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GUTTER AND WATER SUPPLY SYSTEM FOR SWIMMING POOLS.

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**Fig. 1.**

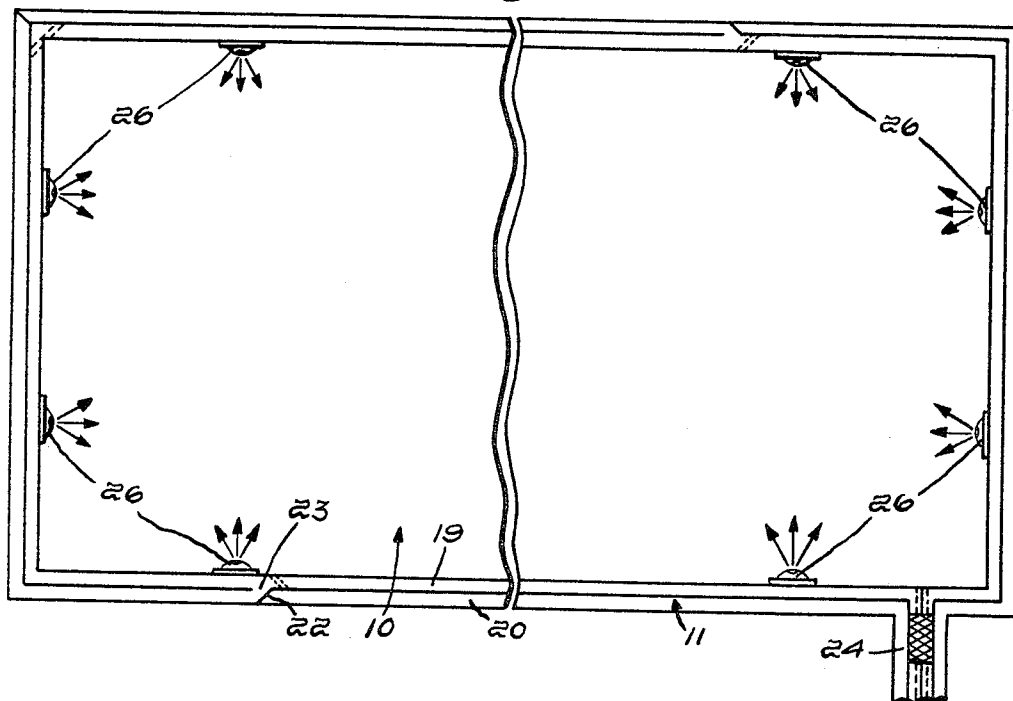


**Fig. 2.**

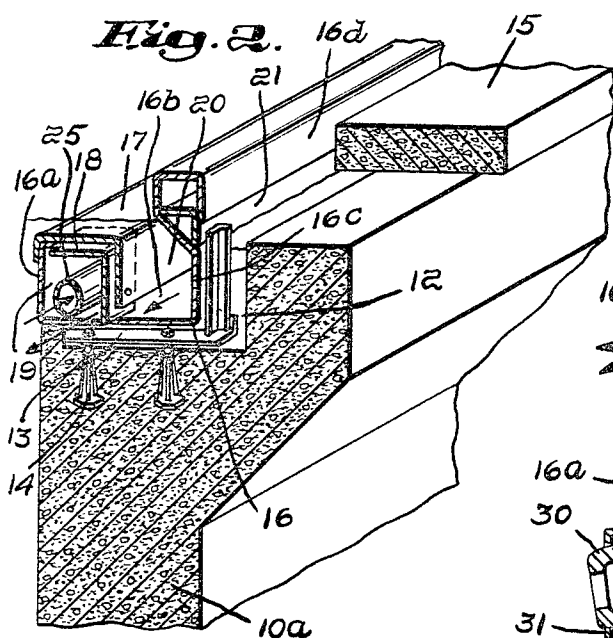


**Fig. 3.**

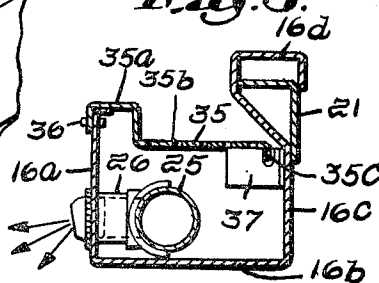
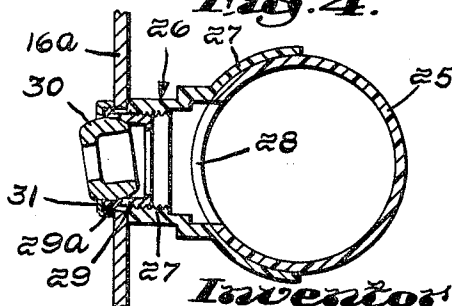


**Fig. 4.**



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## GUTTER AND WATER SUPPLY SYSTEM FOR SWIMMING POOLS

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6 Claims

### ABSTRACT OF THE DISCLOSURE

A gutter and water supply system for swimming pools of the recirculating type. The gutter has a removable cover enclosing part or all of the drainage area. The supply pipe for returning filtered water to the pool is housed under the cover and connected to supply nozzles passing through the inner wall of the gutter. The nozzles and piping are demountable for winter storage.

#### Background of the invention

This invention relates to swimming pools of the recirculating type, and more particularly to drain gutter and water supply systems for such pools.

In many recirculating pools, the piping for supplying fresh and filtered water to the pool is buried in the walls of the pool or the surrounding terrain. Some pools use a gutter assembly with a hollow wall which serves as a supply conduit. In either case, the supply piping is permanently installed. Water trapped in bends or low spots of the supply piping is likely to freeze and cause damage during the winter.

The principal object of this invention is to provide a drainage and water supply system in which the piping is readily accessible, and removable for winter storage, yet is concealed when the pool is in use. Other objects, advantages, and novel features will be apparent from the following description.

#### Summary

The drain gutter and water supply systems here disclosed consists in general of a one piece gutter with a removable cover section, or a number of cover sections disposed end to end around the periphery of the pool, and a supply pipe housed in the gutter under the cover and connected to nozzle assembly which pass through the inner wall of the gutter. In one form, the cover has a side wall which divides the gutter into inner and outer drainage channels. In another form, the cover is formed with a channel shaped curb at the inner side and a depressed perforated portion which forms a screen over the outer part of the gutter.

#### Brief description of the drawings

In the drawings illustrating the invention:

FIG. 1 is a schematic plan view of a typical pool layout, using a gutter and water supply system constructed according to the invention;

FIG. 2 is an enlarged fragmentary cross-section of the pool wall taken in the region of the gutter assembly;

FIG. 3 is a cross-section of the gutter assembly with a modified form of cover; and

FIG. 4 is an enlarged cross-section of one of the supply nozzles.

#### Detailed description of the invention

The pool, generally indicated by the numeral 10, is here illustrated as made of poured concrete. The pool may be free-standing or sunk in the ground. The gutter and supply assembly, generally indicated by the numeral 11, is mounted in a recess 12 in the side wall 10a of the pool. The gutter assembly is attached to brackets 13 anchored

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on the wall 10a, at spaced intervals around the periphery of the pool, by anchor bolts 14. A deck slab 15 butts against the outside of the gutter assembly.

The gutter is made up of a formed sheet metal body section 16, and a removable cover section 17. The body section has an inner wall 16a, a bottom wall 16b, and an outer wall 16c topped by a coping 16d. The coping is reinforced by an angle 21 welded to the body section. The cover section is angular and is removably attached by screws to angle brackets 18 welded at intervals to the bottom wall 16c. When in place, the cover forms, with the body section, an inner gutter 19 and an outer gutter 20.

The gutter assembly is made in standard lengths which are welded together to form a continuous drainage and supply system around the periphery of the pool. Baffles 22 may be installed across the outer gutter, and the cover section provided with openings 23, so that drainage takes place from separate regions to manifold 24 as described in my co-pending application Ser. No. 518,861, filed Jan. 5, 1966, now Patent No. 3,386,107.

The water supply pipe 25, which may be used both for initially filling the pool, and for returning filtered water to the pool in normal operation, is mounted inside the inner gutter 19, and connected to nozzles 26 at spaced positions around the pool. The construction and mounting of one of the nozzles is shown in detail in FIG. 4. A saddle 27, carrying an internally threaded nipple 27a is attached to the pipe 25 around an opening 28. A fitting 29 is thread into the nipple and provides a seat for a truncated ball shaped nozzle element 30. The fitting 29 has an externally threaded flange 29a on its inner end. A lock ring 31 is threaded onto the flange. Fitting 29 passes through a hole in the inner wall 16a of the gutter, and the inner end of nipple 27a and ring 31 both bear on the inner wall and form a water-tight joint around the nozzle assembly. Ring 31 can be loosened and the nozzle element 30 rotated to discharge water in any desired direction. The nozzle element is locked in the adjusted position by tightening ring 31. The nozzle assemblies serve as mountings for the pipe 25, as well as outlets.

When the pool is in operation, the water level is maintained slightly above the top of cover section 17 so that water overflows continuously into outer gutter 20, and is drained off to the manifold through the inner and outer gutters 19 and 20. The water drained off is passed through a pump and filtration system and returned to the pool through pipe 25 and nozzles 26. Fresh make up water may also be supplied to the pool from time to time through pipe 25. The pipe 25 may extend entirely around the pool, with outlet nozzles on all walls of the pool, or may be arranged so that water is supplied at the sides or the ends or along one wall only.

It is understood that the pool has a main drain (not shown) in the bottom so that it can be emptied. All the peripheral piping can be removed by taking off the cover sections 17, which are not welded together at their ends as are the body sections, unscrewing rings 31 of the nozzle assemblies so that sections of pipe can be lifted out. It is understood that lengths of pipe, such as pipe 25, which may be of metal or polyvinyl chloride, may be connected together end to end and to a supply pipe leading from the pump, by removable couplings of any suitable type. The entire water supply line can be readily dismantled for winter storage, thus eliminating the danger of rupture of the piping due to freezing of residual water.

In the modified gutter assembly shown in FIG. 3, the same body section 16 is used, and the mounting of the supply pipe 25 and nozzles 26 is the same. The cover section 35 has a channel shaped inner portion 35a, which fits over the top of wall 16a and is secured by screws 36, and a depressed, perforated portion 35b which extends to the outer wall 16c. The outer side of the cover section has a

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down turned lip 35c which fits into notched plates 37 welded to wall 16c. In this case the body section 16 forms a single drain gutter for the overflow water. Cover section 35 is readily removable to permit the supply pipe assembly to be dismantled, as previously described.

The gutter and supply assembly can be readily mounted on new or existing pools, made of concrete, metal or any other material. No buried piping is required. If the supply pipe develops a leak, it can leak only into the drain section, and water will not get into the wall of the pool. All the piping is readily accessible for repair or replacement. The supply pipe can be removed for winter storage, so that damage from freezing of trapped water is eliminated.

What is claimed is:

1. A drain gutter and water supply assembly, adapted to be placed along the periphery of a swimming pool, comprising: a gutter body section having an inner wall, a bottom wall, and an outer wall; a cover section readily removably connected to said body section and forming therewith an enclosed drain gutter when in place; a supply conduit removably mounted in said enclosed drain gutter; and water nozzles connected to said supply conduit and passing through said inner wall.

2. A drain gutter and supply system as described in claim 1, said cover section extending outward from said inner wall and downward toward said bottom wall intermediate said inner and outer walls, said cover forming, with said outer wall and bottom wall, an open topped outer gutter.

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3. A drain gutter and supply system as described in claim 1, said water nozzles being detachably mounted on said inner wall and providing the means by which said supply conduit is removably mounted.

4. A drain gutter and supply system as described in claim 1, said cover section extending from said inner wall to said outer wall and having a depressed perforated portion adjacent said outer wall.

5. A drain gutter and supply system as described in claim 1, having a bracket extending upward from said bottom wall intermediate said inner and outer walls, said cover being removably attached to said bracket.

6. A drain gutter and supply system as described in claim 1, having a notched plate attached to said outer wall, said cover having a lip engaged with said notched plate.

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