

No. 624,948.

Patented May 16, 1899.

I. G. KURKUMELI.
FENDER FOR VESSELS.

(Application filed Sept. 16, 1898.)

(No Model.)

2 Sheets—Sheet I.

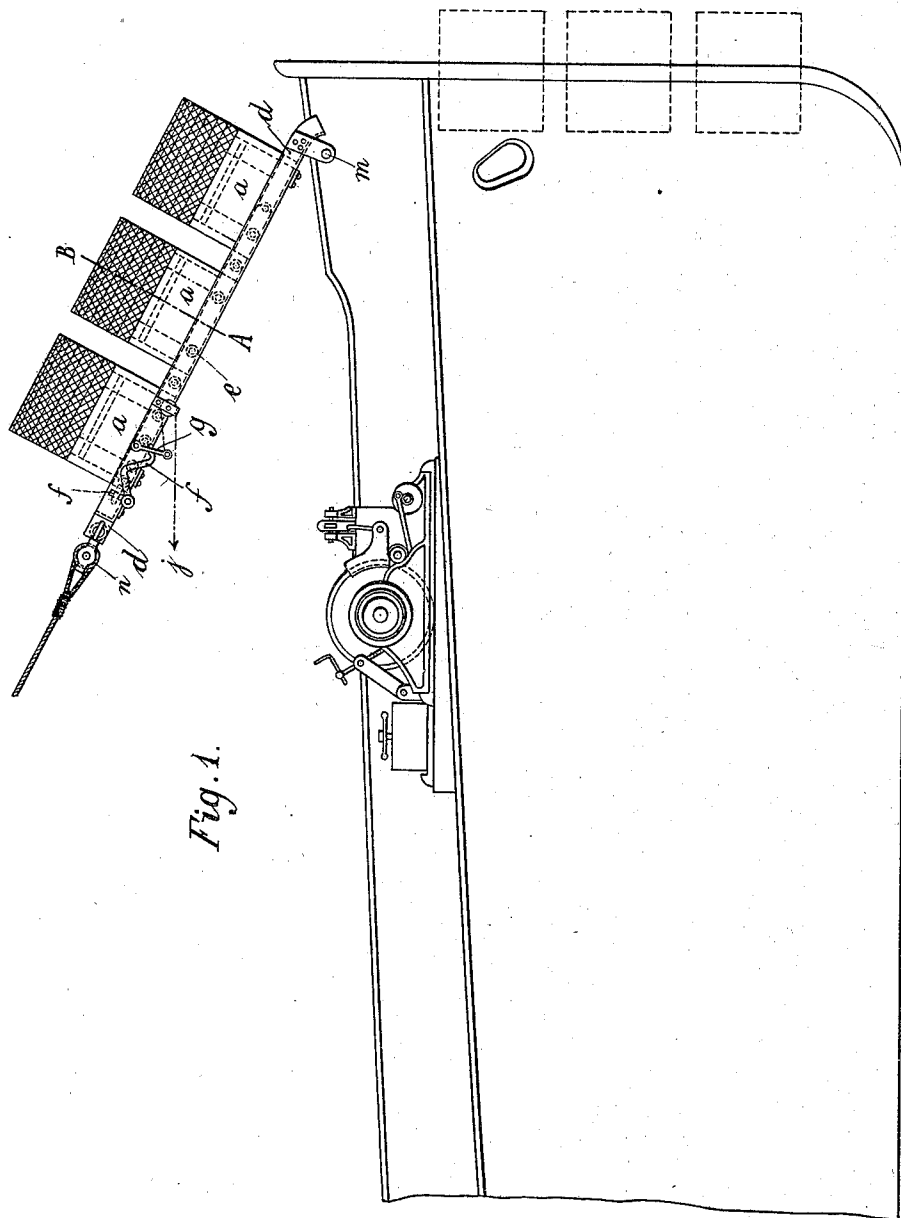


Fig. 1.

Witnesses:-

Alb. M. 15

Barbara Lambie

Inventor:-

Ivan Grigoriewitsch Kurkumeli

by *Richard R.*

Attys

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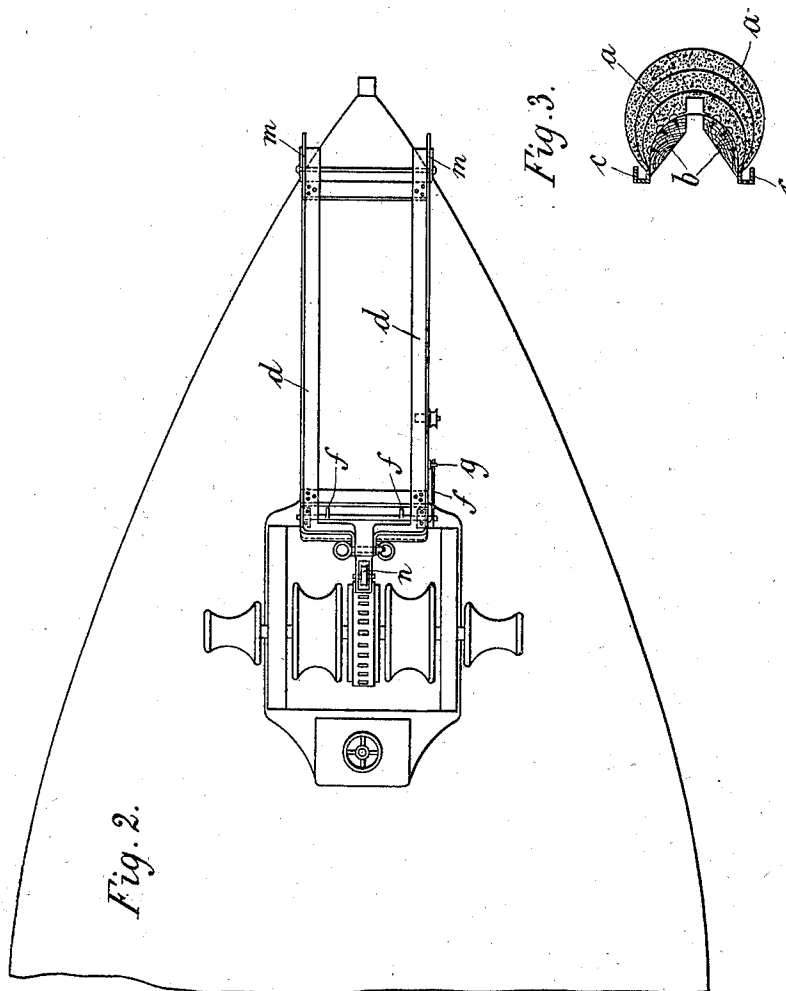
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2 Sheets—Sheet 2.



Witnesses:-

Otto Munk

Barbara Lambie

Inventor:-

Ivan Grigorievitch Kurkumeli

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UNITED STATES PATENT OFFICE.

IWAN G. KURKUMELI, OF KERTSCH, RUSSIA.

FENDER FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 624,948, dated May 16, 1899.

Application filed September 16, 1898. Serial No. 691,093. (No model.)

To all whom it may concern:

Be it known that I, IWAN GRIGORIEWITSCH KURKUMELI, sea captain, a subject of the Emperor of Russia, and a resident of Kertsch, in the Empire of Russia, have invented a certain new and useful Improved Apparatus for Preventing Vessels Being Damaged by a Collision, of which the following is an exact, full, and clear description.

10. This invention relates to a buffing apparatus for lessening or weakening the effect of the shock sustained by vessels in collision, such buffing apparatus having several hinged buffer-pads or cushions which are situated in an ineffectual position on a supporting-frame inclined upward over the fore part of the vessel and are secured to such frame by means of a locking device. The buffer-pads are guided along the supporting-frame by means of flanges, so that they slide off this frame as soon as the locking mechanism is released. The bottom of the buffer-pads is recessed, and the form of the side walls of this recess corresponds to the form of the side walls of the bow, so that the buffer-pads on sliding down over the bow embrace the stem and are closely attached thereto.

In the accompanying drawings is shown a buffing apparatus in accordance with my invention.

Figure 1 is a side elevation. Fig. 2 is a plan view of the fore part of a vessel provided with the said apparatus, and Fig. 3 is a section on line A B of Fig. 1 of the construction of a buffer-pad.

Each buffer-pad consists of several circularly-bent hoops *a* of sheet metal or the like, the ends *c* of such hoops being bent together and led into U-shaped rails of a frame *d*, which is secured to the sides of the vessel by hinges *m*, and at its free end carries a roller *n* for a rope, by means of which it is held in an upwardly-inclined position. Each hoop *a* of the buffer-pads is provided with a suitable padding. The hoops may, for instance, be covered with wire-netting and cushioned with felt and also lined with packing of cork, sea-grass, and the like. On the innermost

hoop are provided wooden cheeks *b*, whose form corresponds to that of the walls of the bow of the vessel.

The buffer-pads are secured to the frame *d* by a locking device *f*, which can be released by means of a pawl *g*, the operation of which is effected by hand by means of a rope *j*.

The buffer-pads are pivotally connected together by means of a chain *e* or in any other suitable manner. As soon as the locking device is released the buffer-pads slide off the frame *d* and pass onto the stem, so that they assume the position as shown in Fig. 1 in dotted lines, where they render the shock resulting from a collision uninjurious or considerably decrease the effect of such shock.

Having now particularly described and ascertained the nature of the said invention, I declare that what I claim, and wish to secure by Letters Patent, is—

1. In combination with the vessel, a frame extending from the bow upwardly and rearwardly in inclined position, buffer means supported on said frame, and adapted to slide down by gravity when released, a locking device to hold the buffer in position and means for releasing the locking device, substantially as described.

2. In combination, the flexible chain, the buffers held thereby, a locking device for holding the chain with its buffers out of operative position and a pawl with a rope for operating the same to release the lock, substantially as described.

3. In combination, a supporting-frame and a buffing device in which the buffer-pads consist of bent hoops of elastic material, padding being provided between the hoops whose ends are bent together and guided in rails of the supporting-frame substantially as described and shown in the drawings.

In witness whereof I have hereunto set my hand in presence of two witnesses.

I. G. KURKUMELI.

Witnesses:

THOS. E. HEENAN,
THOMAS MILES.