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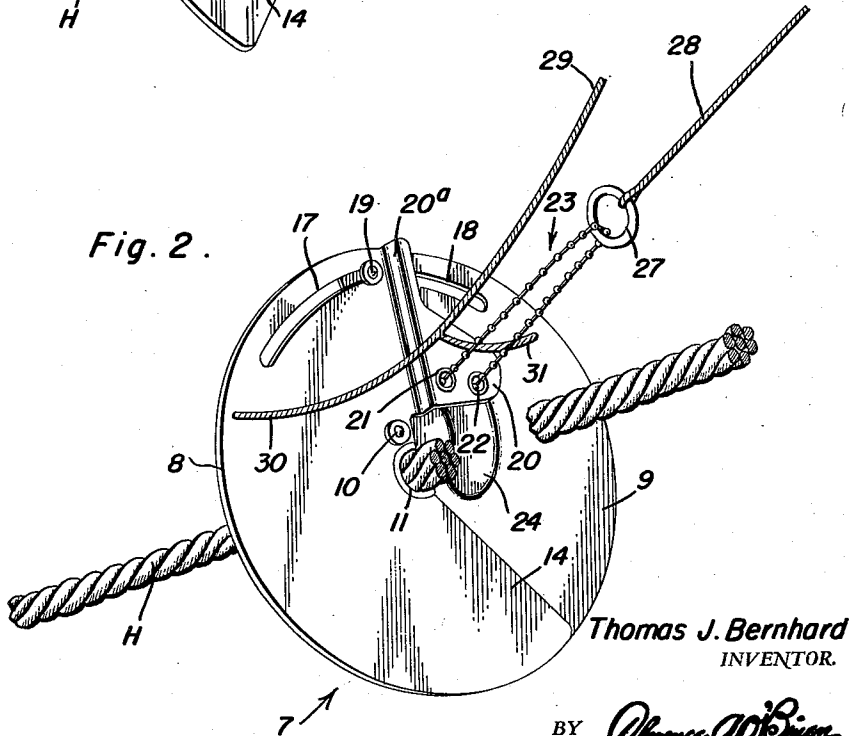
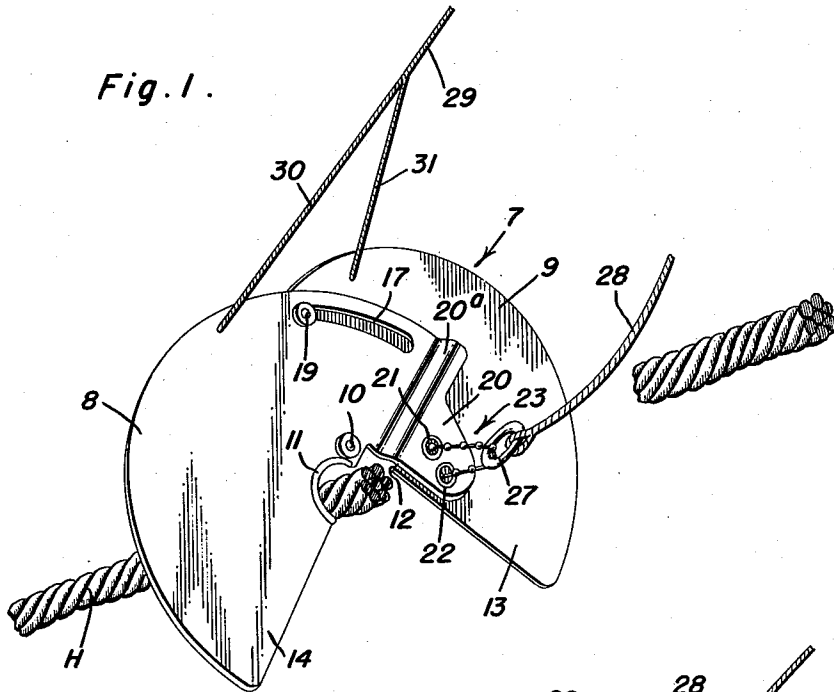
T. J. BERNHARD

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RAT GUARD

Filed March 19, 1948

2 Sheets-Sheet 1



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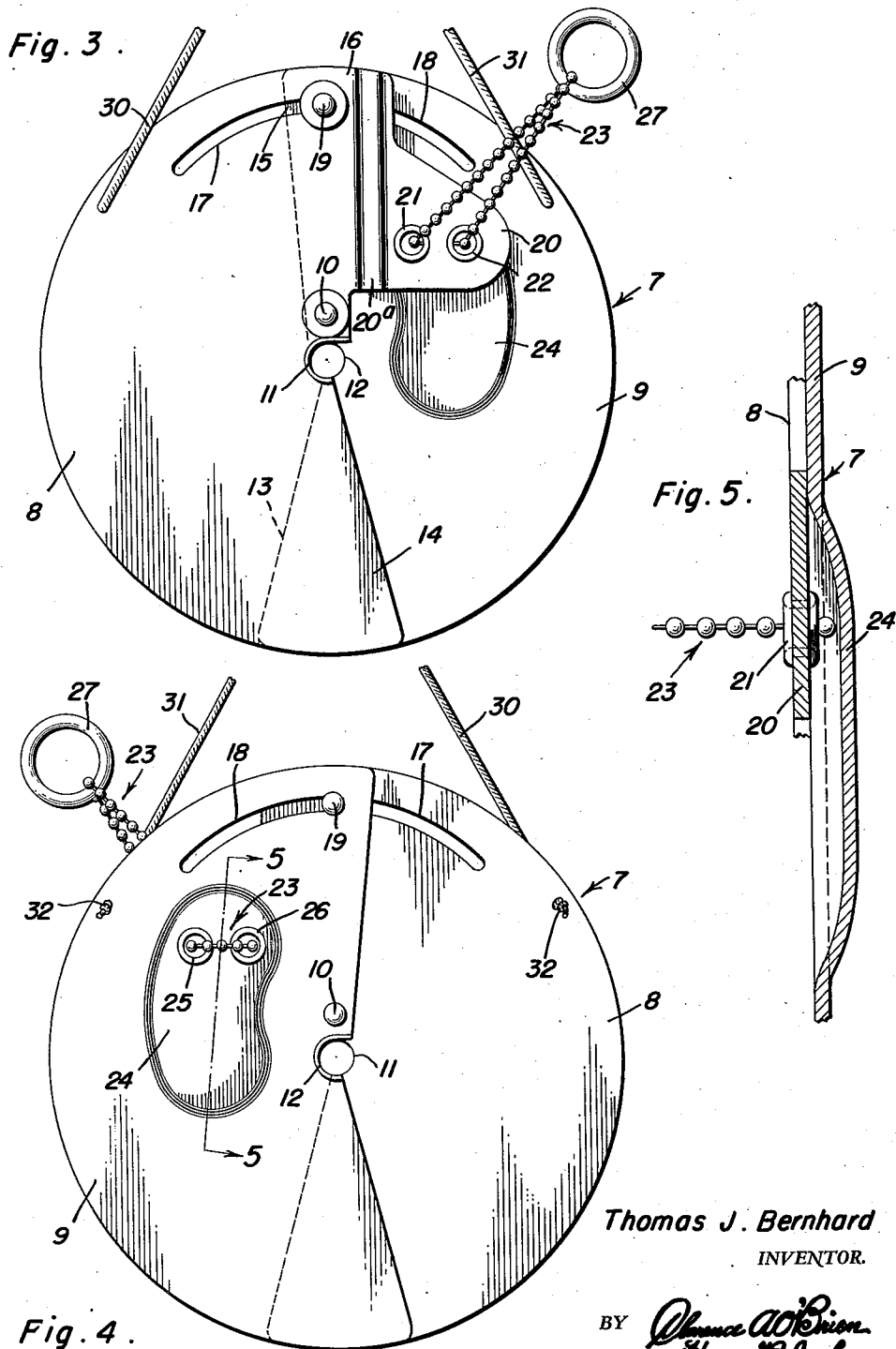
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UNITED STATES PATENT OFFICE

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RAT GUARD

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11 Claims. (Cl. 114—221)

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The present invention relates to certain new and useful improvements in readily applicable and removable rat guards such as are attached to hawsers and cables when a ship is docked at a wharf, said guards being employed, as is well-known, to prevent rats from ascending a hawser to board a docked ship.

As the opening general statement of the invention reveals, I am sufficiently conversant with the state of the art to which the invention relates to appreciate that various types of rat guards are patented and in use. The ordinary guard is of general disk-like form, is made up of gravity retained, hingedly connected companion sections, coacting inner edges of the sections being centrally notched to provide a centralized hole which is adapted to embrace the hawser to maintain the guard in position at approximate right angles to the longitudinal axis of the hawser.

The present invention, in part, bears certain structural and functional relationship to the patented invention of one William A. Mead covering a rat guard and identified as Patent 1,641,345 and dated September 3, 1927. In the stated patent, the construction is characterized by a pair of metallic plates pivotally connected together at one side of their centers and provided with greatly extended overlapping portions at their opposite sides of their centers forming integral counterbalance weights for maintaining said rat guard in a certain position on the ship's hawser, a cord secured to each of said plates intermediate its sides and formed into a loop, and another cord secured to said loop, whereby the rat guard will be held open when supported by said cord for positioning on the hawser and when the rat guard rests on the hawser at the opening, will automatically close on the hawser and maintain a vertical position on the hawser regardless of the angle of said hawser.

It is a matter of common knowledge that the sections or plates which go to make up the guard, when constructed in accordance with the patented arrangement, are not susceptible of maintaining themselves against displacement on the hawser. The principal object of the present invention is, therefore, to provide fastening means for the guard sections, which fastening means is capable of maintaining the sections in clamped relationship, whereby to prevent accidental displacement of the guard from the hawser.

More specifically, the instant invention has to do with readily openable and closable guard sections, said sections having pairs of registerable holes, and there being an endless chain or equivalent

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flexible element passed through the holes, which element serves, when let loose, to permit the sections to open and which also serves, when drawn taut, to assist in closing the sections and serves thereafter to maintain the sections closed.

In carrying out a preferred embodiment of the invention, the coacting guard sections are especially constructed to accommodate the aforementioned chain holes and a remote control cord is attached to said chain, said cord being such that it may be tied to the side of the ship or elsewhere to maintain the chain sufficiently taut that it, in conjunction with the overlapping portions of the sections, maintain said sections in positively closed relationship.

It is also an object of the invention to properly shape the coacting overlapping portions of the guard sections to provide desired clearances between adjacent surfaces whereby to permit free play of the endless chain and to insure freedom of action of the sections when applying and removing the guard in relation to the hawser.

Other objects and advantages of the invention will become more readily apparent from the following description of the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a perspective view showing a rat guard constructed in accordance with the principles of the invention, observing the same from the side facing the ship (not shown) and illustrating the sections about to close, by the force of gravity, on the hawser.

Figure 2 is a view based on Figure 1 and showing the sections closed and locked in place by my improved fastening means.

Figure 3 is an enlarged elevational view with the guard removed from the hawser and with the sections closed.

Figure 4 is a view based on Figure 3 and observing the opposite face or side of same.

Figure 5 is an enlarged fragmentary sectional view taken on the plane of the line 5—5 of Figure 4, looking in the direction of the arrows.

As shown to advantage in Figures 3 and 4, the guard is of customary circular or disk-like form and, as a unitary device, is denoted by the numeral 7. It is made up of metal or equivalent complementary half-sections 8 and 9, respectively, said sections being centrally hinged to one another as at 10. The central intermediate edge portions of the half-sections are provided with coacting notches 11 and 12 which notches co-

operate in providing an opening for accommodation and passage of the usual hawser 13. Coacting sector-shaped portions of the half-sections are overlapped, as indicated at 13 and 14, this on one side of the hinge or pivot means 10. Portions on opposite sides, that is, above the pivot 10, are denoted by the numerals 15 and 16 and these have arcuate registerable slots 17 and 18 which accommodate an assembling pin 19. This pin and slot arrangement allows the half sections to open and close about the main pivot in a well-known manner. The half-section 8 is provided with an extension constituting an adapter 20, this being laterally offset as at 21 and disposed in spaced parallelism to the underlying section 9 in Figure 3. Said adapter is provided with apertures having grommets 21 and 22, which grommets constitute fairleads for an endless chain or equivalent flexible element 23. That portion of the section 9 with which the adapter ear cooperates is provided with an indentation 24 of the shape shown, and this provides a dished space or area for clearance purposes. As shown in Figure 5, since the coacting portions of the sections 8 and 9 overlap, if they were in firm mating contact with one another there would be no clearance for the shiftable movements of the endless chain 23. However, by offsetting the adapter ear 20 and providing the dished clearance pocket 24, sufficient space is provided to accommodate the chain and, at the same time, to allow the sections 8 and 9 to have customary scissors-like activity. As seen in Figure 4, the clearance pocket is also provided with grommet-equipped eyes or openings 25 and 26 which register with the openings 21 and 22 and which accommodate the chain. The chain is provided with a connecting ring 27 to which I attach an operating and anchoring rope 28. The latter rope is used for either tautening or loosening the endless chain 23 in relation to the guard 7. Said rope may be pulled tightly toward the side of the ship and tied around the rail, an upright or wherever convenient. It might be possible to even tie the free end of the rope 28 around that part of the hawser which is on board the ship.

The guard 7 is provided with the usual lifting, lowering and attaching line 29 and this, in turn, has at its outer end the customary auxiliary branches 30 and 31 which are knotted or otherwise connected, as at 32 in Figure 4. It will thus be seen that, in the main, the rat guard is of the customary sectional construction with the sections made to fit upon the hawser, with the sections hinged and properly slotted and pinned together and that the customary line 29 has connections 30 and 31 with the sections 8 and 9 at the proper points for opening and closing the same and therefore applying the guard in somewhat customary fashion. The main improvements in the instant case have to do with the fastening means. This is preferably in the form of the endless chain 23 which passes through registerable grommet-equipped apertures or eyes in the overlapping portions of the sections 8 and 9, there being an actuating and anchoring rope 28 connected with said chain, preferably through the medium of a ring or the like 27. More particularly, novelty is predicated upon the adapter ear 22 with the chain eyes, the section 9 with the clearance pocket and chain eyes, and an endless chain or equivalent flexible element trained through the eyes in such a manner that when the chain is drawn and tautened, it will exert the necessary take-up action on the

two sections and will fasten same securely on the hawser in an obvious manner.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention, the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. In a rat guard of the class described, a disk-like body embodying complementary pivotally connected sections having slotted overlapping portions and having means to embrace the ship's hawser, pin means connecting the slotted portions of the sections for controlled operation in relation to each other, a lowering and attaching rope having divergent terminal portions connected respectively with the sections for spreading same and allowing them to drop by gravity onto the hawser and to be closed round the hawser, and remote-controlled fastening means cooperable with said sections to prevent same from opening accidentally, said means embodying a cord operable from the ship and adapted to be anchored on a part of the ship, said cord having means at its outer end connected with said sections to hold same in closed relationship.
2. In a rat guard of the class described, a disk-like plate embodying complementary half-sections adapted to embrace a hawser, said half-sections being hingedly connected with one another adjacent their central portions, predetermined portions of said half-sections being overlapped and inter-connected by pin and slot means, a placement rope having diverging free end portions connected respectively with the marginal areas of said overlapped portions and adapted to permit the half-sections to be spread apart and lowered onto the hawser and closed around same by gravity, an endless loop slidably connected with the overlapped portions, and a pull-cord connected with said loop.
3. The structure specified in claim 2, said loop being an endless chain.
4. The structure specified in claim 2, said loop being an endless chain and said overlapped portions having registerable eyes through which said chain is trained.
5. A rat guard of the class described comprising a disk-like plate embodying openable and closable half-sections connected hingedly together, said half-sections embodying registerable openings, and an endless chain trained through said openings, together with a pull-cord connected with said chain.
6. A rat guard of the class described comprising a disk-like plate embodying hingedly connected openable and closable half-sections, said half-sections being adapted to fit around a hawser, remote-controlled means for opening and closing the half-sections, said half-sections having slidably contacting overlapping portions, said overlapping portions having pairs of grommet-equipped eyes, an endless chain trained through the respective pairs of eyes, a ring attached to said chain, and a pull-cord attached to said ring.
7. A rat guard of the class described compris-

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ing a disk-like plate embodying a pair of complementary hingedly connected half-sections having their central portions adapted to embrace a hawser, certain marginal portions of said half-sections being overlapped and slidably connected by pin and slot means, one half-section having an indentation forming a clearance pocket, said pocket being provided with a pair of eyes, the coacting portion of the remaining half-section having a laterally offset extension, said extension being provided with a pair of eyes registerable with the first-named eyes.

8. A rat guard of the class described comprising a disk-like plate embodying a pair of complementary hingedly connected half-sections having their central portions adapted to embrace a hawser, certain marginal portions of said half-sections being overlapped and slidably connected by pin and slot means, one half-section having an indentation forming a clearance pocket, said pocket being provided with a pair of eyes, the coacting portion of the remaining half-section having a laterally offset extension, said extension being provided with a pair of eyes registerable with the first-named eyes, and an endless chain trained through the respective pairs of eyes.

9. A rat guard of the class described comprising a disk-like plate embodying a pair of complementary hingedly connected half-sections having their central portions adapted to embrace a hawser, certain marginal portions of said half-sections being overlapped and slidably connected by pin and slot means, one half-section having an indentation forming a clearance pocket, said pocket being provided with a pair of eyes, the coacting portion of the remaining half-section having a laterally offset extension, said extension being provided with a pair of eyes registerable with the first-named eyes, an endless chain trained through the respective pairs of eyes, and a ring connected with said chain.

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10. A rat guard of the class described comprising a disk-like plate embodying a pair of complementary hingedly connected half-sections having their central portions adapted to embrace a hawser, certain marginal portions of said half-sections being overlapped and slidably connected by pin and slot means, one half-section having an indentation forming a clearance pocket, said pocket being provided with a pair of eyes, the coacting portion of the remaining half-section having a laterally offset extension, said extension being provided with a pair of eyes registerable with the first-named eyes, an endless chain trained through the respective pairs of eyes, and a ring connected with said chain together with a pull-cord connected with said ring.

11. A rat guard of the class described comprising a disk embodying a pair of hingedly connected half-sections, certain portions of said half-sections being formed with arcuate slots and said slotted portions being overlapped, an assembling pin connecting the slotted portions together, one half-section having an indentation forming a clearance pocket and said pocket having a pair of grommet-equipped openings, the remaining half-section having an extension forming an adapter ear, said ear being laterally offset and provided with grommet-equipped eyes, and an endless chain trained through the respective eyes.

THOMAS J. BERNHARD.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,641,345	Mead	Sept. 6, 1927
1,709,225	Mead	Apr. 16, 1929