United States Patent

[11] 3,587,874

[72] Inventor **Edwin H. Graf**
W187-S6876 Jewel Crest Drive, Muskego, Wis. 53150

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[54] **BOAT-SUPPORTING AND LAUNCHING DEVICE**
3 Claims, 7 Drawing Figs.

[52] **U.S. Cl.** **214/1-A,** 61/67, 193/35
[51] **Int. Cl.** **B63c 3/02**
[50] **Field of Search** ..... 214/1, 1 (A), 84; 61/67

[56] **References Cited**

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2,713,951	7/1955	Davies	214/84X
2,821,315	1/1958	Bucher	214/84X
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3,221,899	12/1965	Gronlund	214/1(A)
3,227,292	1/1966	Jacobs	214/1(A)

Primary Examiner—Gerald M. Forlenza
Assistant Examiner—Frank E. Werner
Attorney—Morsell & Morsell

ABSTRACT: A ramp is positioned on a shore with one end in the water, and has a winch on its shore end, the support being furnished by a footing member resting on the shore and having spaced-apart upwardly projecting roller assemblies. The frame of the ramp comprises spaced outer longitudinals having lower surfaces which engage on the spaced rollers, there being a center longitudinal which projects below the outer longitudinals to fit between the rollers, and there being boat keel supporting rollers between the outer longitudinals and over the upper edge of the center longitudinal. There are also longitudinally projecting hull-guiding rollers intermediate the length of the ramp.

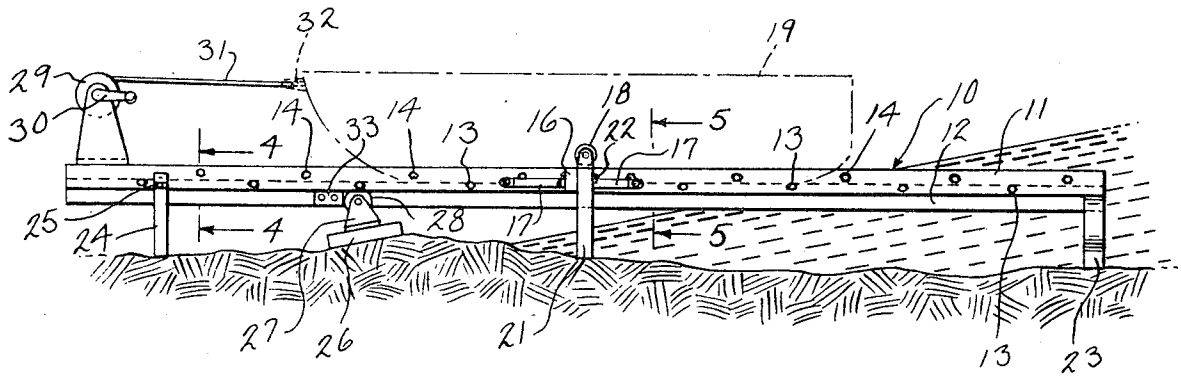


Fig. 1

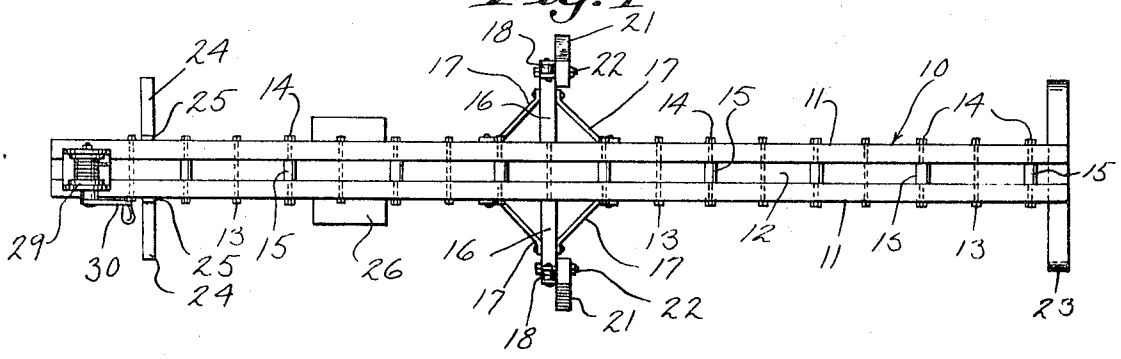


Fig. 2

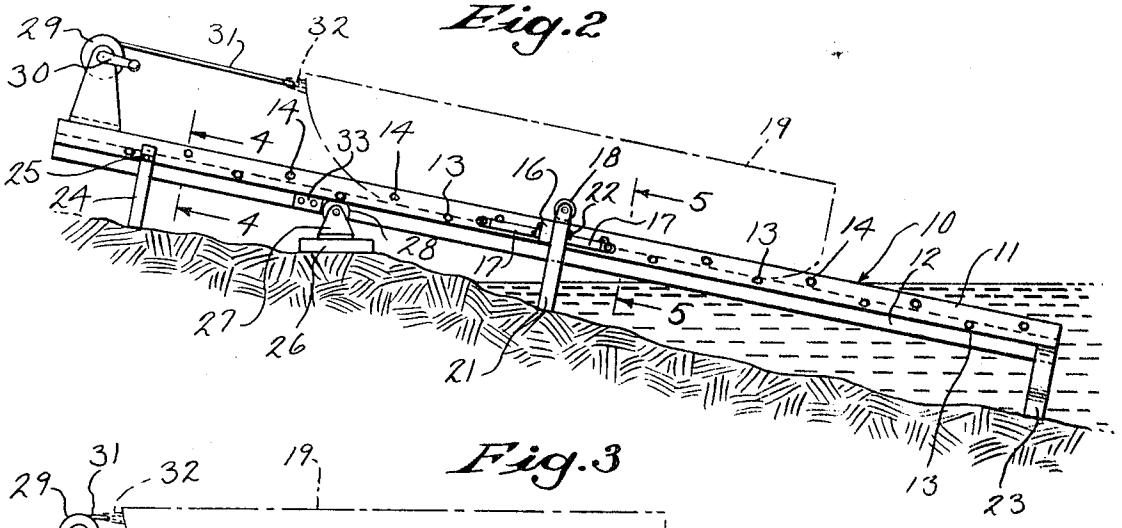


Fig. 3

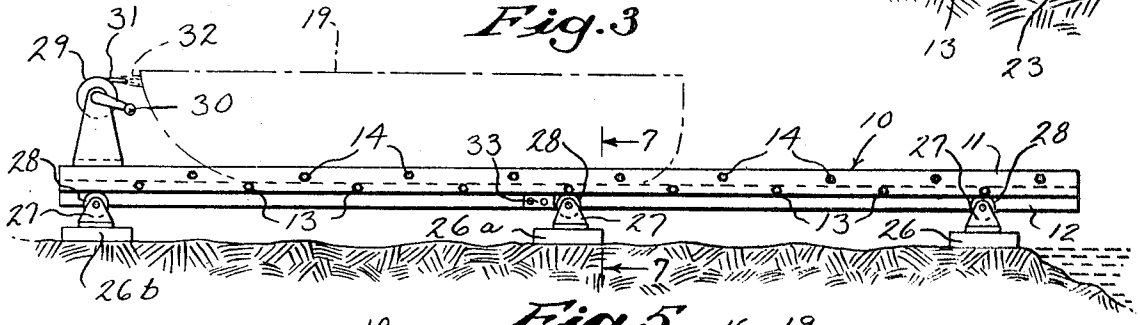


Fig. 4

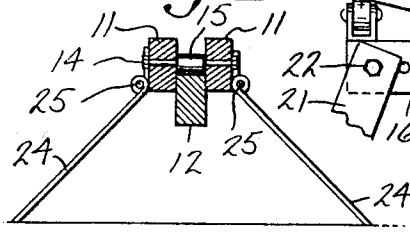


Fig. 5

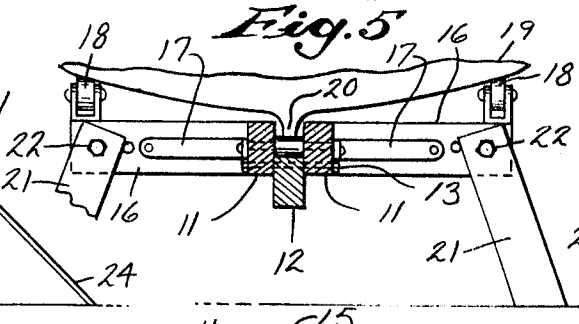


Fig. 7

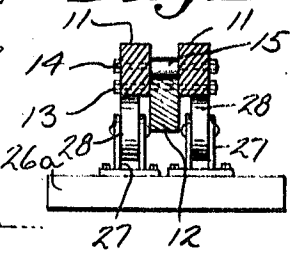
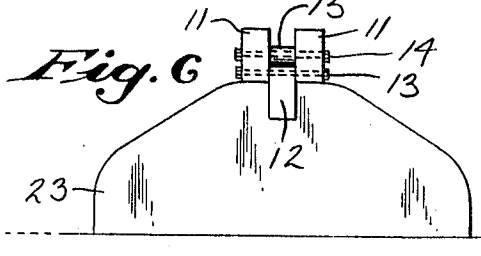


Fig. 6



INVENTOR
EDWIN H. GRAF

BY Mosell & Mosell

ATTORNEYS

BOAT-SUPPORTING AND LAUNCHING DEVICE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention pertains to a readily portable device for supporting boats on the shore of a lake or stream whereby the boat may be readily launched and easily pulled up on the ramp for storage between uses.

2. Description of the Prior Art

Heretofore boat-supporting ramps have been proposed such as those disclosed in Gronlund U.S. Pat. No. 3,221,899 and Jacobs U.S. Pat. No. 3,227,292. These devices are, however, relatively complicated and expensive and must be tilted in order to completely remove the boat from the water. Furthermore, these devices are not easily installed or easily removable for storage during the winter.

SUMMARY OF THE INVENTION

The present invention provides a ramp which is supported intermediate its length on a footing having spaced upwardly projecting supporting means or rollers whereby the ramp may be readily adjusted to proper position for use, with one end permanently in the water. The ramp comprises a pair of outer longitudinal members and a downwardly offset center longitudinal member, with the three members secured together, the lower surface of the outer longitudinal members being adapted to engage on the spaced rollers of the footing support, and there being a series of keel-supporting rollers supported between the outer longitudinals and above the upper edge of the center longitudinal.

A general object of the invention is to provide a readily portable boat-supporting and launching device which can be quickly installed in the spring of the year and easily removed before winter sets in.

A further object of the invention is to provide a boat-supporting and launching device in which the outer end is adapted to remain permanently in the water during a season of use, and which is so arranged that the boat may be pulled up and down on the permanently inclined ramp between uses, there being no need to tilt the ramp to get the boat clear of the water.

A further object of the invention is to provide a device of the class described which can be inexpensively constructed of relatively few parts and which is light in weight so that it can be installed and removed by one man.

A further object of the invention is to provide a boat-supporting and launching device which is neat in appearance, efficient in operation, foolproof, and otherwise well adapted for the purpose described.

With the above and other objects in view, the invention pertains to a boat-supporting and launching device and all of its parts and combinations, as set forth in the claims and all equivalents thereof.

BRIEF DESCRIPTION OF THE DRAWING

In the accompanying drawing, illustrating one complete embodiment of the preferred form of the invention, in which the same reference numerals designate the same parts in all of the views:

FIG. **1** is a top plan view of the device;

FIG. **2** is a side elevational view showing the device installed for use, with the use of one of the roller-equipped footing members;

FIG. **3** is a view showing the device completely pulled up on the shore and resting on three of the roller-equipped footing devices;

FIG. **4** is a sectional view taken approximately on the line 4–4 of FIG. **2**;

FIG. **5** is a sectional view taken approximately on the line 5–5 of FIG. **2**;

FIG. **6** is a view looking at the outer end of the device, showing the end support in elevation; and

FIG. **7** is a sectional view taken approximately on the line 7–7 of FIG. **2**.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring more particularly to the drawing, the numeral **10** designates the ramp portion of the improved device, which ramp portion is formed of three elongated longitudinals such as 2×4's. The numeral **11** designates the pair of spaced-apart outer longitudinals, and the numeral **12** the center longitudinal which is supported between the longitudinals **11** in a position offset therebelow, as is clear from FIGS. **4** and **7**. The three longitudinal members are bolted together by a series of bolts **13** which extend transversely therethrough in the manner shown in FIGS. **5** and **7**. Supported for rotation on bolts **14**, which extend through the spaced longitudinals **11**, is a series of keel-supporting rollers **15**. Projecting from an intermediate portion of the ramp are boat-guiding means which comprise lateral supports **16** which are suitably braced by braces **17**. On the ends of the lateral supports **16** are roller guides **18** which are positioned to engage transversely spaced portions of the hull of a boat **19** as it is being pulled up the ramp (see FIG. **6**), the keel **20** of the boat rolling on the rollers **15**. Also at the outer end of the lateral supports **16** are swingable legs **21** which are swingable on pivots **22** into and out of the supporting position shown in FIGS. **2** and **5**. At the outer end of the device is a removable end stabilizer **23** which is adapted to support the ramp somewhat above the bottom of the lake, as shown in FIG. **2**. At the land end of the ramp there may be stabilizer legs **24** which are pivoted to the longitudinals **11** as at **25** (see FIG. **4**) for swinging movement into and out of supporting position.

In use, the ramp is supported on the shore by a plate or footing member **26** having spaced upstanding brackets **27** for rollers **28**. With the novel cross-sectional contour of the ramps as shown in FIG. **7**, the rollers **28** engage the lower surfaces of the longitudinals **11** on each side of the center longitudinal **12**. The center longitudinal is accommodated between the rollers **28** and serves as a guide to keep the ramp on the rollers. For use in pulling the device back on shore, it is desirable to have several of the roller-equipped footings for use in the manner shown in FIG. **3**, as will be hereinafter described.

At the shore end of the ramp is a winch **29** which is adapted to be operated by a crank **30** to control the winding and unwinding of a cable **31** which is detachably connectable to the bow of the boat **19**, as at **32**.

In use of the device, in the spring of the year one of the footing members **26** is firmly planted on the shore near the water's edge, in the manner shown in FIG. **2**. The ramp is then placed on the rollers with the end stabilizer **23** outwardly of the rollers. The ramp is then pushed toward the water until its outer end is in sufficiently deep water to launch a boat, as is shown in FIG. **2**. Then the intermediate legs **21** and the legs **24** of the shore end stabilizer are swung downwardly into ground-engaging position, and the ramp is in a position where it may remain for the entire boating season.

It is desirable to removably connect stop blocks **33** in the position shown in FIG. **2** to positively prevent the ramp sliding toward the water after it is in position. When it is desired to take a boat out of the water between uses, it is merely necessary to attach the end of the cable **31** to the boat, guide the keel of the boat between the outer ends of the longitudinals **11**, and then operate the crank of the winch to pull the boat up on the ramp.

It is to be noted that the ramp is approximately twice as long as the boat with which it is to be used. This provides ample length for the boat to be pulled clear of the water for storage between uses in the manner shown in FIG. **2**. Due to the length of the ramp, it may project a sufficient distance beyond the footing **26** into the water so that it is not tiltably overbalanced when the boat is pulled up to the position of FIG. **2**. In pulling the boat upwardly on the ramp, the boat will be guided by the rollers **18** which engage opposite sides of the hull. When it is desired to again use the boat, the winch is operated to let out the cable **31** and the boat will roll into the water by gravity.

At the end of the boating season, one man may pull the entire device out of the water by removing the stop blocks **33**,

swinging the stabilizer legs **21** and **24** upwardly, and then by pulling the ramp inwardly on the rollers **28**. During such procedure it is preferred to utilize two more sets of wheel-supporting footings such as the sets **26***a* and **26***b*. The ramp and boat may then be placed down on the three sets and left in this position, as shown in FIG. **3**, for the winter season thereby making it easy to reinstall in the spring, it being desirable to reinstall the stop blocks **33** in the position shown in FIG. **3**. Also in the winter season, if it is preferred, the boat may be removed from the ramp, and the boat, ramp, and footings may be placed in a shelter for storage.

It is apparent that due to the novel construction of the ramp and its cooperation with the wheeled supports, one man may easily install or remove the device and one man may easily operate it for boat-launching purposes. The device is simple and inexpensive to manufacture, and may be marketed for relatively low cost.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

I claim:

1. A boat-supporting and launching device comprising a footing positionable on a shore adjacent the water having an upwardly projecting supporting means with rollers thereon, an elongated ramp, said supporting means and ramp having interengaging parts whereby the ramp may be guided in longitudinal rolling movement on the footing to a seasonally permanent inclined position where an end of the ramp projects a selected distance into the water, and whereby the ramp may be thereafter supported intermediate its length on said footing, adjustable stop means for limiting movement of the ramp on the footing, leg means projecting from the shore end of the ramp and engageable with the shore inwardly of the footing for maintaining the ramp in said inclined position, and means for pulling a boat out of the water onto the inclined ramp, the ramp being nearly twice as long as the boat with which it is to be used so that it may be caused to project a sufficient distance beyond the footings into the water that the ramp is not tiltably overbalanced when the boat is pulled up on the ramp.

2. A boat-supporting and launching device comprising a footing positionable on a shore adjacent the water and having upwardly projecting supporting means, an elongated ramp, said supporting means and ramp having interengaging parts whereby the ramp may be guided in longitudinal movement on the footing to an inclined position where an end of the ramp projects a selected distance into the water and whereby the ramp may be thereafter supported intermediate its length on said footing, roller means on the ramp positioned for rollably supporting a boat, and means for pulling a boat out of the water onto the inclined ramp, in which the supporting means on the footing comprises spaced rollers, and in which the ramp comprises spaced outer longitudinals and a center longitudinal which is offset below the outer longitudinals, positioned on the spaced rollers and the center longitudinal fitting between the spaced rollers.

3. A boat-supporting and launching device comprising a footing positionable on a shore adjacent the water and having upwardly projecting supporting means, an elongated ramp, said supporting means and ramp having interengaging parts whereby the ramp may be guided in longitudinal movement on the footing to an inclined position where an end of the ramp projects a selected distance into the water and whereby the ramp may be thereafter supported intermediate its length on said footing, roller means on the ramp positioned for rollably supporting a boat, and means for pulling a boat out of the water onto the inclined ramp in which there is boat-guiding means projecting laterally from both sides of an intermediate portion of the length of the ramp, which means has rollers positioned for engagement with transversely spaced portions of the hull of a boat, and in which there are legs swingably connected to outer portions of said boat-guiding means for movement into and out of supporting engagement with the ground.