Nov. 4, 1969 A. LOKKEN 3,475,772

DRAIN ATTACHMENT FOR FLEXIBLE COVER FOR BOATS

Filed Feb. 13, 1968

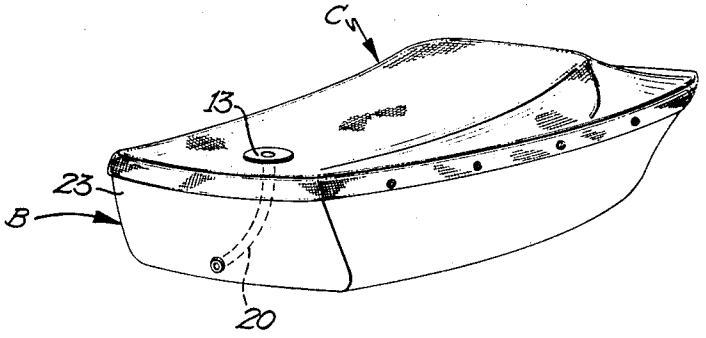


FIG 1

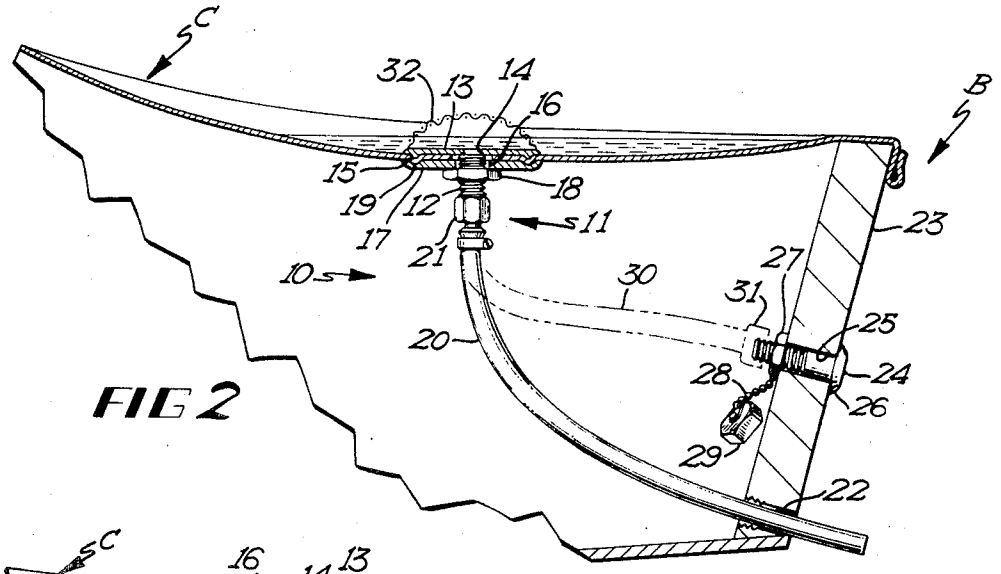


FIG 2

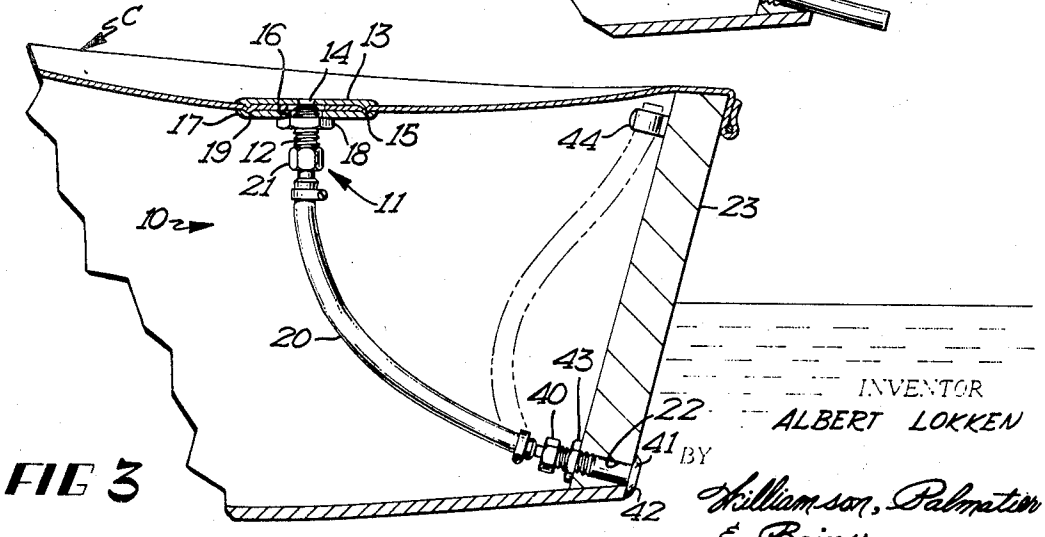


FIG 3

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United States Patent Office 3,475,772 Patented Nov. 4, 1969

3,475,772

DRAIN ATTACHMENT FOR FLEXIBLE COVER FOR BOATS

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Filed Feb. 13, 1968, Ser. No. 705,222
Int. Cl. B63b 13/00, 17/00
U.S. Cl. 9—1 3 Claims

ABSTRACT OF THE DISCLOSURE

A boat cover drain device including a fitting secured to a flexible boat cover and projecting through an opening in the cover. A flange and clamping element on the fitting positioned against the upper and lower surfaces of the flexible boat cover to releasably clamp the fitting to the cover. A flexible conduit connected to the fitting and to the conventional drain outlet in the transom of the boat to permit water to be drained therethrough from the upper surface of the cover.

SUMMARY OF THE INVENTION

A drain device for flexible covers for craft, vehicles and the like which permit the water to be readily drained from the cover and thereby prevent collapsing and sagging of the cover. The drain device including the fitting extending through an opening in the cover and releasably clamped thereon, preferable adjacent the center of the cover. The drain device being connected to the conventional drain outlet of the craft or vehicle located at a lower level than the fitting in the cover whereby water will constantly drain by action of gravity from the upper surface of the cover. Flexible covers incorporating the drain device being capable of being maintained in a taut condition even when being subjected to precipitation thereby permitting the interior of open top craft or vehicles to be kept dry.

BRIEF DESCRIPTION OF THE FIGURES OF THE DRAWING

FIG. 1 is a rear perspective view of a boat having a flexible cover which is provided with the novel drain device,

FIG. 2 is a partial cross-sectional view on an enlarged scale of a boat having a boat cover incorporating a novel drain device, certain parts thereof being illustrated in dotted line configuration in an adjusted position, and

FIG. 3 is a cross-sectional view similar to FIG. 2 but illustrating a slightly modified form of the novel drain device.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings and more specifically to FIGS. 1 and 2, it will be seen that a conventional boat B is thereshown which is provided with a flexible cover C formed of water impervious fabric and which is of conventional construction. The cover C as shown is for the purpose of keeping the interior of the boat dry and clean when the boat is not in use. The cover C is maintained in a substantially taut condition as shown and is retained in place by the conventional draw rope R which extends through a pocket in the cover. This draw cover may be tied down securely to the boat, preferably at the bow of the boat. The cover may also be provided with auxiliary grommets for the purpose of more securely retaining the cover in place on the boat.

One of the problems associated with covers for craft, such as boats and the like is that the covers will accumulate a substantial amount of water thereon when the covered boat is subjected to rain or the like. As the water

accumulates on the upper surface of the boat, the progressively increasing weight of the water tends to cause the cover to sag and in some instances to substantially collapse interiorly of the cover. In attempting to remove the cover, quite often the accumulated water escapes into the interior of the boat thus defeating the purpose for which the cover is intended.

Referring now to FIG. 2 it will be seen that one embodiment of the novel drain device designated generally by the reference numeral **10** is thereshown. This drain device **10** includes an elongate generally vertically oriented fitting **11** which is externally threaded as at **12** and which has a flange **13** integrally formed with the upper end thereof and extending radially outwardly therefrom. The fitting **11** has a bore **14** therethrough and it is preferred that the flange **13** be provided with a downturned annular shoulder **15**. The fitting **12** extends through an opening **16** in the cover C so that the flange **13** is positioned upon the upper surface of the flexible cover.

A clamping element **17** which in the embodiment shown is in the form of a washer is positioned against a lower surface of the cover C so that the fitting extends through the opening in the washer. A jam nut **18** threadedly engages the fitting **11** so that the clamping element or washer **17** is urged upwardly to cooperate with the flange **13** to clamp the cover C therebetween. In this regard, the washer or clamping element **17** is provided with an upwardly facing annular groove **19** therein which is disposed in mating relation with respect to the annular shoulder **15**. With this arrangement, the fitting **11** is clamped to the cover and is vertically oriented relative thereto.

One end of an elongate flexible conduit **20** is provided with the conventional threaded female coupling element **21** at one end thereof which threadedly engages the lower end of the fitting **11**. It is pointed out that other kinds of fittings may also be used in lieu of the threaded female coupling element **21**. The other end of the conduit **20** extends downwardly and rearwardly through the conventional drain opening **22** which is formed in the transom **23** of the boat B. In this regard, the drain opening **22** is of well-known construction and is typical as a self-baling means in conventional boats and other small craft. The drain opening is formed by a conventional fitting which is positioned in the lower portion of the transom as best seen in FIG. 2 and is normally closed by a plug when the boat is in the water. In this regard, it will be noted that the drain opening **22** is normally below the water line which is indicated by dotted line configuration.

With this arrangement, when water falls or attempts to collect upon the upper surface of the flexible cover C, the water will drain through the fitting **11** and into the flexible conduit **20** and thereafter be discharged through the lower end of the conduit. Since the rearwardly projecting end of the conduit **20** is positioned at a lower level than the upper opened end of the fitting **11**, the water will very readily and easily flow therethrough by action of gravity.

On some occasions, boats are covered while the boats are in the water and under these circumstances, the conduit **20** cannot extend through the drain opening **22** since this drain opening will be below the water line and will be plugged. Therefore an auxiliary drain opening is provided and comprises an elongate external fitting **24** which projects through an opening **25** in the transom **23** at a location disposed above the water line. The fitting **24** is provided with an out-turned flange **26** which engages the rear surface of the transom and a suitable jam nut **27** threadedly engages the inner externally threaded end portion of the fitting and cooperates with the flange **26** to clamp the fitting in place. The nut **27** is also secured to a chain **28** which in turn is secured to the internally threaded plug or cap **29** which is used to plug the inner end of

the fitting 24 when the latter is not being used as a drain outlet.

A flexible conduit 30 is provided which has a conventional female internally threaded coupling element 31 secured to its lower end that is adapted to engage the external threads of the fitting 24. The other end of the conduit 30 is also provided with an internally threaded female coupling element which is threadedly engagable with the external threads of the fitting 11. With this arrangement, the conduit 30 will be used in place of the conduit 20 when the boat is positioned in the water. Even though the drain outlet fitting 24 is positioned above the conventional outlet 22 in the transom, it will be noted that this auxiliary drain outlet is also positioned at a lower elevation than the fitting 11, so that water will readily flow from the upper surface of the cover through the conduit 30 and thereafter through the bore of the fitting 24.

In order to prevent collection of debris such as leaves and the like from plugging the bore of the fitting 11, a suitable mesh type guard 32 is provided and is secured to the flange 13 although it may also be attached to the flexible cover C.

Referring now to FIG. 3, it will be seen that a slightly different embodiment of the drain outlet is thereshown. The drain device 10 is substantially identical to that illustrated in FIG. 2 except that the lower end of the condut 20 is provided with a suitable female fitting or coupling element 40 which is secured to the lower end of the hose in a well-known manner by suitable clamps or the like. The drain opening 22 in the lower end of the transom 23 is provided with a fitting 41 which has an outturned annular flange 42 at one end thereof which engages the rear surface of the transom. The other end portion of the fitting 41 is threaded and is engaged by jam nut 43 which cooperates with the outturned flange 42 to clamp the fitting in place in the opening 22. The female coupling element 40 is readily connectible to the external threads of the fitting 41 to intercommunicate the conduit 20 with the bore of the fitting 41. This arrangement provides a positive connection between the conduit 20 to thereby prevent the conduit from becoming inadvertently disassociated with the drain outlet in the transom. A suitable friction clip 44 is provided on the inner upper surface of the transom to permit the conduit 20 to be disconnected from the fitting 11 and held in place when the cover is removed. A suitable mesh type guard is also provided in the manner of the embodiment of FIG. 2 to prevent inadvertent plugging of the bore of the fitting 11. The embodiment of the drain device illustrated in FIG. 3 also permits the cover to be used with the boat even when the boat is in the water. In this regard it will be seen that the opening in the fitting is disposed substantially below the level of the cover so the liquid will rapidly flow therefrom by action of gravity. The drain device, illustrated in FIG. 3, may of course, be used to advantage when the boat is out of the water.

It will be seen from the different embodiments that water will be prevented from accumulating on the upper surface of the cover and will prevent the cover from sagging. The drain type device can be used while the boat is being towed or when the boat is otherwise removed from the water, or it may be used to cover the boat while the boat is in the water and still obtain advantage of water removal from the outer upper surface of the cover. It is pointed out that although certain threaded fittings have been illustrated with respect to the disclosed embodiments, other types of connections may also be provided. The drain device is readily adaptable to any conventional flexible cover for boats and may also be used in conjunction with other types of covers which are used to cover open-top vehicles, devices or the like. The drain device is of inexpensive construction and requires absolutely no craftsmanship or skill in its application to a cover.

It will, therefore, be seen from the foregoing description that I have provided a novel drain-type device for use with flexible covers which is not only of simple and inexpensive construction but one which functions in a more efficient manner than any heretofore known comparable device.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of my invention.

What I claim is:

1. In combination with a flexible boat cover for covering a boat of the type having a drain outlet through the transom thereof, comprising

an elongate normally vertically oriented fitting having a bore therethrough adapted to extend through an opening in the flexible cover, said fitting having an outturned flange at the upper end thereof engageable with the upper surface of the cover adjacent the opening therein,

an annular element removably embracing said fitting and engaging the lower surface of the cover adjacent the opening therein, means engaging said annular element to urge the same into clamping relation with said flange to releasably clamp the fitting in vertically extending relation to the cover, a cooperating annular shoulder and a groove on said flange and annular element respectively,

an elongate flexible conduit having one end thereof detachably connected in communicating relation at the lower end of said fitting, the other end of said conduit being connected with the drain outlet in the boat transom to which the cover is applied, the outlet being disposed at a lower level than the lower end of the fitting whereby water will drain from the upper surface of the cover through said conduit and outlet by action of gravity.

2. The drain device as defined in claim 1 and means on said other end of said conduit adapted to releasably lock said last-mentioned end of the conduit to the drain outlet in the boat transom.

3. The drain device as defined in claim 1 and a pervious guard element overlying the open upper end of the fitting permitting water to flow therethrough but preventing debris and the like from entering said fitting.

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U.S. Cl. X.R.

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