Sept. 4, 1945. A. BALIMAN 2,383,950

MOORING DEVICE

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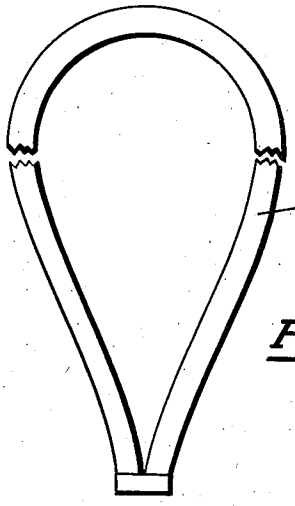


Fig 1

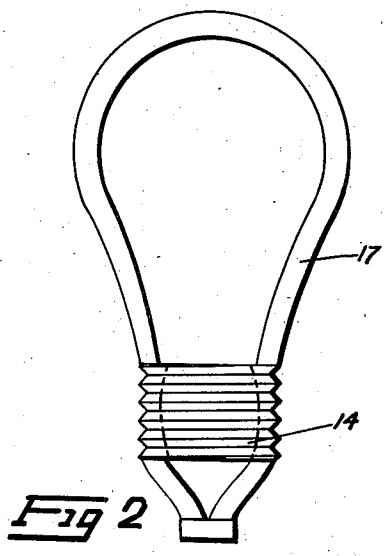
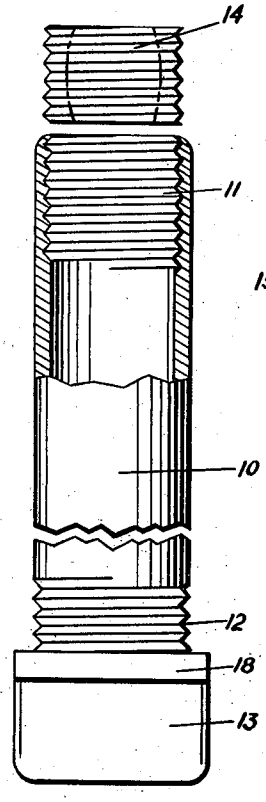


Fig 2



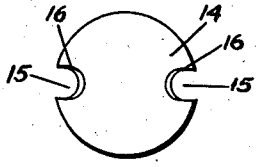
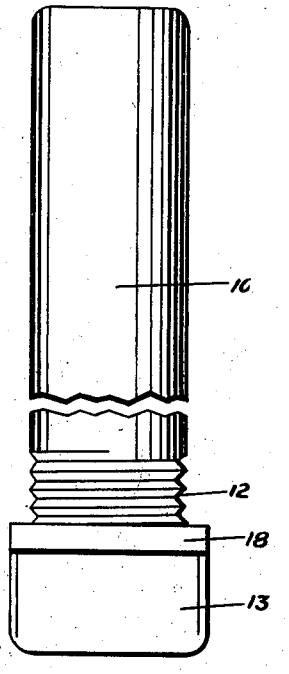


Fig 5



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Fig 3

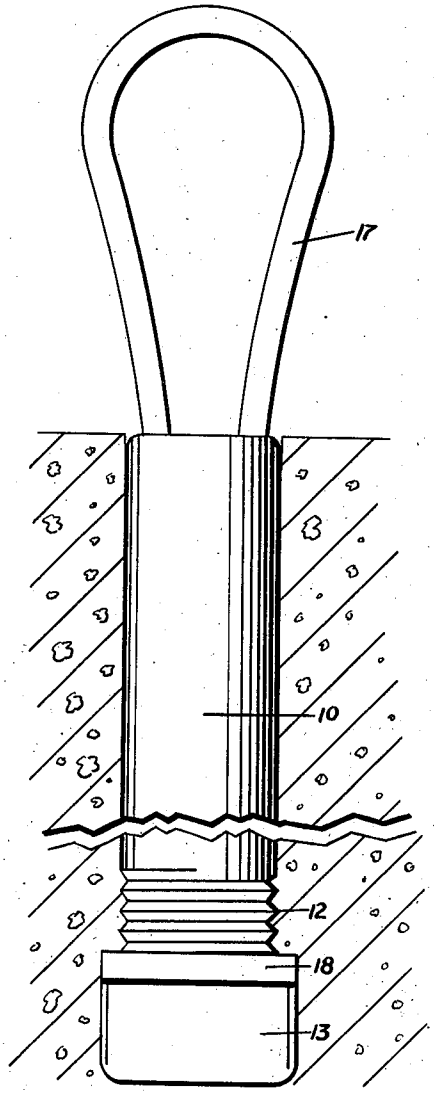
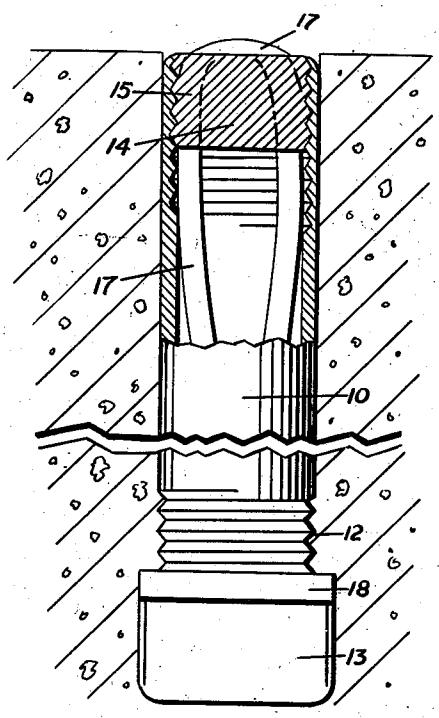


Fig 4



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UNITED STATES PATENT OFFICE

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MOORING DEVICE

Albert Baliman, United States Navy

Application February 16, 1945, Serial No. 578,276

4 Claims. (Cl. 189—90)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

This invention relates to mooring devices and particularly to such devices for securing planes to airfield and carrier landing strips and runways.

One object of this invention is to provide a mooring post wherein the eye, loop, hook, or other retaining means through which a cable, line, or snap-on device is attached may be kept free from dirt, grime, or ice and hard-packed snow and sleet.

Another object is to provide a mooring post so arranged that the retaining means will be flush with the ground, thus eliminating hazardous obstructions to aircraft, vehicles, and personnel.

Another object is to provide a weather-proof mooring device so arranged that it may be used in all climates.

Another object is to provide a mooring device that will withstand tensions of about 200,000 lbs. per square inch.

Another object is to provide a mooring device having the above mentioned advantages and yet be of inexpensive and simple construction.

Further objects and advantages of this invention will be apparent by reference to the following description in connection with the accompanying drawings, in which

Figure 1 is an exploded side view, partly in section, of a preferred form of this invention,

Figure 2 is a side view showing the parts partially assembled,

Figure 3 is a side view of the device assembled, locked, and installed, with the cable loop extended ready to receive a cable, rope, or snap-on device,

Figure 4 is a side view of the device assembled, locked, and installed, with the cable loop retracted into the mooring device, and

Figure 5 is a top plan view of a stud which forms a part of the device of the invention.

Referring to the drawings in detail, Figure 1 shows the mooring device as consisting of a hollow housing in the form of a cylindrical pipe 10 having an inner threaded portion 11 at one end and an outer threaded portion 12 at the other end. A threaded cap 13 having an edge 18 is screwed on to the end having the outer threaded portion. The edge portion 18 forms an abutment providing a holdfast means for the pipe 10 which is imbedded in a firm foundation such as, for example, concrete, asphalt, or other suitable material. It is obvious that retaining means other than that shown in the drawings may be used to aid in holding the pipe or housing 10 in the foundation in which it is buried such as, for example, serrations, cross-pins, dovetailing, and other similar means. A stud 14 is threaded to form the male fitting for the threaded inside portion 11 of the hollow cylindrical pipe.

The stud 14 is provided with slotted portions or recesses 15 that are cut or milled so that they are at diametrically opposite portions of the stud. The recesses are made large enough to accommodate, without too much play, a steel cable welded or soldered at its ends to form a loop 17. A fairing, bevel, or taper 16 is formed on the inner portions of the recesses 15 to permit the steel cable to be practically flush with the stud 14 when the cable is pushed down into the pipe, as shown in Figure 4. The inside of the hollow pipe may be packed with graphite-grease, or other suitable waterproof lubricating material.

In operation, when the mooring post is in use, the eye of the loop 17 is extended to receive a line, cable, or snap-on device. When it is not in use, however, the loop may be retracted into said post so that no protuberance remains above the runway.

Should the steel loop 17 be cut or damaged by an overriding vehicle due to failure to insert the loop into the pipe 10, the loop is readily and cheaply replaceable. However, it would require a very hard, sharp, and heavy object to cause any appreciable distortion or damage to the loop.

The use of the thick lubricant such as, for example, graphite-grease, will permit the steel loop 17 to slide in and out of the recesses 15 without too much effort and will effectively prevent clogging from dirt and ice. What little ice does form in the space between the slots and the steel loop is easily chipped off when the loop is lifted out of the pipe. The grease packing need not ordinarily be changed within a period of one year or more, depending upon the climate and the amount of grime and dust that collects on runways.

A suitable acid-resisting material may be applied to all the outside parts of the mooring post.

The invention may be used to moor boats, ships, and heavy industrial equipment. It may also be used in places where, for aesthetic or other reasons, it is best to bury the mooring means when it is not in use. The mooring means, as shown in the drawings, is the extensible loop, though other means similar to the loop can be used.

It is to be understood that various modifications and changes may be made in this invention without departing from the spirit and scope thereof as set forth in the appended claims.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

What is claimed is:

1. A mooring device adapted to be imbedded in a solid medium and comprising a hollow housing provided with retaining means for said medium and an inner threaded portion at one end, a threaded member engaging said inner threaded portion and positionable substantially flush with the end of said housing, said member having longitudinal recesses therein, and an extensible loop engaging said recesses of said member and movable into and out of said housing.

2. A mooring device adapted to be imbedded in a solid medium and comprising a hollow housing provided with retaining means for said medium and an inner threaded portion at one end, a threaded member engaging said inner threaded portion, said member having longitudinal recesses diametrically disposed therein, and an extensible loop encircling said member in engagement with said recesses and movable into and out of said housing.

3. A mooring device adapted to be imbedded in a solid medium and comprising a hollow housing provided with retaining means for said medium and an inner threaded portion at one end, a threaded member engaging said inner portion and positionable substantially flush with the top of said housing, said member having bevelled recesses diametrically disposed therein, and an extensible loop engaging said recesses of said member and movable into and out of said housing.

4. A mooring device adapted to be imbedded in a solid medium and comprising a hollow tubular housing having an inner threaded portion at one end and an outer threaded portion at the other end, a flanged element screwed onto said outer threaded portion, a threaded member having longitudinal recesses therein, said threaded member engaging said threaded inner portion and positionable substantially flush with the top of said housing, an extensible loop engaging said recesses of said threaded member and movable into and out of said housing, and lubricating means substantially filling said housing when said loop is retracted or extended.

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