

United States Patent

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[54] **LINE CLAMP**
 3 Claims, 4 Drawing Figs.

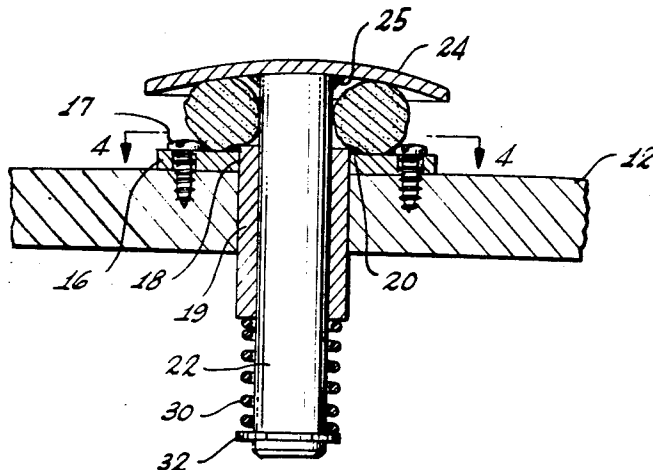
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 118, 263 SB; 114/218

[56] **References Cited**

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ABSTRACT: A line clamp comprising a ring plate adapted to be secured in position on a mounting surface, e.g., a deck, or other platform, or the like, by means of headed screws, and with a sleeve mounted in the center thereof and projecting downwardly therefrom with a bore extending into and through the supporting surface. A shank mounted for axial movement in this sleeve has a dishd upwardly convex clamp plate on its upper end, and a spring draws the shank downward to releasably clamp a line between the dishd head and the mounting ring.



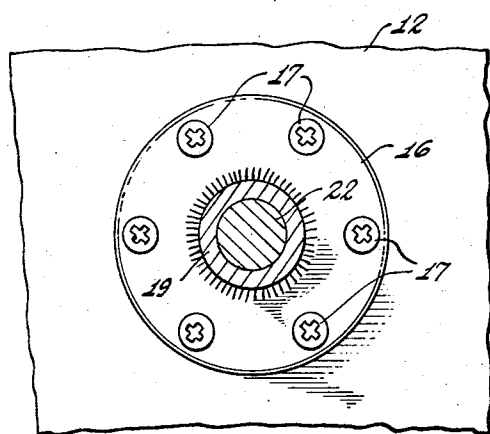
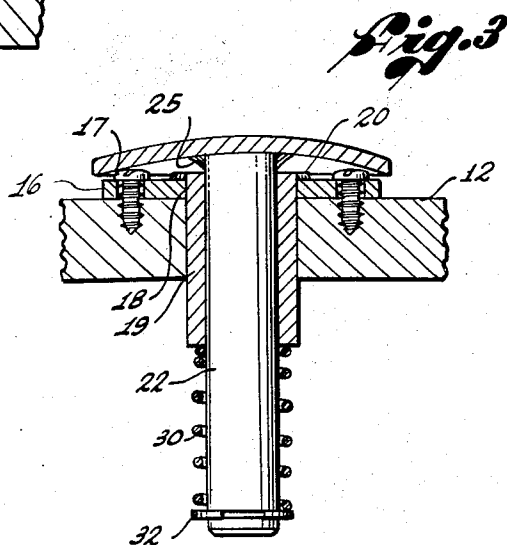
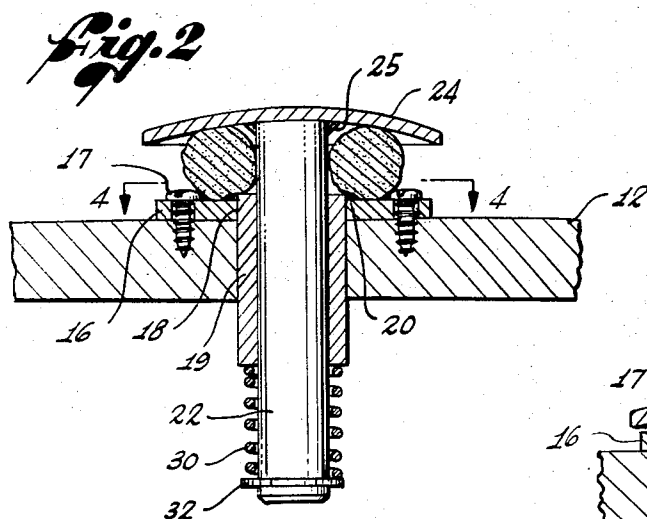
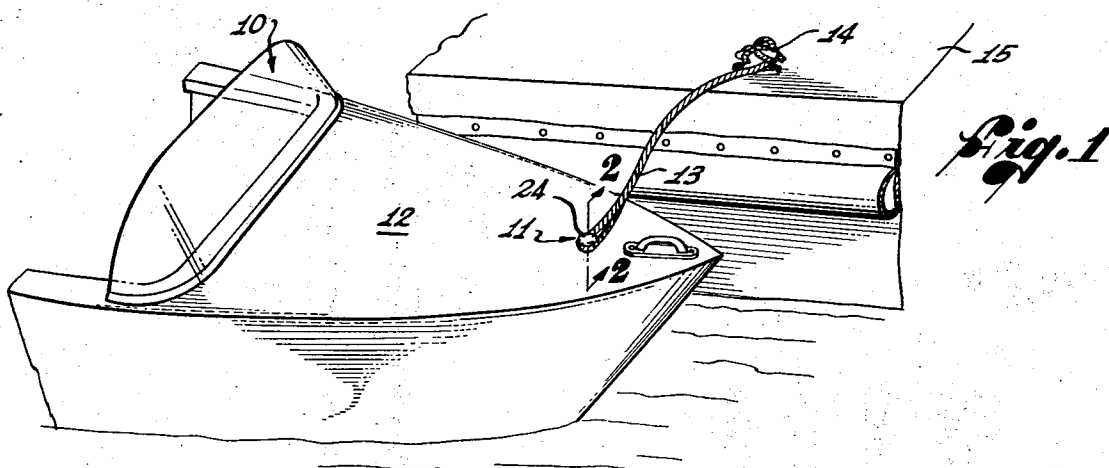


Fig. 4 INVENTOR.
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LINE CLAMP

FIELD OF THE INVENTION

This invention relates generally to spring lamp devices, and more particularly to a spring-actuated clamp contrived especially for convenient and quick clamping and anchorage of a line, e.g., a line used to secure down a load in a pickup truck, or to secure to the deck of a boat a line used to tether the boat to an anchorage ashore, etc.

BACKGROUND OF THE INVENTION

There is an unfulfilled need for a very inexpensive, easily operable line-clamping device of the class referred to in the preceding paragraph, and the purpose of the present invention is the provision of such a device.

BRIEF SUMMARY OF THE INVENTION

In a preferred embodiment of the invention I provide a circular mounting plate adapted to be secured to a support by headed screws passing through holes near its peripheral edge. Welded into the center of this plate is a downwardly projecting sleeve adapted for insertion through or into a hole in a mounting member. A cylindrical shank is slidably mounted in this sleeve, and has on its end portion below or beyond the sleeve, a coil compression spring which acts between the lower end of the sleeve and a washer on the extremity of the shank to pull the shank downwardly into the sleeve. A dished, preferably circular clamp plate is welded, concave side downward, onto the upper end of the shank. This plate preferably exceeds the size of the mounting plate 80, as to present a peripheral edge which can be conveniently grasped by the fingers. This plate can be pulled upwardly, against the aforementioned spring, the line inserted under it, and the plate then released to clamp the line. Novel and advantageous features of the invention will be further set forth hereinafter.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a prospective view showing an application of the line clamp of the invention;

FIG. 2 is a vertical longitudinal section through the line clamp of the invention, showing a line clamped thereby;

FIG. 3 is a view similar to FIG. 2 but showing the line clamp without a line clamped thereon; and

FIG. 4 is a sectional view taken in accordance with line 4-4 of FIG. 2.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In FIG. 1 the line clamp of the invention is shown as applied to one of its typical uses. Thus, a boat 10 is equipped with a line clamp 11 in accordance with the invention. The clamp is shown as mounted on the deck 12, near the front of the boat. The purpose is to releasably clamp a line 13 by which the boat may be tethered to a holding means such as indicated at 14 on a pier or landing float 15.

The clamp comprises a preferably circular mounting plate 16 secured by headed wood screws 17, preferably Phillips screws, to the deck 12, the screws passing through holes 17 in plate 16 spaced just inwardly of the peripheral edge of the plate. The plate 16 has a center hole 18 receiving the upper extremity of a downwardly projecting mounting sleeve 19, the two being simply, and inexpensively, secured together by

welding at 20.

The sleeve 19 preferably projects through and somewhat below the deck 12.

A cylindrical clamp shank 22 is slidably received in the sleeve 19, and has on its upper end a line clamp head or plate 24. The latter comprises a dished circular plate, its convex side uppermost. The plate is welded on its under side to the top of the shank 22, as indicated at 25.

A coil compression spring 30 encircles the shank 22 below the lower end of the sleeve and a washer 32 on the lower end of the shank. FIG. 3 shows the clamp in normal position. The spring 30 preferably has some precompression in this position. To clamp the line, the head 24 is conveniently grasped by its circular edge, which is elevated somewhat above the deck, and also in an overhanging position relative to the mounting plate 16, and is then pulled up until the line 13 can be wrapped about the shank. Or, a loop may be on the end of the line engaged over and drawn under the head 24. The head is then released, and drawn down against the line by expansion of the spring 30.

Attention is particularly drawn to the advantages provided by the concave underside of the dished head plate or handle. To begin with, the downwardly curved peripheral region of the dished plate closes over and hides the heads of the screws 17, affording a neat appearance when the clamp is in its normal position of FIG. 3. Secondly, the peripheral lower edge of the head plate engages the heads of the screws 17 as limit stops, and prevents the rough weld material at 25 from engaging and gouging the upper end of the sleeve 19. The head 24 is always stopped by the screwheads, in a fixed closed position, and not allowed to move lower to an undeterminate position depending upon the accident of more or less weld material left from the weld. The excess weld material then need not be cleaned away, and manufacturing cost is thereby materially reduced.

The clamp has the advantages of excellent effectiveness for its purpose, convenience to the user, a slightly appearance, and a construction so contrived as to result in a very low cost of production.

I claim:

1. A line clamp comprising:

a mounting plate having a plurality of screw holes therethrough spaced inwardly from its periphery, the center of said plate having a hole therethrough,
a sleeve having its upper extremity in said hole, said sleeve projecting below said plate,
a cylindric shank slidably mounted in said sleeve and protruding below the lower end thereof,
an upwardly facing shoulder on the lower end of said shank, a compression spring encircling said shank between said shoulder and the lower end of said sleeve, and
a handle on the upper end of said shank in the form of a dished, downwardly concave plate centrally welded to the upper end of the shank, said plate having a periphery similar to, but larger than, the periphery of said mounting plate.

2. The clamp of claim 1, wherein the dished handle plate and the mounting plate are circular in contour, and the former is of slightly larger diameter than the latter.

3. The subject matter of claim 1, wherein the underside of the dished plate is shaped and positioned to engage the heads of said screws as limit stops in absence of a line in the clamp.