J. F. BOORAEM.

COMBINED LIFE RAIL AND GUTTER.

APPLICATION FILED OCT. 8, 1907.

923,010. Patented May 25, 1909.

Fig. 1.

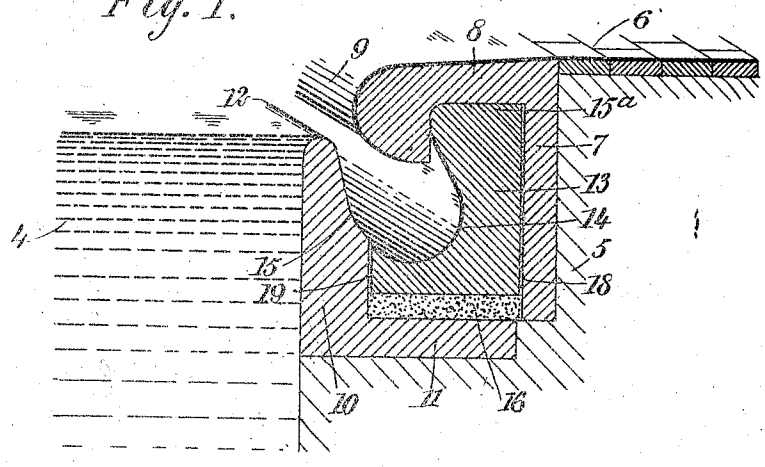


Fig. 2.

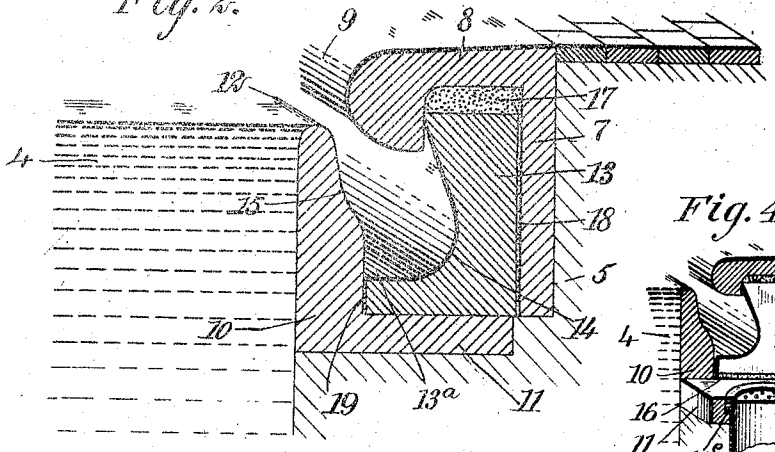


Fig. 4.

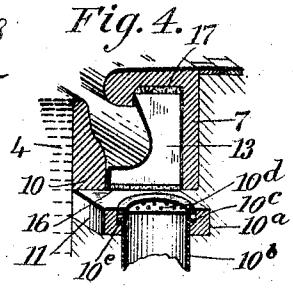
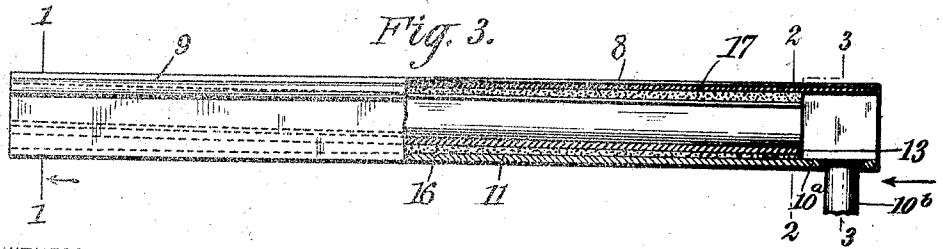


Fig. 3.



WITNESSES

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COMBINED LIFE-RAIL AND GUTTER.

No. 923,010. Specification of Letters Patent. Patented May 25, 1909.

Application filed October 8, 1907. Serial No. 396,386.

To all whom it may concern:

Be it known that I, JOHN FRANCIS BOORAEM, a citizen of the United States, and a resident of Greenwich, in the county of Fairfield and State of Connecticut, have invented a new and Improved Combined Life-Rail and Gutter, of which the following is a full, clear, and exact description.

My invention relates to tiling, or brick, or terra cotta, or stone, or cement, or other material cast or wrought suitable for use in connection with baths, and more particularly swimming baths, my purpose in this instance being to make a composite construction serving several distinct purposes. Also for tanks of any kind, for manufacturing or commercial purposes, where it is sought to remove, by surface drainage, from a liquid, foam, scum or other material, produced by fermentation or other process.

More definitely stated, my invention seeks to combine a section member serving as a coping, another section member having a portion serving as a gutter, and a third section member having a portion fitting against said last-mentioned section member so as to constitute practically a continuation of the gutter, and also provided with a portion serving as a life rail.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional perspective through the device complete, this section being taken upon the line 1—1 of Fig. 3, looking in the direction of the arrow, and showing that portion of the gutter section where the latter is highest in relation to the coping and to the life rail, being supported in said high position by a filling disposed beneath it; preferably neat cement or concrete; Fig. 2 is a sectional perspective, somewhat similar to Fig. 1, but taken on the line 2—2 of Fig. 3, looking in the direction of the arrow, this view showing the gutter section of the tile as it appears at its lowest point in consequence of its general sloping position relatively to the other tile sections; Fig. 3 is a front longitudinal elevation, partly in vertical section, of the complete structure, showing the relative arrangement of the tile sections, and indicating the longitudinal level position of the coping and life rail and surface dam, and the longitudinally sloping position of the gutter section, and Fig. 4 is a sectional perspective view, somewhat similar to the Figs. 1 and 2, but reduced, and showing how the drain pipe is connected with the bottom of the tile section 10.

At 4 is shown a volume of water employed in a swimming bath. The surrounding wall appears at 5 and the floor is shown at 6. A tile section coping 7 is provided with a top portion 8 integral therewith, the upper face of this top portion having a slight inclination relatively to the horizon, as will be understood from Fig. 3, and terminating at one of its edges in a rounded surface 9, the portions 7, 8 and 9 being integral and substantially L-shaped. Another tile section 10, serving as a life rail and dam, is provided at its bottom with a comparatively wide and flat portion 11, and is further provided at its upper edge with a rounded surface 12. This rounded surface 12 serves as a life rail for the benefit of persons swimming and bathing in the water 4. It further serves also as a stop to overflow of all contents of the tank into the gutter, except that required from the surface, depending on the nature of contents and the use to which the tank is put. A tile section 13 is provided with a concave surface 14, serving as a gutter, and the tile section 10 is likewise provided with a concave surface 15, forming practically a continuation of the concave surface 14 of the tile section 13, the two concave surfaces 14, 15 together constituting the complete gutter. The upper end of the tile section 13 engages the side of the portion 8, into which it extends for a little distance in order to make a perfect fit and to secure the parts better together, as shown at 15^a in Fig. 1.

A filling 16 of concrete, cement or any analogous substance, is disposed below the tile section 13 and forms a bed upon which the latter rests. The filling 16 tapers in thickness, as will be understood from Fig. 3. Another filling is shown at 17 and is placed upon the upper edge of the tile section 13. This filling 17, like the filling 16, tapers in its vertical thickness, as will be understood from Fig. 3. The purpose of this arrangement is to enable the tile section 13 to be fitted intermediate the tile sections 7 and 10, so as to make all of the parts perfectly solid and rigid, and yet allow the tile sections 7 and 10 to be level throughout their entire lengths, the tile section 13 being slightly inclined.

The complete construction is shown in

Fig. 3, the several tile sections being here united into a single composite section. Any number of these composite sections may be employed and the inclination of the tile section 13 may be in either of two directions or in both directions, according to the number and arrangement of the composite sections to remove the drainage. The concave surface 14 of the tile section 13 is flattened out a little at the point 13^a at one end of the section, as indicated in Fig. 2. If the gutter is made of clay, the parts can be uniform in section.

The bottom 11 of the tile section 10 is provided with a flat portion 10^a integral therewith, and extending through this portion, shaped as shown in Fig. 4, is a drain pipe 10^b having an annular portion 10^c, fitted to this portion and provided with a strainer 10^d. For the purpose of bringing the upper end of the drain pipe 10^b into proper fit with the portion 10^a, the latter is provided with an annular shoulder 10^e. Inasmuch as the gutter section carries the bottom of the life rail section, it follows that the portion 10^a may be either covered by the bottom of the gutter or left exposed, in order to be brought into use according to the manner in which the parts are proportioned and fitted together. In case the gutter section 13 is made shorter than the other sections, as indicated in Fig. 4 or not, there is nothing presented to the eye to indicate the existence of a drain pipe.

The rounded portion 12 of the tile section 10 must be horizontal for the reason that it must conform to the upper level of the water 4. Any impurities floating upon the surface of the water are adapted to pass over the rounded edge 12 into the gutter. They thence drift obliquely downward and are discharged from the lower end of the gutter adjacent to the point 13^a, Fig. 2. The portion 8 of the tile section 7 being slightly inclined from the horizontal, causes any water which may splash upon it to drain off into the gutter; the rounded surface 9 facilitates this purpose. The relative positions of the parts 8 and 12 allow this and still are sufficiently close to prevent the diver from catching his toes, a fault very common in structures heretofore used.

If the swimmers disturb the water so as to cause waves or ripples to form upon its surface, the water merely overflows a little, passing over the rounded surface 12 serving as a life rail, and then being drained away by the gutter. The rounded surface 9 being a little higher than the rounded surface 12, serves as a guide for the sight, and enables the swimmers and bathers to readily determine the position of the rounded surface 12, in order that the latter may be used as a life rail, which, in fact, is always at the water's surface in rigid position and not above the water in straight or wavy lines, as is usual with life cords. These, owing to their varying position, are hard to catch hold of, when needing them at the critical moment.

At 18, 19 are shown linings of cement, or other appropriate filling, for holding the parts firmly together, and also for rendering them water-tight. As the rounded portion 9 overhangs the upper edge 15^a of the tile section 13, the portion 8 of the tile section 7 cannot be displaced, except by moving it vertically upward, and this is not easily accomplished, especially as the parts are cemented rigidly together.

As will be seen from the above description, the composite structure shown presents to the eye no inclination whatever. The rounded surface 12 constituting the life rail, and the rounded surface 9 constituting the overhanging edge of the coping, being exactly parallel with the upper surface of the water, are in every sense horizontal, and there is nothing visible to suggest anything like a gutter or the inclination necessary to enable water to flow through a gutter. Nevertheless the gutter is present and does its work thoroughly. Expectorations into the gutter are also facilitated, and if the aim is not straight, spittle still finds its way out as a result of first disturbances of the surface of the water by the swimmer.

The portion 8 of the tile section 7 presents a neat facing or trimming to the floor and also serves as a guide to the eye for the purpose of indicating to the people walking over the floor, their approach to the swimming tank. The slight inclination of the portion 8 also emphasizes the proximity of the swimming tank.

The inner surface of the gutter, that is to say, the concave surfaces 14 and 15, may, if desired, be enameled, but this is not essential.

I do not limit myself to any particular material out of which the parts above described are constructed. Neither do I limit myself to the shape and conformity of any part or parts shown. The space between the coping and the part serving as a life-rail is always sufficient to facilitate the cleaning-out of the gutter from the outside of the tank. It will be noted that the portion serving as a life rail also serves as a dam to prevent the outflow of any of the contents of the tank except floating objects and impurities floating upon the surface of the water.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The combination of a tile section provided with a portion made concave for the purpose of serving as a gutter, another tile section provided with a portion serving as a life rail, said last-mentioned portion being exactly level and fillings disposed interme-

diate said last-mentioned tile section and said first-mentioned tile section for the purpose of holding said first-mentioned tile section in inclined position, in order to facilitate the drainage of water along its length.

2. The combination of a tile section provided with an overhanging portion serving as a coping, a second tile section provided with a concave surface adapted to serve as part of a gutter, a third tile section provided with a rounded surface serving as a life rail, and further provided with a concave surface mating said concave surface of said second mentioned tile section, thereby forming a continuation of said gutter, fillings disposed substantially parallel with said second-mentioned tile section and varying in thickness for the purpose of supporting said second-mentioned tile section in inclined position relatively to the other two tile sections.

3. The combination of a tile section provided with a portion fashioned to form a coping, a second tile section provided with a concave surface serving as part of a gutter, and a third tile section provided with a surface serving as a continuation of said gutter, said first and second tile sections being exactly parallel with each other, said third tile section being inclined slightly in relation to the other two tile sections, and a drain pipe extending directly through said third tile section at a low point thereof.

4. The combination of a tile section provided with a portion fashioned to form a coping, a second tile section, provided with a concave surface serving as part of a gutter, and a third tile section provided with a surface serving as a continuation of said gutter, said third tile section being further provided with a portion fashioned into a life rail and also provided with a drain pipe, said drain pipe extending directly through said third tile section.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN FRANCIS BOORAEM.

Witnesses:

CECIL A. GARDNER,

C. ELLIOT BLADES.