with said retaining loops and around the said core for the purpose described.

ADOLPH GEERING.

Witnesses:
GEO. WM. MIATT,
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