

UNITED STATES PATENT OFFICE

2,569,783

BOAT FASTENING APPARATUS

Floyd A. Smith, Vicksburg, Mich.

Application July 23, 1948, Serial No. 40,377

10 Claims. (Cl. 114—230)

1

This invention relates to improvements in boat fastening apparatus.

The main objects of this invention are:

First, to provide a boat fastening apparatus which may be quickly engaged with or attached to a boat or disengaged therefrom and when engaged effectively holds the boat in spaced relation to a support such as a dock or the like while permitting free rocking and up and down movement of the boat such as results from waves.

Second, to provide a device having these advantages which subjects the boat to a minimum of strain.

Third, to provide an apparatus which is simple and economical in its parts and at the same time highly efficient.

Further objects, and objects relating to details and economies of the invention will appear from the description to follow. The invention is pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a plan view of an apparatus or equipment embodying my invention in operative relation to a boat, a fragment of a dock being illustrated.

Fig. 2 is an enlarged fragmentary plan view showing further structural details thereof.

Fig. 3 is an enlarged fragmentary view partially in section, the hitch bar being shown in engaged position by full lines and in tilted position illustrating the engagement and disengagement thereof by dotted lines.

Fig. 4 is an inverted view of the coupling socket and of the hitch bar.

In the accompanying drawing 1 represents a dock and 2 a boat, both being shown conventionally. In practice the apparatus of my invention is desirably used in pairs, one apparatus or device being attached to the prow end of the boat and the other to the stern desirably at one corner thereof where the boat is flat ended as that illustrated.

The apparatus of my invention comprises a hitch bar 3, desirably a piece of pipe, having an anchoring eye member 4 threaded on its inner end the eye 5 being desirably horizontally disposed. At its outer end the bar is provided with a socket coupling head member 6 threaded upon the bar and provided with a downwardly facing socket 7 adapted to coact with a rounded head 8 of the stud coupling member 9 which is adapted for attachment to a boat it being illustrated as provided with a central boat engaging screw 10.

2

The stud member, however, is provided with a flange having holes 11 therein adapted to receive attaching screws 12 which provide a very secure attachment and permits attachment to differently positioned and shaped boat parts. This stud coupling member is provided with a shank 13 which merges into the head 8 with a downwardly facing shoulder 14.

The outer edge of the socket has an inwardly projecting chord-like lip 15 which is disposed below the shoulder 14 when the socket coupling member is in engagement with the stud member, as best shown in Fig. 3, and retains the socket member in engagement with the stud member while permitting engagement and disengagement by a tilting swinging movement of the hitch bar. This also provides a universal joint connection permitting free movement of the boat while it is restrained.

The anchoring pin 16 is provided with a threaded portion 17 which may be screwed into the edge of the dock or other support 1. The pin is adapted to receive the eye 5 of the hitch bar and support the hitch bar in an approximately horizontal position or in such position as will prevent the disengagement of the bar from the stud without manual manipulation. Desirably the pin 16 is provided with a hole 18 adapted to receive the hasp 19 of a padlock 20.

To limit the horizontal swinging of the hitch bar I provide a pair of stay cables 21, the cables illustrated being in the form of chains. These have links 22 at their outer ends engaging holes 23 in the oppositely projecting flanges 24 on the socket coupling member 6. Each of the cables is provided with a shock absorbing spring 25 which is a compression spring and is mounted on a pair of loop-like elongated links 26 having laterally turned ends 27 which constitute abutments for the ends of the spring. One of these links is provided with a screw eye 28 which may be threaded into the dock or support 1. With this arrangement the longitudinal movement of the boat is limited by the stay chains some movement being permitted by the shock absorbing springs.

The structure described is desirably used in pairs, one stud member 13 being attached to the prow of the boat and the other to the rear of the boat. The hitch bars may be very quickly engaged with or disengaged from the stud members by a tilting swinging movement. At the same time, when engaged they cannot become accidentally disengaged.

I have illustrated and described my invention

3

in an embodiment which is highly practical. I have not attempted to illustrate certain modifications and adaptations which I contemplate as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

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

1. A boat fastening apparatus comprising a hitch bar having a horizontally disposed eye at its inner end and a socket coupling head at its outer end provided with a downwardly facing socket, the coupling head having oppositely projecting side flanges provided with holes, a coupling stud member adapted for attachment to a boat and comprising a curved head and a shank merging into the head with a downwardly facing shoulder, there being an inwardly projecting chord-like lip at the outer edge of the socket disposed below the shoulder when the socket is engaged with the coupling stud member, the coupling head being engageable with and disengageable from the stud coupling member by a tilting swinging movement of the inner end of the bar, a support engaging anchoring pin for said bar adapted to receive the eye at the inner end of the bar and support the bar in an approximately horizontal position with its coupling head in engagement with the coupling stud member affixed on a boat, and a pair of stay cables engaged at their outer ends in said holes in said flanges of coupling head and provided with attaching eyes at their inner ends adapted for engagement with the support in spaced relation to the said anchoring pin with the cables in inwardly diverging relation, each cable being provided with a pair of elongated loop-like spring supporting links arranged in oppositely disposed telescoping relation, and a coil spring arranged on said links, the arms of the links being provided with outwardly turned ends engaging the ends of the spring.

2. A boat fastening apparatus comprising a hitch bar having a horizontally disposed eye at its inner end and a socket coupling head at its outer end provided with a downwardly facing socket, the coupling head having oppositely projecting side flanges provided with holes, a coupling stud member adapted for attachment to a boat and comprising a curved head and a shank merging into the head with a downwardly facing shoulder, there being an inwardly projecting chord-like lip at the outer edge of the socket disposed below the shoulder when the socket is engaged with the coupling stud member, the coupling head being engageable with and disengageable from the stud coupling member by a tilting swinging movement of the inner end of the bar, a support engaging anchoring pin for said bar adapted to receive the eye at the inner end of the bar and support the bar in an approximately horizontal position with its coupling head in engagement with the coupling stud member affixed on a boat, and a pair of stay cables engaged at their outer ends in said holes in said flanges of the coupling head and provided with attaching eyes at their inner ends adapted for engagement with the support in spaced relation to the said anchoring pin with the cables in inwardly diverging relation.

3. A boat fastening apparatus comprising a hitch bar having a horizontally disposed eye at its inner end and a socket coupling head at its outer end provided with a downwardly facing socket,

4

the coupling head having oppositely projecting side flanges provided with holes, a coupling stud member adapted for attachment to a boat and comprising a curved head and a shank merging into the head with a downwardly facing shoulder, there being an inwardly projecting chord-like lip at the outer edge of the socket disposed below the shoulder when the socket is engaged with the coupling stud member, the coupling head being engageable with and disengageable from the stud coupling member by a tilting swinging movement of the inner end of the bar, a support engaging anchoring pin for said bar adapted to receive the eye at the inner end of the bar and support the bar in an approximately horizontal position with its coupling head in engagement with the coupling stud member affixed on a boat, and a pair of stay cables engaged at their outer ends in said holes in said flanges of the coupling head and provided with means at their inner ends for attachment to the support in spaced relation to said anchoring pin, each cable being provided with a pair of elongated loop-like spring supporting links arranged in oppositely disposed telescoping relation, and a coil spring arranged on said links, the arms of the links being provided with outwardly turned ends engaging the ends of the spring.

4. A boat fastening apparatus comprising a hitch bar having an eye at its inner end and a socket coupling head at its outer end provided with a downwardly facing socket, a coupling stud member adapted for attachment to a boat and comprising a head and a shank merging into the head with a downwardly facing shoulder, the socket having a part retainingly coacting with the shoulder when the socket is engaged with the coupling stud member, the coupling head being engageable with and disengageable from the stud coupling member by a tilting movement thereof, a support engaging anchoring pin for said bar adapted to receive the eye at the inner end of the bar with its coupling head in engagement with the coupling stud member while it is affixed to a boat, and stay cables connected at their outer ends to said bar and provided with means at their inner ends for attachment to the support in spaced relation to the said anchoring pin with the cables in inwardly diverging relation, each cable being provided with a shock absorbing spring.

5. A boat fastening apparatus comprising a hitch bar having an eye at its inner end and a socket coupling head at its outer end provided with a downwardly facing socket, a coupling stud member adapted for attachment to a boat and comprising a head and a shank merging into the head with a downwardly facing shoulder, the socket having a part retainingly coacting with the shoulder when the socket is engaged with the coupling stud member, the coupling head being engageable with and disengageable from the stud coupling member by a tilting movement thereof, a support engaging anchoring pin for said bar adapted to receive the eye at the inner end of the bar with its coupling head in engagement with the coupling stud member while it is affixed to a boat.

6. A boat fastening apparatus comprising a hitch bar having an eye at its inner end and a socket member at its outer end provided with a downwardly facing socket, a coupling stud member adapted for attachment to a boat and having a head with which said socket member may be engaged by a tilting movement of the socket

5

member, the disengagement of the socket member being prevented when the hitch bar is in an approximately horizontal position, said socket member having means disposed on one side thereof and projecting beneath said stud member head at one side of the stud member to prevent said disengagement of the socket member from the stud member head, a support engaging anchoring pin for said bar adapted to receive the eye at the inner end of the bar, said pin being adapted to receive a lock which constitutes means for preventing the disengagement of the eye from the pin.

7. A boat fastening apparatus comprising a hitch bar having an eye at its inner end and a socket member at its outer end provided with a downwardly facing socket, a coupling stud member adapted for attachment to a boat and having a head with which said socket member may be engaged by a tilting movement of the socket member, the disengagement of the socket member being prevented when the hitch bar is in an approximately horizontal position, said socket member having means disposed on one side thereof and projecting beneath said stud member head at one side of the stud member to prevent said disengagement of the socket member from the stud member head, and a support engaging anchoring pin for said bar adapted to receive the eye at the inner end of the bar.

8. A boat fastening apparatus comprising a hitch bar having a socket member at its outer end provided with a downwardly facing socket, a coupling stud member adapted for attachment to a boat and having a head with which said socket member may be engaged by a tilting movement of the socket member, the disengagement of the socket member being prevented when the hitch bar is in an approximately horizontal position, said socket member having means disposed on one side thereof and projecting beneath said stud member head at one side of the stud member to prevent said disengagement of the socket member from the stud member head, and a support engaging anchoring means at the inner end of the bar.

9. A boat fastening apparatus comprising a hitch bar having a socket member at its outer end provided with a downwardly facing socket, a coupling stud member adapted for attachment to a boat and having a head with which said socket member may be engaged by a tilting move-

6

ment of the socket member, the disengagement of the socket member being prevented when the hitch bar is in an approximately horizontal position, a support engaging anchoring means for the inner end of said bar, and a pair of stay cables connected at their outer ends to said bar and provided with attaching means at their inner ends adapted for attachment to the support in spaced relation to the said hitching bar anchoring means with the cables in inwardly diverging relation, each cable being provided with a pair of elongated loop-like spring supporting links arranged in oppositely disposed telescoping relation, and a coil spring arranged on said links, the arms of the links being provided with abutments engaging the ends of the spring.

10. A boat fastening apparatus comprising a hitch bar having a socket member at its outer end provided with a downwardly facing socket, a coupling stud member adapted for attachment to a boat and having a head with which said socket member may be engaged by a tilting movement of the socket member, the disengagement of the socket member being prevented when the hitch bar is in an approximately horizontal position, said socket member having means disposed on one side thereof and projecting beneath said stud member head at one side of the stud member to prevent said disengagement of the socket member from the stud member head, a support engaging anchoring means for the inner end of said bar, and a pair of stay cables connected at their outer ends to said bar and provided with attaching means at their inner ends adapted for attachment to the support in spaced relation to the said hitching bar anchoring means with the cables in inwardly diverging relation.

FLOYD A. SMITH.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
1,094,610	Steinhauer	Apr. 28, 1914
2,387,352	Radick	Oct. 23, 1945
2,456,839	Princell	Dec. 21, 1948

FOREIGN PATENTS

Number	Country	Date
668,786	Germany	Dec. 9, 1938