July 17, 1956 J. KAROBONIK ET AL 2,754,899

SAFETY COVER FOR SWIMMING POOLS

Filed June 29, 1954

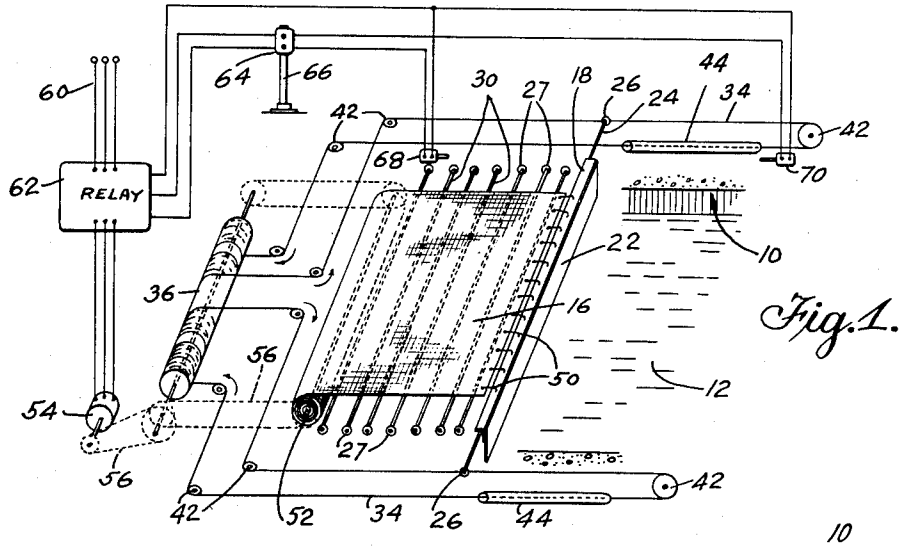

Fig. 1.

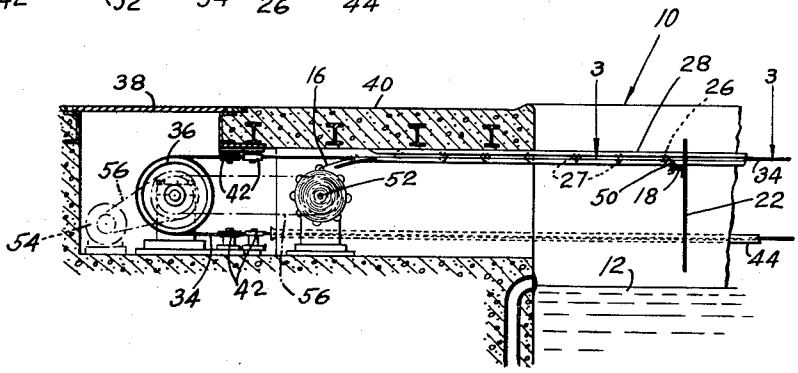

Fig. 2.

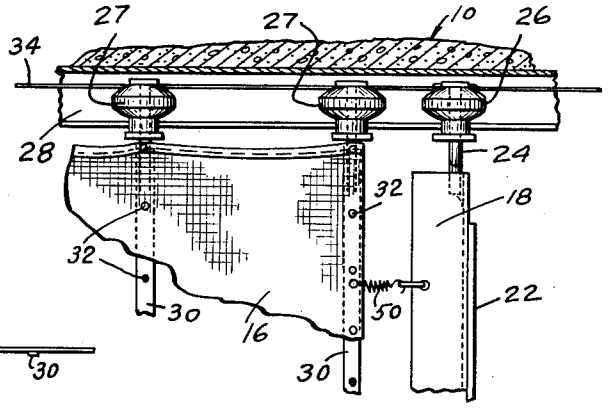

Fig. 3.

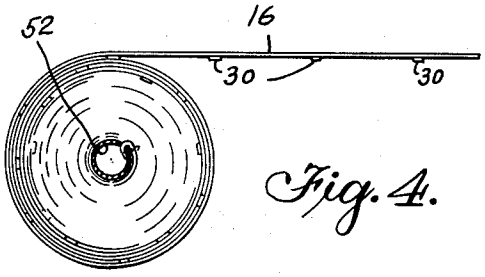

Fig. 4.

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SAFETY COVER FOR SWIMMING POOLS

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3 Claims. (Cl. 160—37)

This invention relates to an improved safety cover for swimming pools, and the present invention contemplates improvements over our previously filed application, Serial No. 307,658, dated September 3, 1952.

One of the important objects of the present invention is to provide a safety cover for swimming pools which presents some further advantages over our original construction in that the cover is rolled upon a drum or roller when not in use, thereby eliminating the possible accumulation of water in an accordion-pleated cover when such cover is a solid sheet as distinguished from a netting.

Another object of the invention is to provide a faster and more efficient operation of the cover and the use of a solid sheet of plastic or some similar material which, in addition to preventing accidental drownings, will prevent the accumulation of debris in the water, such as leaves and branches from overhanging trees, and even dust and insects which may be blown in.

Other and further important objects of the invention will be apparent from the disclosures in the accompanying drawings and following specification.

The invention, in a preferred form, is illustrated in the drawings and hereinafter more fully described.

In the drawings:

Figure 1 is a somewhat schematic and diagrammatic drawing of the improved safety cover for swimming pools of this invention, showing more particularly the solid sheet covering and the roller upon which it is wound when in retracted position.

Figure 2 is a vertical section through the main elements of the safety swimming pool cover, illustrating the actual construction and operating mechanism.

Figure 3 is a detail view of the means for supporting the sheet or netting when in position over the water in the pool and is an enlarged section on the line 3—3 of Figure 2.

Figure 4 is an enlarged view showing the cover with its support as rolled on the supporting drum.

As shown in the drawings:

The reference numeral **10** indicates generally a swimming pool of ordinary construction having water **12** therein.

A retractable cover **16**, which may either be netting or a solid sheet of cloth or plastic, is mounted for moving into and out of pool covering position and an end piece or support **18** is provided, preferably composed of an angle-iron and having a downwardly extending plate **22** which forms a protective gate element. This angle element and plate **18—22** is supported by short rods **24** terminating in rollers **26**. The rollers move in guides or channels **28** extending along both sides of the pool and usually just above the water level.

Cross bars **30** in the form of metal slats or the like are provided at intervals for supporting the sheet or net covering **16**, and the covering is attached to these cross bars by means of rivets or the like **32**. The cross bars **30** terminate in end rollers **27** and the rollers **26**

are attached to operating cables **34** by means of which the cover is moved into or out of position. The rollers **27** may operate in separate guides or channels.

There are two cables, one on each side of the pool, and these are wound and unwound upon and from a drum **36** positioned at one end of the pool, preferably in a recess to which access is had by a removable cover **38**. The recess is of an extent sufficient to receive the mechanism and that portion not having the removable cover may comprise a permanent structure **40** which can also include a support for the spring board of the pool. The cables are guided on to the drum or roller **36** by means of pulley wheels **42** and operate in longitudinal tubes or channels **44** extending parallel to and beneath the channels **28** which support and maintain the rollers **26**.

The forward or leading edge of the sheet or cover **16** is connected to the strip and plate construction **18—22** by hooks and springs as indicated at **50**.

The covering sheet or netting **16** with its slats **30** is wound upon or unwound from a secondary support, drum or roller **52** and a motor **54** is provided which drives both the drums **36—52** by means of chains or belts **56**. The sizes of the rollers and drums, together with their relative speeds and that of the motor **54**, are controlled by suitably arranged gears, pulleys, belts, chains or the like.

The motor **54** is reversible so that the covering **16** may be pulled into position over the pool and retracted at will. It is operated by current from a source **60** and preferably through a relay **62** which provides a three-phase reversing operation. A manually operated switch **64** is provided on a stand **66** which can be located alongside the pool, but it is obvious that this can be positioned anywhere within a reasonable distance, such as inside the house at some place where the pool is under observation. It should necessarily be located out of the reach of small children.

Included in the current carrying line are two limit switches **68** and **70** which are normally closed, but which serve to automatically break the circuit and shut off the motor **54** when the covering **16** has either been moved completely over the pool or has been rolled back into retracted position in the recess under the coverings **38** and **40**.

This arrangement provides certain advantages over the construction shown and described in our previously filed application for patent and these advantages will be obvious in certain embodiments which may more adequately be suited to the roller type as distinct from the accordion or folding type of cover.

We are aware that many changes may be made and numerous details of construction varied throughout a wide range without departing from the principles of this invention, and we therefore do not purpose limiting the patent granted hereon otherwise than as necessitated by the prior art.

We claim as our invention:

1. A safety cover for swimming pools, comprising a sheet adapted to extend horizontally over the water in the pool, a movable support at the outer end of the sheet, a roller support at the inner end of the sheet, intermediate supports for the sheet, said intermediate supports comprising spaced strips, enlargements at the ends of the strips, longitudinal housings in the sides of the pool for the sliding reception of the enlargements, cables connected to the end support for selectively pulling the sheet over the water in the pool and retracting it and a separate roller for the cables.

2. A device as described in claim 1, wherein the roller support for the sheet comprises a drum upon which the sheet is wound when being retracted, and wherein motor

and gear and pulley connections are provided for both the cable drum and the sheet supporting roller, and wherein tubular channels are provided for the operation of the cables through one half of their length, said tubular channels paralleling the housings and wherein a compartment is provided at one end of the pool for the reception of the roller, drum, cables and motor.

3. A device as described in claim 1, wherein a motor and gear and pulley connections are provided for both the cable drum and the sheet supporting roller, and wherein the cables extend through approximately one half of their operating length through the enlargement, and wherein tubular channels are provided for the operation of the cables through the other half of their length, said tubular channels paralleling the housings, and wherein resilient elements connect the leading edge

of the sheet to its forward movable support and wherein said support forms a protective gate and closure for the compartment.

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