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Stark

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[54] METHOD OF CONSTRUCTING A MOVABLE BULKHEAD

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[52] **U.S. Cl.** **29/469,** 4/172

[51] **Int. Cl.** **B23p 21/00**

[58] **Field of Search** ..... 29/155 R, 434, 469; 4/172.15, 172.11 X, 172.12, 172.19, 172

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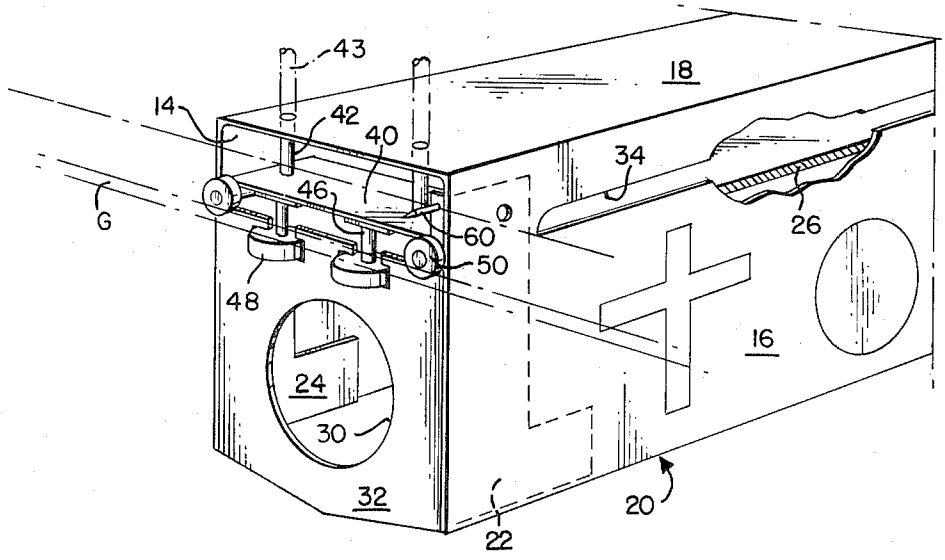
Primary Examiner—Charlie T. Moon

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[57] **ABSTRACT**

A hollow fiberglass bulkhead is constructed for submersion in a swimming pool. Two boxes open-top and open-ended are joined, a shelf is added, end supporting hardware is added, a bottom is placed on the box and the ends are closed and the box is then inverted to be installed in the swimming pool. Balsa wood plates provide rigidity and partial flotation while two end rollers prevent the bulkhead from becoming twisted as it is moved along the pool.

5 Claims, 10 Drawing Figures



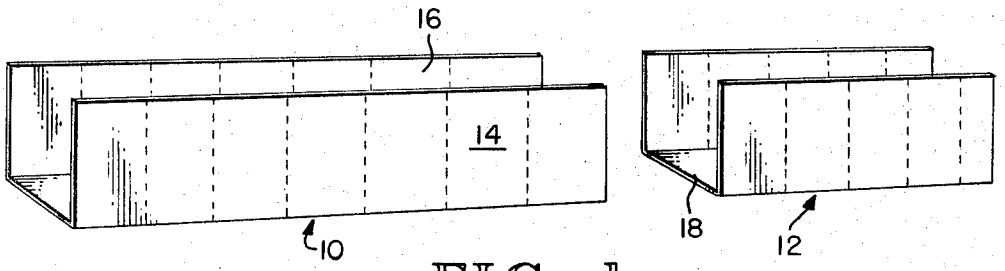


FIG. 1

FIG. 2

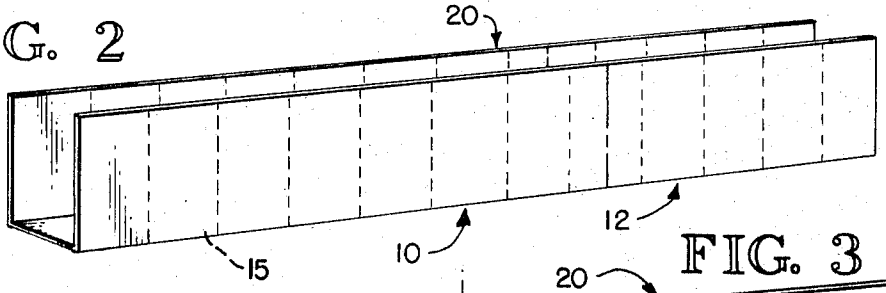
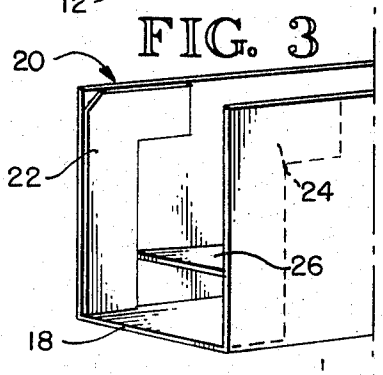


FIG. 3



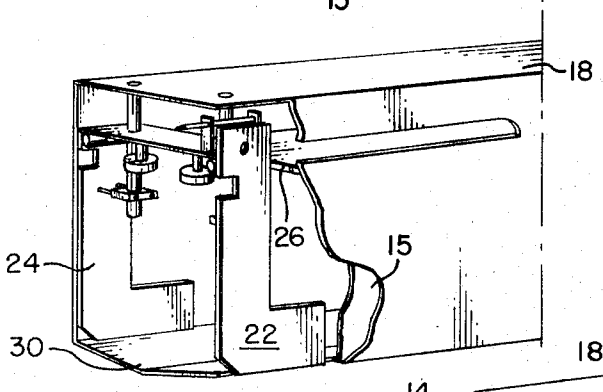


FIG. 4

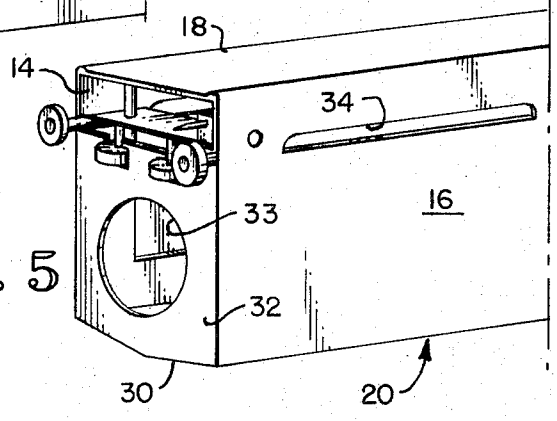
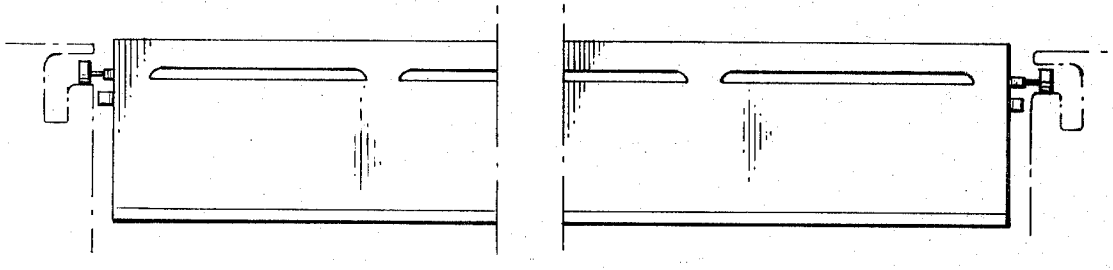


FIG. 5

FIG. 6



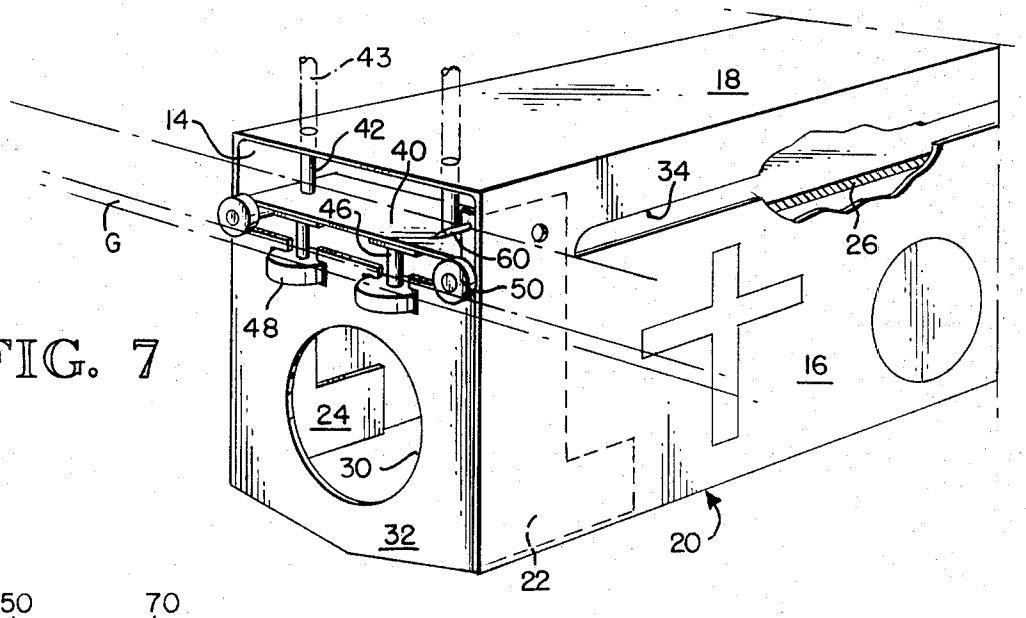


FIG. 7

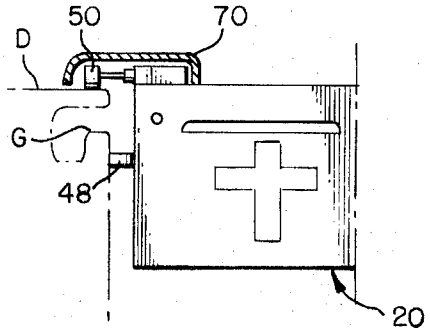


FIG. 8

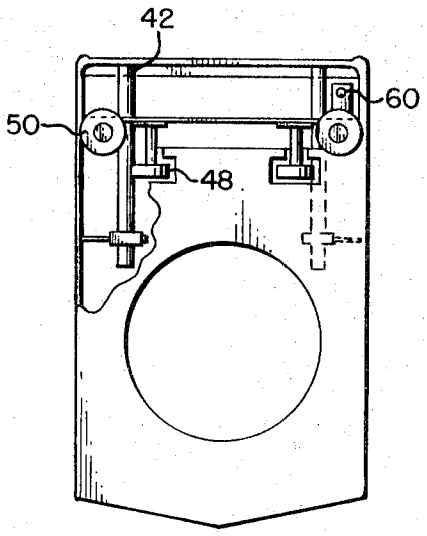


FIG. 9

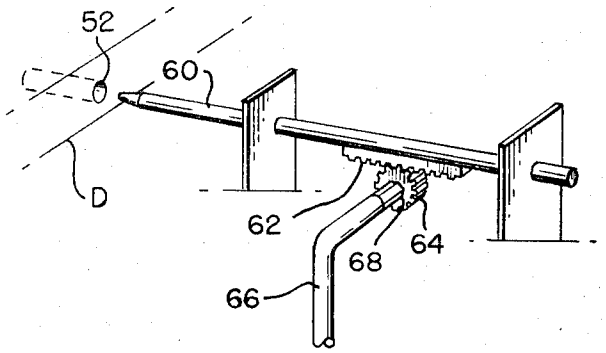


FIG. 10

METHOD OF CONSTRUCTING A MOVABLE BULKHEAD

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention pertains to methods of constructing movable swimming pool bulkheads and to a fiberglass bulkhead.

2. Description of the Prior Art

Movable bulkheads for swimming pools have heretofore been constructed either of aluminum or fiberglass. Aluminum bulkheads are difficult and expensive to manufacture and costly to repair. Fiberglass bulkheads are less expensive and easier to maintain, however, they are quite heavy and are therefor difficult to handle both in and out of the swimming pool. In addition fiberglass bulkheads are difficult to construct due to their size and enormous weight.

SUMMARY OF THE INVENTION

It is an object of this invention to provide a method for constructing movable bulkheads for swimming pools which is relatively inexpensive and easy to perform.

It is an object of this invention to provide a fiberglass movable bulkhead for a swimming pool which is not extremely heavy when submerged in the pool and yet has high strength and rigidity.

It is another object of this invention to provide a movable bulkhead for a swimming pool which cannot be twisted out of alignment when being moved along the sidewalls of the pool.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGS. 1–6 illustrate steps of the method in constructing a bulkhead in accordance with the teachings of this method. FIG. 1 illustrates the initial step in the method, FIG. 6 indicates a completion step in which the bulkhead is installed in the swimming pool with the remaining figures showing intermediate steps.

FIG. 7 illustrates a preferred form of bulkhead construction.

FIG. 8 is a fragmentary front elevation showing a modified installation technique.

FIG. 9 is an end elevation of the bulkhead shown in FIG. 6.

FIG. 10 is a fragmentary view showing means for locking the bulkhead in the swimming pool.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The method of constructing the bulkhead is best illustrated in FIGS. 1–6. In the first step a pair of open-ended open-top boxes **10** and **12** having sidewalls **14** and **16** are formed of fiberglass in a mold using generally conventional techniques with the exception that the sidewalls have a ½ inch thick core of abutting 2ft. × 4 ft. balsa wood sheets **15A** horizontal bottom wall **18** joins the sidewall and as will be explained in more detail below, will eventually become the top wall of the bulkhead. Next, as shown in FIG. **2**, the two boxes or bodies **10** and **12** are joined to form a single unitary box **20**. FIG. **3** illustrates the next step. While still inverted end plates **22** and **24** are added to each end of the box **20** for supporting hardware which will eventually support the bulkhead in the swimming pool and a shelf **26** is added a short distance up from the bottom **18**. Next,

a top wall **30** (becomes bottom wall) is added to the box **20** and the box is inverted as in FIG. **4**. FIG. **5** illustrates the step of adding the end walls **32**. The end walls are each provided with a water access opening **33** which allows water to freely flow into the box as it is being submerged. Wave dampening slots **34** are provided in the side walls **16** and **14** above the shelf **26** to reduce wave impact on the box and to reduce the amount of wave action in the pool. Finally, as best shown in FIG. **5**, the supporting hardware is placed on the gutter of the pool or as in the modified embodiment shown in FIG. **8** on the deck of the pool.

The box itself when fully constructed is best shown in FIGS. **7** and **9**. The hardware supporting plates **22** and **24** are molded integrally with and bolted to the sidewalls of the box. Joined to the plates is a horizontal plate **40** which rigidly supports two pipes **42**. Pipes **42** provide sockets for the insertion of a removable handle **43** to move the bulkhead along the side of the pool. Rigidly secured on the bottom of plate **40** is a pair of shafts **46** which rotatably mount side rollers **48**. As is readily apparent these are two guide rollers laterally spaced from one another such that adequate support is applied on both sides of the center plane of the box so that when the box is moved along the side walls of the swimming pool it will not twist and bind. Also rotatably mounted on the plate **40** is a pair of laterally spaced rollers **50** which rotate about horizontal axes and support the box either in the gutter G of the swimming pool or on the deck D as shown in the modification FIG. **7**.

An anchor pin **60** is joined to a rack **62** that is reciprocated by a gear **64**. The gear is powered manually by a key or handle **66** that fits in a square opening **68** in the gear. Suitable sockets are provided in the sidewall of the swimming pool so that by rotation of the handle **66** the pin **60** can be moved into a socket and lock the bulkhead against movement in the pool.

In the modification shown in FIG. **8** the rollers **50** are rotatably mounted from the top of the box and are covered by a cowling **70**. This type of arrangement is preferred where the size of the gutter is not standard and too small for use of the rollers **50**.

Part of the weight of the box is carried by the buoyancy of the water in the pool. This buoyancy is supplemented by the addition of the continuous balsa wood plates **52** dispersed throughout the fiberglass box. The balsa wood also provides rigidity, thus strengthening the box while reducing the overall weight of the box.

While the preferred forms of the method and apparatus have been described and illustrated, variations will be readily apparent to one skilled in the art without departing from the principles of the invention. Accordingly the invention is not to be limited to the embodiments described.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as followw:

1. A method of constructing submersible bulkheads for swimming pools comprising

forming an elongated open-top open-ended box of resin material,

adding end-supporting hardware to the ends of the box,

forming a transverse shelf along the length of the box spaced closely from the closed bottom of the box,

adding a top to the box to close the open-top,

adding ends to close the open ends, and inverting the box for installation into a swimming pool.

2. The method of claim 1 said box forming step including forming the box in two independent sections and joining the ends together to form a continuous single box.

3. The method of claim 2 including forming lengthwise spaced slots along the box prior to forming the transverse shelf.

4. The method of claim 3 said step of forming said box including fastening balsa wood rigidifying and flotation plates to the box.

5. The method of claim 1 said step of forming a box including molding fiberglass around continuous balsa wood sheets to form sidewalls of the box.

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