Oct. 21, 1958 L. ROTH 2,856,995

WEATHER-PROTECTIVE COVERING

Filed Jan. 25, 1956 2 Sheets-Sheet 1

Fig. 1

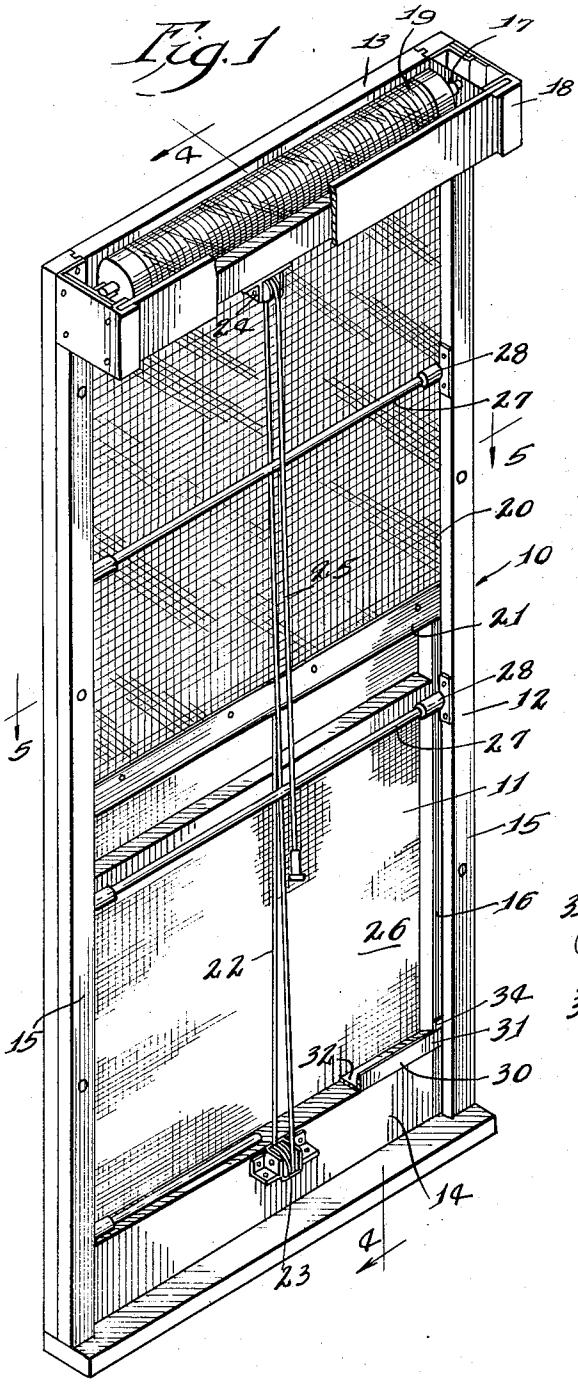


Fig. 2

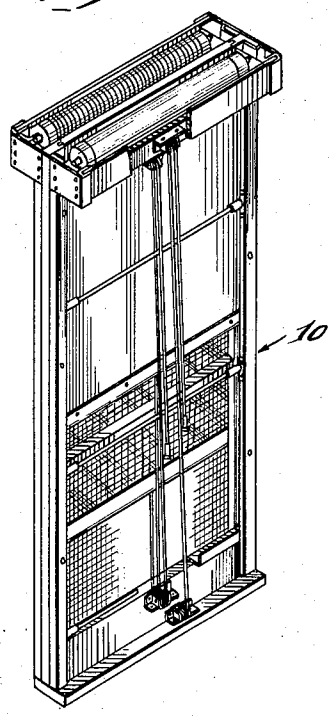
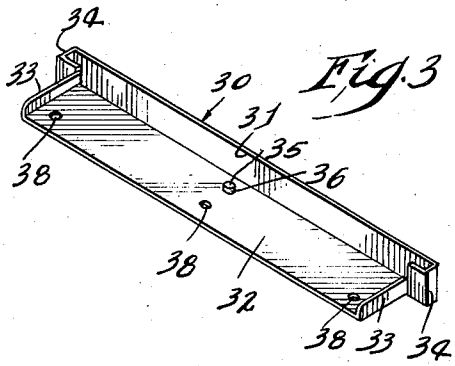


Fig. 3



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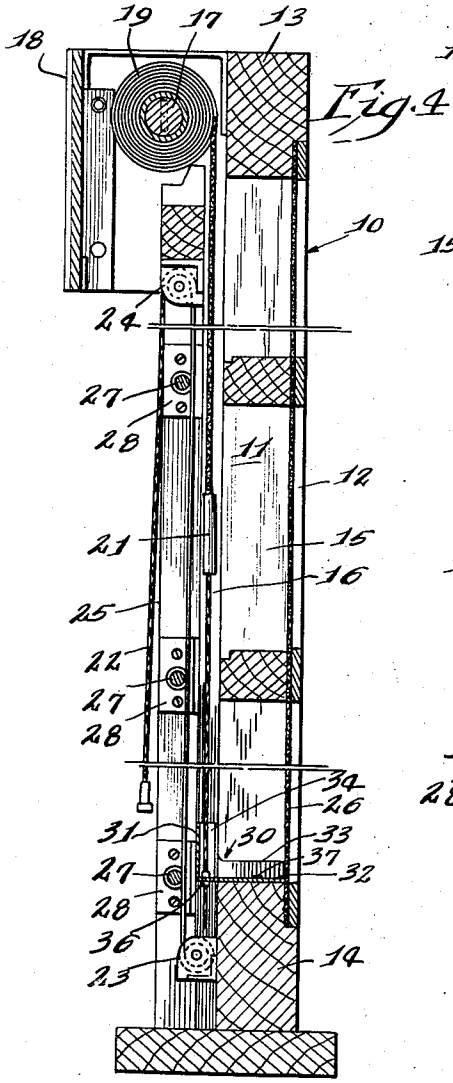


Fig. 4

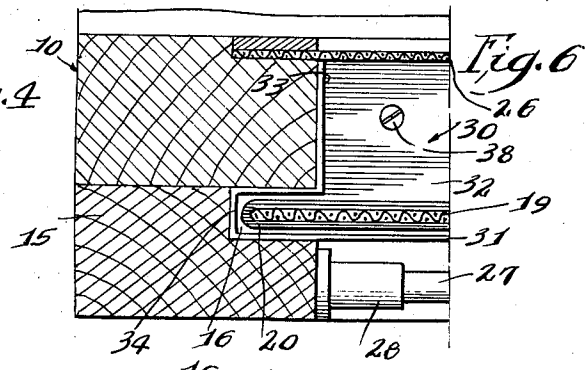


Fig. 6

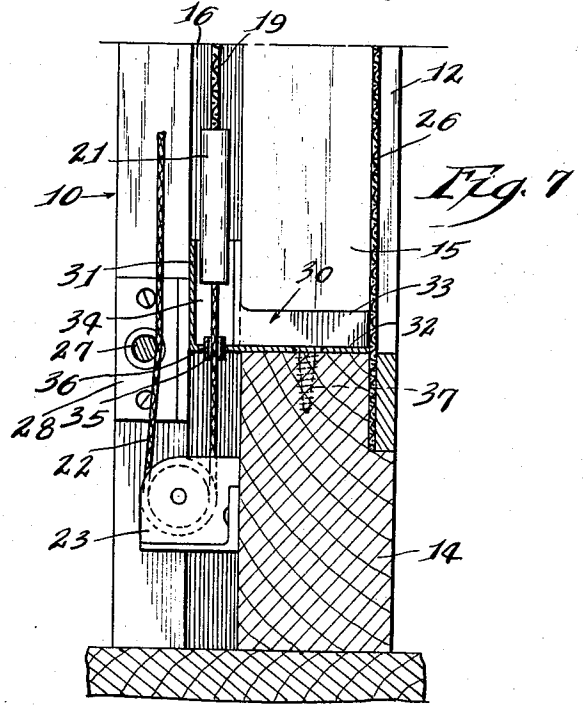


Fig. 7

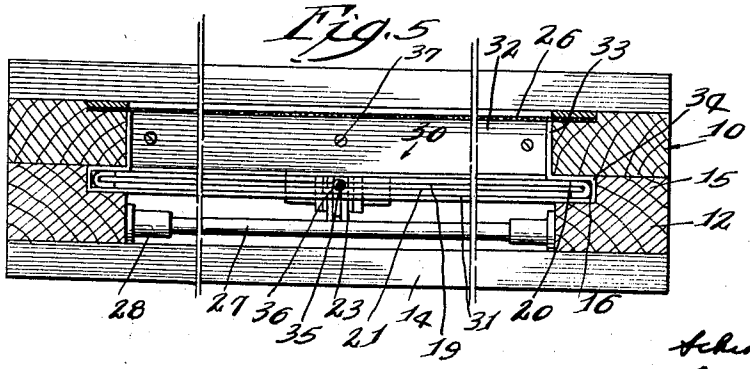


Fig. 5

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WEATHER-PROTECTIVE COVERING

Leo Roth, Palos Heights, Ill.

Application January 25, 1956, Serial No. 561,271

3 Claims. (Cl. 160—44)

This invention relates to a weather protective covering for a framed opening and, more particularly, to a weather protective covering that includes a gutter and is mountable in side channels.

The protection of screened-in areas such as porches from the damaging effects of wind, rain and snow has been a problem confronting occupants and owners of houses and other buildings for many years. The influx of wind, rain and snow around the edges of coverings that have been placed over openings, the time necessary to place a series of coverings over openings, and the inconvenience of operating the devices from the outside have proved troublesome in the past.

The recent increase in construction of homes provided with screened-in breezeways and terraces, and the trend toward the furnishing of these breezeways and terraces with furniture and rugs that may be damaged by the effects of wind, rain and snow have presented the modern home owner with the serious problem of covering the screened openings of the breezeways and terraces quickly and completely when a wind, rain or snow storm arises.

What has been needed is a protective covering that can completely cover the openings to prevent the entry of wind, rain or snow, but yet that can be placed over the openings rapidly so that a plurality of openings can be protectively covered before any damage from rain, wind and snow can occur. Ease and simplicity of operation are desirable so that anyone, including a small child, may cover the openings before damage occurs. Also, a simple and inexpensive construction is desirable.

In the past, many attempts have been made to provide a satisfactory covering. The most common and widely used device being the vertical awning, consisting of a waterproof material secured to the top of the opening and rolled upon a roller that rotates as it is raised and lowered by cords or other means. These awnings are placed either on the inside or the outside of the screened opening. When placed on the outside of the opening the awning can cover the opening and prevent wind, rain or snow from entering, but being on the outside necessitates the lowering from the outside which exposes the operator to wind, rain, snow, and cold. Also, being on the outside, such awnings are easily damaged by high winds. To eliminate the inconvenience and delay of having to operate from the outside, awnings are often placed on the inside of the opening, but when so located the rain or snow striking the awning is apt to travel down along the awning and drop onto the sill and floor, causing damage to rugs and furniture. In either the outside or inside position the awning has the characteristic of a sail in that wind will make the awning flap and move away from the opening, thereby allowing wind, rain and snow to pass around the awning and enter the breezeway or terrace, causing damage. Further, if the awning is placed on the inside of the opening the awning itself can cause damage when it moves under the force of a storm.

According to this invention, a weather-protective covering is located on the inside of the opening where it can be

easily and quickly operated and yet is not subject to damage as is an outside covering and can be easily adjusted or repaired when necessary. This invention in many respects is an improvement on the storm shade shown in my copending application Serial No. 482,721, filed January 19, 1955.

Weather protective coverings adapted for use on the inside of framed openings contain a distinct and important disadvantage in that rain, snow and ice striking the covering flows down the covering and drips onto the window sill or floor on the interior of the opening, thus, in part defeating the purpose for which the covering is used. Also, for guiding the covering and holding it in place, some coverings include channels engaging the side edges of the covering. Although these channels guide the shade and hold the shade in place they also serve as conduits for directing rain, snow and ice down onto the sill and floor interiorly of the opening. This invention eliminates the above disadvantages by providing a portion of a gutter which conducts the rain, snow and ice dripping from the bottom of the covering outwardly to the exterior of the opening. Further, this invention provides a gutter portion extending into the channels for receiving the rain, snow and ice that may be conducted down the channels and directing the same to the above mentioned portion of the gutter that directs the rain, snow and ice outwardly. And, in addition, there is a rear wall provided on the gutter which prevents any inward flow of rain, snow and ice and also protects against the entry of wind around the bottom of the covering. Further, this rear wall aids in holding the covering in place by bracing the bottom of the covering and limiting inward movement during bad weather conditions.

Other and further objects and features of the invention will be readily apparent from the following description and drawings in which:

Fig. 1 is a perspective view with portions cut away for clarity, of a framed opening with a weather-protective covering, comprising an embodiment of the present invention, mounted thereon;

Fig. 2 is similar to Fig. 1 and, in addition, shows an additional covering mounted on the outside of the opening;

Fig. 3 is a perspective view of the gutter of Fig. 1;

Fig. 4 is a vertical sectional view taken along line **4—4** of Fig. 1;

Fig. 5 is a horizontal sectional view taken along line **5—5** of Fig. 1;

Fig. 6 is an enlarged horizontal sectional view showing a portion of Fig. 5; and

Fig. 7 is an enlarged vertical sectional view showing a portion of Fig. 4.

While this invention is susceptible of embodiments in many different forms, there is shown in the drawings and will herein be described in detail one specific embodiment, with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the embodiment illustrated. The scope of the invention will be pointed out in the appended claims.

Referring now to the drawings, a portion **10** of a porch, breezeway or terrace is shown containing a vertical opening **11**. This opening is surrounded by a frame **12** having a top piece **13**, a bottom piece **14** and substantially parallel side pieces **15**. The side pieces **15** are provided with substantially parallel vertical channels **16**. Mounted to the top piece **13** is a roller **17** surrounded by a framework **18** which is provided as a decorative covering for the roller and also as a support for a pulley **24** which will be described below. A weather-protective covering, preferably in the form of a rolled shade **19**, is attached to and rolled

upon the roller **17**. This shade can be made of any desirable, flexible material such as a clear plastic or a heavy awning material. The side edges **20** of the shade engage the channels **16** of the frame and, thus, the shade is guided in the channels. The free end of the shade is provided with a rigid end piece **21** preferably made of bent sheet metal such as aluminum so that it is thin enough to fit in the channel **16** and yet rigid enough to properly position the free end of the shade **19** and to prevent distortion of the shade when manipulated by the cord **22** attached thereto. This cord **22** is attached to the end piece **21** in any desirable manner preferably without increasing the overall thickness of the shade and end piece. The cord **22** extends downwardly from the shade and passes around a pulley **23** which is mounted on the bottom piece **14** of the frame. The cord then extends upwardly to the top of the opening and around a pulley **24** which is attached to the framework **18**. An end of the cord **25** extends downwardly from the pulley **24** and can be shortened or lengthened for easy manipulation of the shade from any position adjacent or below the opening.

Normally, most openings which surround porches or breezeways are covered by a screen **26** mounted adjacent the outside of the opening. This screen **26** acts as a protective shield for the covering of this invention as it tends to break the force of weather conditions directed toward the covering and restrict the outward movement of the covering. Further protection against lateral movement of the shade is provided by bars **27** on the inside of the frame, preferably extending horizontally across the opening and having ends attached to the side pieces **15** of the frame by means of brackets **28**. These brackets **28** are preferably mounted closely adjacent to the channels **16** so that the bars **27** will be closely adjacent to the shade to effectively prevent inward movement of the shade.

A gutter **30** extends across the bottom of the opening and is attached to the bottom piece **14** of the frame in a position to receive all of the rain, snow or ice dripping from the bottom of the covering and direct the same outwardly exteriorly of the opening. The gutter **30** has an upright rear wall **31** extending across the bottom of the opening and into each channel. This rear wall is on the inside of the bottom of the covering when the covering is unrolled so as to protect against the passage of rain, snow, ice and also wind under the bottom of the covering and through the opening. This rear wall also acts as a brace to prevent substantial inward movement of the bottom piece **21** of the lowered covering. The gutter has a bottom piece **32** extending outwardly from the rear wall and sloping outwardly and downwardly to direct the flow of rain, snow and ice dripping from the covering outwardly to the outside of the opening. The gutter has side walls **33** extending forwardly from adjacent the rear wall and contacting the sides **15** of the frame. These side walls prevent rain, snow and ice from flowing down the sides of the frame and into the interior of the opening. Further, the gutter is provided with juncture walls **34** joining the rear wall **31** with the side walls **33** and adapted to conform with the channels. These juncture walls prevent the flow of snow, rain and ice down the channels and into the interior of the opening. A passage through the gutter for the cord **22** is provided by a hole **35** around which is positioned a raised portion **36** also for obstructing the passage of rain and snow. The gutter is sealingly attached to the bottom piece **14** of the frame by any suitable means. In the embodiment shown, this consists of a plurality of holes **38** in the bottom piece **32** of the gutter through which screws **37** pass. These screws **37** are screwed into the bottom piece **14** of the frame and thus securely mount the gutter.

In operation the shade can be easily rolled into place by simply pulling on the end **25** of the cord **22**. The shade edges are guided by the channels **16** and the shade is stopped when the bottom piece **21** of the shade is

below the upper portion of the rear wall **31** of the gutter **30**. In this position, the shade is held in place by means of the channels, screen, bars and rear wall of the gutter. Any rain, snow or ice that is directed at the opening is prevented from passing therethrough by the cooperation of the covering, the channels and the gutter. This shade structure also protects against the effects of wing since the passage of wind around the edges and bottom of the shade is almost completely obstructed by the channels and the gutter.

The weather-protective covering of this invention can be used in conjunction with the covering disclosed in my copending application Serial No. 482,721, referred to above, as shown in Fig. 2. When these two coverings are used together, one of them can be of a clear material so that the desired protection against weather conditions can be achieved without obstructing vision or the entry of light and the other covering can be of a heavy awning-like material for obstructing vision or the entry of light. One desired arrangement would be to have the outer covering made of a clear plastic material so that in cold weather the outer covering can be placed to remain across the opening and the inner covering can be unrolled only when it is desirable to obstruct vision or the entry of light.

I claim:

1. A weather-protective covering for a framed opening wherein the frame has substantially vertical side channels and has a bottom frame member extending across the opening from channel to channel, comprising: a gutter for draining rain and snow to the outside of the opening having an upright rear wall extending across the bottom of the opening and into each channel, said gutter having a bottom piece, the gutter having side walls extending forwardly from adjacent the rear wall, and the gutter having U-shaped juncture walls conforming to the inside of said channels and joining the rear wall with the side walls so as to direct rain and snow flowing down the channels to the outside, said gutter being mounted on the frame sealingly engaging the bottom frame member, the bottom piece of the gutter sloping outwardly and downwardly; and a covering mounted on the frame for movement from a first position uncovering the opening to a second position covering the opening wherein its sides are located in the channels and the bottom edge of the covering is closely adjacent the bottom of the gutter, forwardly of said rear wall and with its outer extremities positioned within said U-shaped juncture walls to direct rain and snow flowing down the covering onto said gutter and thence to the outside thereby preventing substantially all the rain and snow from passing around the covering and through the opening.

2. A weather protective covering for a framed opening wherein the frame has substantially vertical side channels and has a bottom frame member extending across the opening from channel to channel, comprising: a gutter for draining rain and snow to the outside of the opening having an upright rear wall extending across the bottom of the opening and into each channel, said gutter having a bottom piece, the gutter having side walls extending forwardly from adjacent the rear wall, and the gutter having U-shaped juncture walls conforming to the inside of said channels and joining the rear wall with the side walls so as to direct rain and snow flowing down the channels to the outside, said gutter being mounted on the frame sealingly engaging the bottom frame member, the bottom piece of the gutter sloping outwardly and downwardly; a roller rotatably mounted at the top of the frame; and a shade having an end secured to the roller and being wound thereon, said shade having side edges located in said channels and a bottom edge closely adjacent the bottom of the gutter and forwardly of said rear wall with its outer extremities positioned within said U-shaped juncture walls when the shade is unwound to direct rain

and snow flowing down the covering onto said gutter and thence to the outside thereby preventing substantially all the rain and snow from passing around the covering and through the opening.

3. A weather protective covering for a framed opening wherein the frame has substantially vertical side channels, comprising: a covering removably mounted in the opening so as to cover the opening and having side edges contained in the channels; and a gutter extending across the bottom of the opening for draining rain and snow to the outside of the opening, said gutter having a U-shaped portion conforming to the inside of said channel positioned in each channel so as to direct the rain and snow flowing down the channels to the outside and having a portion underlying the base of the covering when said

covering is mounted in the opening to direct the rain and snow flowing down the covering to the outside, thereby preventing substantially all the rain and snow from passing around the covering and through the opening.

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