Dec. 25, 1956 R. AARNIO 2,774,973

SHOWER SHIELD FOR BATHTUB

Filed Feb. 6, 1951 2 Sheets-Sheet 1

Fig. 1.

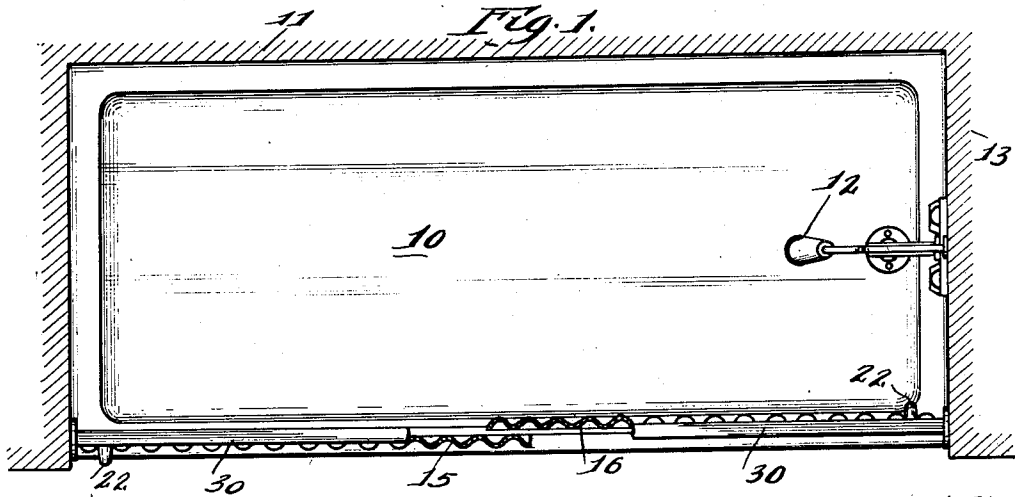
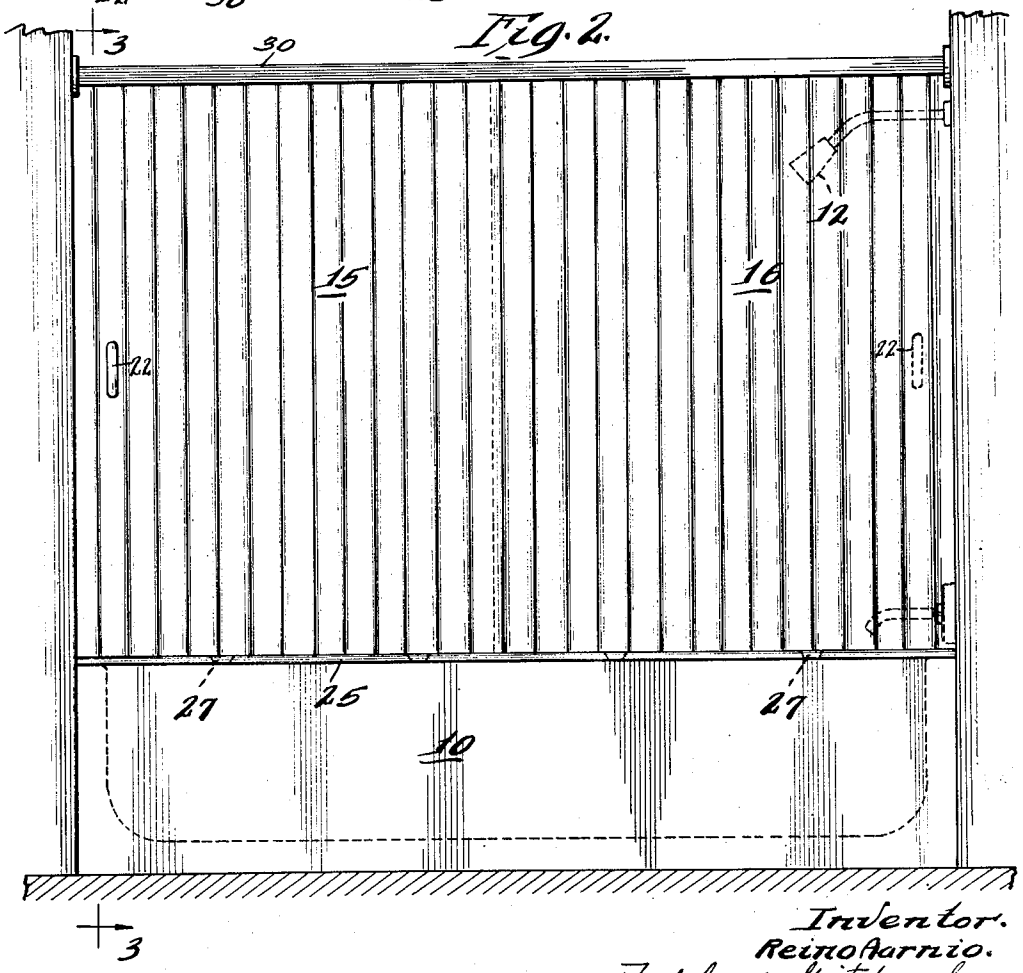


Fig. 2.



Inventor.
Reino Aarnio.
By. Zabel and Gritzbaugh
Attorneys

Dec. 25, 1956 R. AARNIO 2,774,973

SHOWER SHIELD FOR BATHTUB

Filed Feb. 6, 1951 2 Sheets-Sheet 2

Fig. 3.

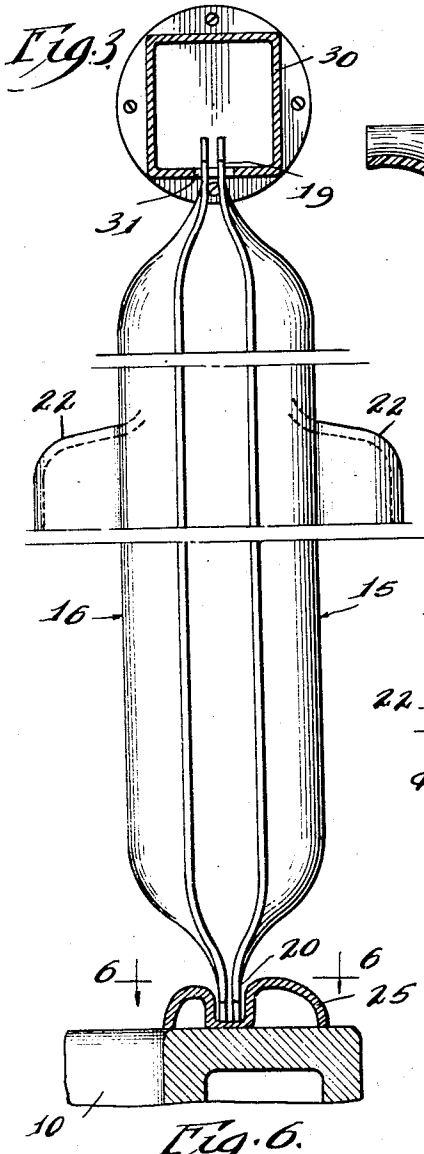


Fig. 4.

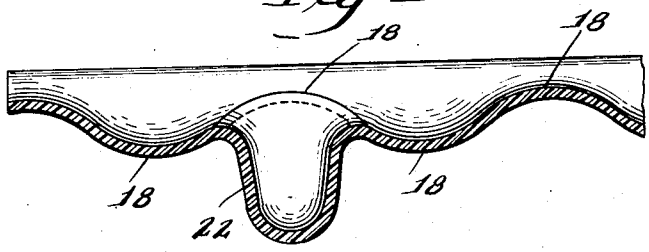


Fig. 5.

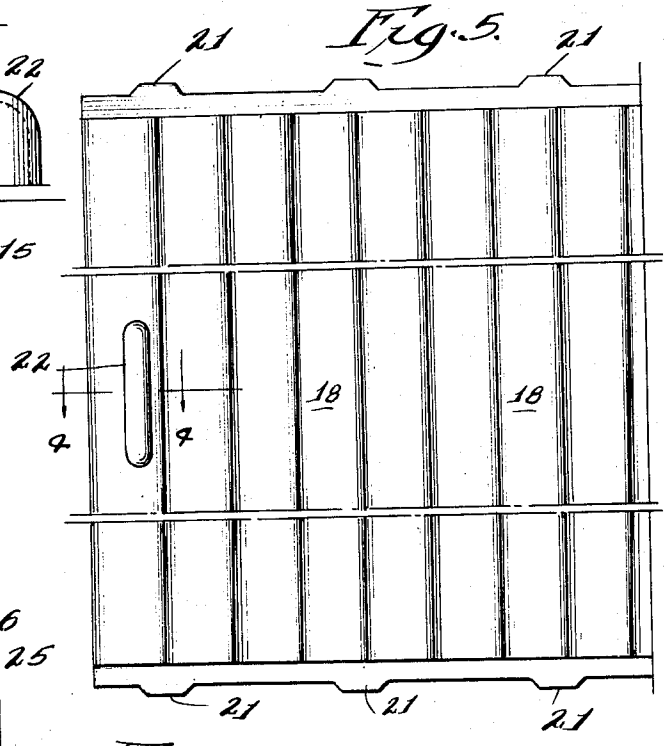
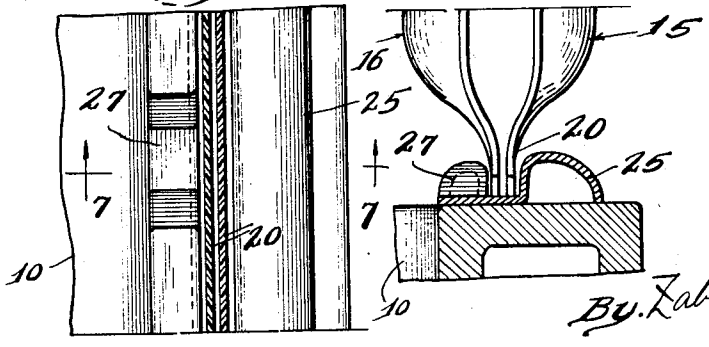


Fig. 7.

Fig. 6.



Inventor.
Reino Aarnio.
By. Zabel and Gritzbaugh
Attorneys.

United States Patent Office

2,774,973

Patented Dec. 25, 1956

2,774,973

SHOWER SHIELD FOR BATHTUB

Reino Aarnio, River Edge, N. J., assignor to Fiat Metal Manufacturing Company, Franklin Park, Ill., a corporation of Illinois

Application February 6, 1951, Serial No. 209,562

1 Claim. (Cl. 4—149)

My invention relates to a shower shield for a bathtub, and more particularly to such a shield wherein lightweight, self-supporting sheet material is employed for the water-repellent panel or panels thereof.

One object of the invention is to provide a bathtub shower shield that is extremely simple in construction and which can be produced and installed at considerably lower cost than prior arrangements of this character.

Another object of the invention is to provide a shower shield that is particularly pleasing in appearance despite its low cost, and one that will have a long, useful life.

My shower shield utilizes a specially shaped, lightweight, water-repellent panel made of self-supporting sheet material. The sheet material may be any suitable substance capable of being formed or molded to the required special shape and which generally possesses the following properties:

(1) Low compression molding temperature.
(2) High heat distortion temperature.
(3) Good rigidity and strength.
(4) Low water absorption.
(5) Good clarity.
(6) Good color range.
(7) Not brittle, yet hard enough to resist ordinary scratching.

Examples of particularly satisfactory materials are resins such as the acrylics, vinyls, polyesters, polystyrenes, polyethylenes, etc. which are moldable or formable into rigid panels.

The panels are mounted on the bathrub rim in such position that they effectively prevent water from splashing outside of the tub when a shower bath is being taken. They extend from the tub rim in a generally vertical plane, the customary height of such panels being about four and one-half to five and one-half feet. The panels are provided with vertical corrugations which, for a reason to be mentioned, terminate short of the top and bottom panel edges. The uncorrugated top and bottom edge portions are offset from the general plane of the panel, that is, offset from the median plane passing through the corrugated portion of the panel, the two edge portions being offset in the same direction from the median plane.

The corrugations, in addition to providing usual reinforcement, thereby enabling the use of lighter stock material, and in addition to presenting a pleasing appearance, also disrupt the otherwise flat continuity of the panel. This is desirable from a practical standpoint, particularly when a transparent panel is used, because inevitable water spots and soap spots on the panel are rendered much less noticeable than would be the case with a flat panel. Also, the corrugations serve to direct the shower spray downward toward the tub and away from the room walls.

These characteristics of the corrugations make the use of such panels desirable. However, the corrugations so increase the overall sheet depth dimension that a problem is created in connection with mounting the panels in position on the bathtub rim. Where two relatively sliding panels are used in an installation, the total depth dimension of the two panels when overlapped might well be as large or larger than the depth of the bathtub rim, thereby apparently calling for the use of a cross-sectionally wide

and unattractive bottom guide member on the bathtub rim. Since practical considerations require that the guide member be as small and unobtrusive as possible, it was necessary to devise a construction to answer this requirement, and, at the same time to permit use of a corrugated panel.

My invention solves this problem and permits the use of corrugated panels together with a bottom guide member that is small in size and neat in appearance. The guide member also is extremely simple and inexpensive to produce. The problem is solved, as mentioned above, by terminating the vertical corrugations at points spaced a short distance from the top and bottom panel edges. The uncorrugated top and bottom edge portions of the panel are offset from the general plane of the panel, both portions being offset in the same direction.

With this construction two panels may be installed in reverse relation so that when the panels overlap, the top and bottom edge portions of one panel are adjacent the corresponding portions of the other panel. The total thickness of the adjacent edge portions of the panels is roughly that of two thicknesses of the material comprising the panels, thereby eliminating the increased depth dimension that normally is produced by corrugating. Since it is the bottom edges of the panels that are carried in the bottom guide member secured to the bathtub rim, it is seen that the guide member may be constructed so as to be small in size and unobtrusive in appearance.

As the panels are relatively light in weight, compared with, for example, glass, the bottom guide member may take the form of a simple upwardly facing channel, and it is not even necessary that the channel be divided longitudinally into two portions so as to provide a separate channel for each panel. A divided construction could be used if desired, but it is not essential. The combination of the lightweight panels and the simple channel guide member effectively eliminates the need for complicated rollers or other antifriction devices that have heretofore been used with relatively heavy glass panels. Also, the physical characteristics of the panels are such that no costly containing frames of metal are required, as, for example, with glass.

Other objects and advantages of the invention will be apparent as the description proceeds, reference being had to the accompanying drawings which illustrate one structural form of the invention. It is to be understood, of course, that in commercial applications of the invention various details might well vary somewhat from those here shown and described.

In the drawings:

Fig. 1 is a top view, partly in section, of a recessed bathtub provided with the shower shield of my invention;

Fig. 2 is a front elevational view of the bathtub and shower shield shown in Fig. 1;

Fig. 3 is a sectional view on line 3—3 of Fig. 2;

Fig. 4 is a sectional view on line 4—4 of Fig. 5;

Fig. 5 is a front elevational view of a portion of one of the panels used in my invention;

Fig. 6 is a sectional view on line 6—6 of Fig. 3, and

Fig. 7 is a sectional view on line 7—7 of Fig. 6.

Referring now to the drawings, the numeral 10 designates a bathtub suitably recessed in a bathroom wall 11. A shower fixture 12 projects from end wall 13 in a usual manner.

My shower shield in the form illustrated, comprises two similar water-repellent panels 15 and 16. Each panel is of a width corresponding with substantially half the bathtub length. The panel height is more or less optional, the usual height being from four and one-half to five and one-half feet.

Panels 15 and 16 are made of light weight sheet material of a type previously described. Throughout the entire

width thereof the panels have vertical corrugations 18, best shown in Fig. 4. Corrugations 18 terminate short of the top and bottom panel edges, the ends of the corrugations being gradually reduced so as to taper into flat, uncorrugated edge portions of the panel. The top edge portion is designated 19 in Fig. 3, while the bottom edge portion is designated 20.

Top and bottom edge portions 19 and 20 are offset from the general or median plane passing through the corrugated portion of the panel, as clearly shown in Figs. 3 and 7. This involves offset bends in the portions of the panel wherein the corrugations taper into the flat edge portions. It will be noted that top edge portion 19 and bottom edge portion 20 are both offset in the same direction from the plane of the panel.

The top and bottom edges of the panels are so profiled as to provide small bearing and clearance lugs 21 (Fig. 5). Bottom lugs 21 cooperate to provide smoother and easier panel sliding action, as will be seen, and also to permit the free flow of water beneath the panel.

A handle 22 is molded or otherwise formed on each panel. The handle is preferably located near one vertical edge of the panel at a convenient height, normally midway between top and bottom. The handle illustrated may be manipulated effectively from either side of the panel since there is a projection on one panel side and a recess on the other.

It will be noted that both panels are identical in shape and size, so that only one mold is necessary for the production of the two panels used in a single installation. Also, the panels are symmetrical as between top and bottom so as to make the panels fully interchangeable and invertible.

Panels 15 and 16 are carried on the front bathtub rim by a bottom guide member 25, which in its simplest form is nothing more elaborate than an upwardly facing channel. Guide member 25 is suitably secured to the bathtub rim, as by cementitious material, and, in the form illustrated, extends the length of the bathtub. The transverse dimension of the channel is just wide enough to loosely receive bottom edge portions 20 of two properly oriented panels, lugs 21 bearing on the web of the channel. The outer leg of the channel preferably should be vertically higher than the inner leg to serve as a dam against passage of water in the outward direction.

Guide member 25 may be improved in appearance by constructing it in the cross sectional shape shown in Figs. 3 and 7. This shape includes the previously mentioned upwardly facing channel, but the channel legs are bent laterally a short distance and then turned downwardly so as to terminate on the tub rim. In effect, the illustrated structure consists of an upwardly facing channel sandwiched between two downwardly facing channels.

The inside downwardly facing channel of guide member 25 (including the inside leg of the central upwardly facing channel), as shown in Figs. 2, 6 and 7, is provided with a plurality of spaced depressed portions 27 that function to drain off water that enters the upwardly facing channel. Quantities of water normally run down the panels and enter this channel, and such water is quickly drained into the tub through the depressed portions 27.

Panels 15 and 16 extend upwardly from guide member 25 in a generally vertical plane, and they are properly held at their top edge portions 19 by a top guide member 30. Member 30 is supported at its ends by the bathroom walls at the end of the tub in the case of a recessed tub, or by other suitable supporting means in the case of other tub installations. The cross section of member 30 is illustrated as square, but of course other desired sectional shapes may be used. A guide slot 31 extends the length of member 30 along the bottom thereof, and top edge portions 19 of the panels are received within the slot. The slot edges, of course, prevent the panels from tipping laterally, thereby maintaining the panels in a general vertical plane.

The panels are reversely oriented in an installation as shown in Figs. 3 and 7, that is, one panel is offset from the axis of guide member 25 toward the tub interior and the other panel is offset toward the tub exterior. Thus one handle 22 projects in the tub direction while the other handle 22 projects oppositely. However, both handles can be used from either side, since a finger grip is afforded both by the projection on one side or the corresponding recess on the other.

Edge portions 19 and 20 of the panels desirably make a relatively loose fit respectively with top guide member 30 and bottom guide member 25. The loose fits insure that either or both panels may slide easily back and forth along the tub rim. Preferably, each panel is slightly wider than half the tub length so that portions of the two panels always are in overlapping relation. This eliminates the possibility of abutting panels and consequent difficulty in sliding them into overlapping relation. It also eliminates the possibility of water leakage.

The panels of my invention obviously find their greatest usefulness when used in pairs, as here illustrated, and arranged to slide relative to one another. However, installations may be made wherein one fixed panel is used on each bathtub side and/or end that requires a shield in view of the type of tub location relative to the bathroom walls and the location of the shower head.

One of the most important aspects of my invention is the ease with which it may be installed. This aspect is apparent from the foregoing structural description.

While the invention has been illustrated and described as a shower shield for a bathtub, it will be apparent that the novel structure thereof may be utilized in other applications, such as, for example, merchandise display cases, room partitions and the like.

From the above description it is thought that the construction and advantages of my invention will be readily apparent to those skilled in the art. Various changes in detail may be made without departing from the spirit or losing the advantages of the invention.

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

A shower shield for a bathtub comprising a pair of panels of lightweight, self-supporting plastic material, each panel being of a width corresponding with substantially half the bathtub length, each panel having vertical corrugations that terminate short of the top and bottom panel edges, the uncorrugated top and bottom edge portions of each panel being offset in the same direction from the general plane of the panel, a cooperating upwardly facing channel secured to the top of the front bathtub rim and extending the length of the bathtub, said channel being of a transverse width to receive the bottom edges of said panels with said bottom edges bearing on the channel web and to permit said panels to be moved relative to each other in overlapping relation, the said panels being reversely oriented in said channel so that the respective offset edge portions thereof are adjacent, and means engaging the top edge portions of said panels for maintaining said panels in a generally vertical plane.

References Cited in the file of this patent

UNITED STATES PATENTS

596,269	Jefferis	Dec. 28, 1897
1,068,327	Darwin	July 22, 1913
1,721,260	Schaffer	July 16, 1929
2,197,385	Ricken	Apr. 16, 1940
2,374,490	Lehman	Apr. 24, 1945
2,589,517	Stelzer	Mar. 18, 1952
2,602,504	Roos	July 8, 1952

FOREIGN PATENTS

738,259	France	Oct. 11, 1932