Feb. 9, 1960 C. W. TUNSTEAD 2,924,291

FOLDING BOARDING LADDER

Filed May 14, 1956

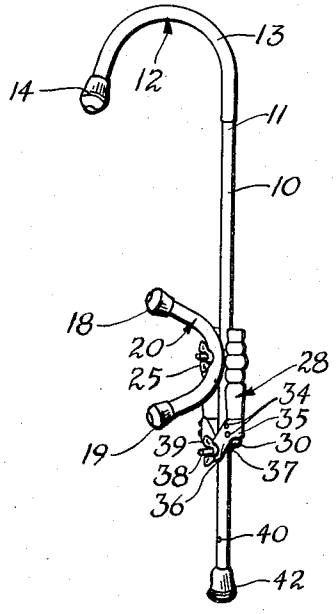


FIG. 1

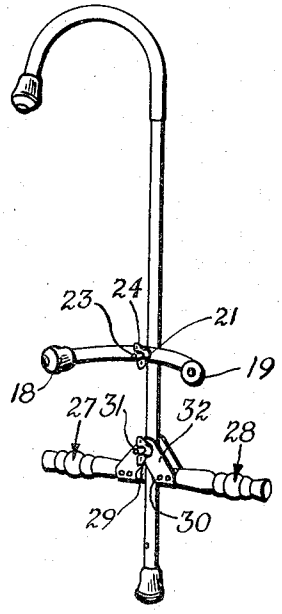


FIG. 2

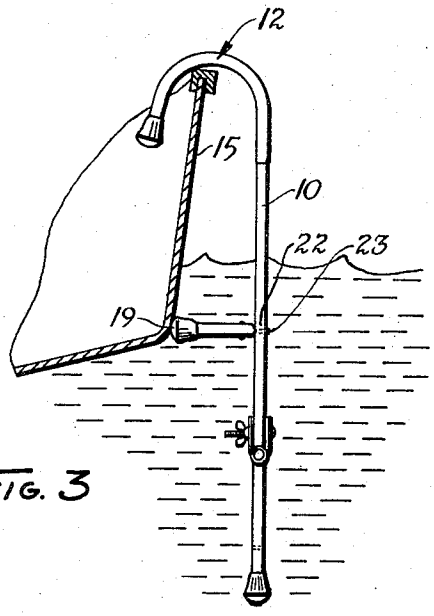


FIG. 3

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FOLDING BOARDING LADDER

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1 Claim. (Cl. 182—156)

This invention relates to a folding boarding ladder. More particularly the invention relates to an improved single rod boarding ladder provided with a collapsible step arrangement, movable bumper elements and a hook on one end of the single rod, with the step arrangement and bumper structure pivotal into parallel alignment with the rod and hook on the end thereof.

Many types of boarding ladders with hooks provided on the ends thereof and permanently mounted steps are known in the art. However, the art is needful of a light, economical boarding ladder which is simple to mount over the side of a boat and yet occupies very little storage space in the boat.

Accordingly, it is the object of this invention to provide an improved light and economical boarding ladder which occupies very little storage space and can be handled by a boat occupant, or by someone in the water, with facility.

It is another object of this invention to provide an improved single pole boarding ladder for attachment to the side of a boat, or other structure, and having on opposite sides of the single pole structure pivotal steps which are movable into operative relationship when turned to extend at right angles to the pole axis and a pivotal bumper arrangement which can be adjusted to provide at least one bumper element at any angle relative to the pole axis.

A further object of this invention is to provide an improved, light and economically constructed boarding ladder of a single rod element having one end bent to form a hook for securing the ladder to the side of a boat or other structure, a pivotal bumper which is adjustable to rest against a boat surface, or other structural surface and detachable pivotal steps which may be mounted at selective points near the depending rod end.

Further objects and advantages will be apparent from the following description of the accompanying drawings wherein:

Figure 1 is a perspective view of the boarding ladder showing the steps in folded relationship with the rod element and the bumper in parallel alignment with the rod element and its hooked end.

Figure 2 is a perspective illustrating the steps in an expanded operative relationship relative to the rod elements and the pumper elements pivoted at right angles to the axis of the rod.

Figure 3 illustrates the structures of Figures 1 and 2 in operative relationship depending over a boat edge.

As indicated by the drawings, the simplified, economical structure herein provided is a light, tubular rod **10**, which may be aluminum material, having its one end **11** curved or bent to form a holding hook **12**. The holding hook **12** is covered by a light, plastic sheathing **13** and a rubber cap **14** is pushed over the ends of the sheathing and tube. This sheathing **13** and cap **14** protects a painted or finished surface from damage by the metal of rod **10**.

As illustrated in Figure 3, the rod length is such that

the boarding ladder, when suspended from a boat edge, has a lower end depending a short distance into the water. Along the intermediate length of the rod **10** and at a point which is spaced at an approximate distance of the depth of a normal boat side **15**, there is attached to the rod **10** a pair of bumpers **18** and **19** mounted upon the leg ends of the pivotal U-shaped rod **20**. Centered in the U-shaped rod **20** is an aperture **21** positioned in alignment with aperture **22** in rod **10**. A threaded bolt **23** is mounted through the apertures **21** and **22** to secure the U-shaped rod **20** to the rod **10**. A wing nut **24** with lock washer **25** is turned down or mounted on the threaded end of bolt **23** to secure the rods **10** and **20** together in a relatively pivotal relationship. Ordinarily, the pressure of the fingers in turning the wing nut **24** down is sufficient to hold the U-shaped rod **20** at any angular position desired relative to the longitudinal axis of rod **10**. As illustrated in Figure 3, the bumpers **18** and **19** are aligned in parallel relationship to abut against the boat side **15**. However, oftentimes the boat side, as represented by **15**, is much shorter. In an instance of this character the U-shaped rod **20** can be pivoted to a desired angle in order to cause one or the other of the bumpers **18** and **19** to brace against the boat side and hold the ladder in a mounting or dismounting relationship with respect to the boat side.

At the lower end of the ladder there is provided a pair of pivotally mounted steps **27** and **28**. The steps **27** and **28** are provided by short lengths of tubing **29** and **30**, respectively, each having an extending free end with their inner ends mounted in pivotal U-shaped brackets **31** and **32**. For example, the inner end of step **28** is fastened by a pair of rivets **34** extending through corresponding apertures (not shown) in the bracket **32**, adjacent the connecting portion **35** for the legs of the bracket **36** and **37**. Suitable apertures (not shown) are provided in the free ends of the bracket legs **36** and **37** and through the rod **10** to attach these parts together by bolt **38**, upon which is mounted a wing nut **39**. Inasmuch as the leg **27** is mounted in a similar manner on the opposite side of rod **10**, the one illustration is believed sufficient. An additional aperture **40** is provided in the rod **10**, adjacent the lower depending end thereof, for placement of the step elements **27** and **28** on this portion of the rod upon alignment of the apertures in the bracket elements **31** and **32** therewith and insertion of the bolt **39** therethrough and the apertures at the ends of bracket legs in the manner as described. In order to close the lower end of the rod **10** a resilient cap **42** is preferably mounted thereon.

In accordance with the patent statutes, I have described the principles of construction and operation of my boarding ladder, and while I have endeavored to set forth the best embodiments thereof, I desire to have it understood that these are illustrative and that changes may be made within the scope of the following claims without departing from the spirit of my invention and improvement.

I claim:

A boarding ladder comprising a rod element having a curved hook at one end adapted to engage over the upper edge of a wall to be scaled, step means located toward the other end of the rod element including a pair of elongated stepping elements, a bracket member for each elongated element having one end fixedly connected to one end of its associated elongated element and its other end pivotally connected to said rod element, said bracket members inclining upwardly when said elongated elements are pivoted into a position normal to the axis of said rod element so that said one end of the elongated elements will then abut against said rod element at opposed points substantially below the pivotally connected ends of said brackets, said brackets inclining at a 45° angle when said

elongated elements are normal so that said elongated element can be pivoted into parallelism with said rod element to collapse the ladder, and a U-shaped bumper element having its bight pivotally connected to said rod element intermediate said hooked end and the elongated stepping elements so that the plane of said bumper element can be provided from a position normal to said rod element to a position in parallelism therewith to collapse the ladder.

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