Sept. 24, 1968 R. L. GRAY 3,402,494

INTERNALLY ILLUMINATED SIGN

Filed Oct. 22, 1965 5 Sheets-Sheet 1

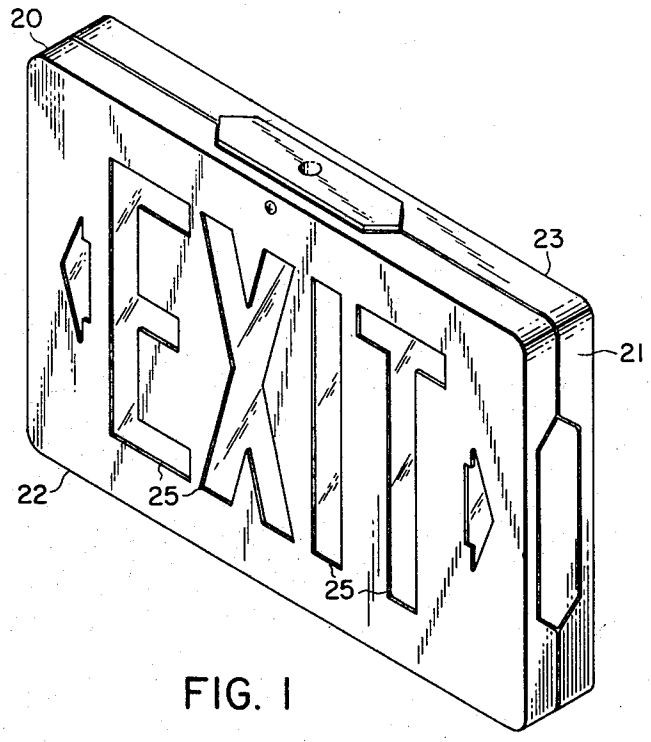


FIG. 1

INVENTOR
RAYMOND L. GRAY

BY Newton, Hopkins, Jones & Ormsby

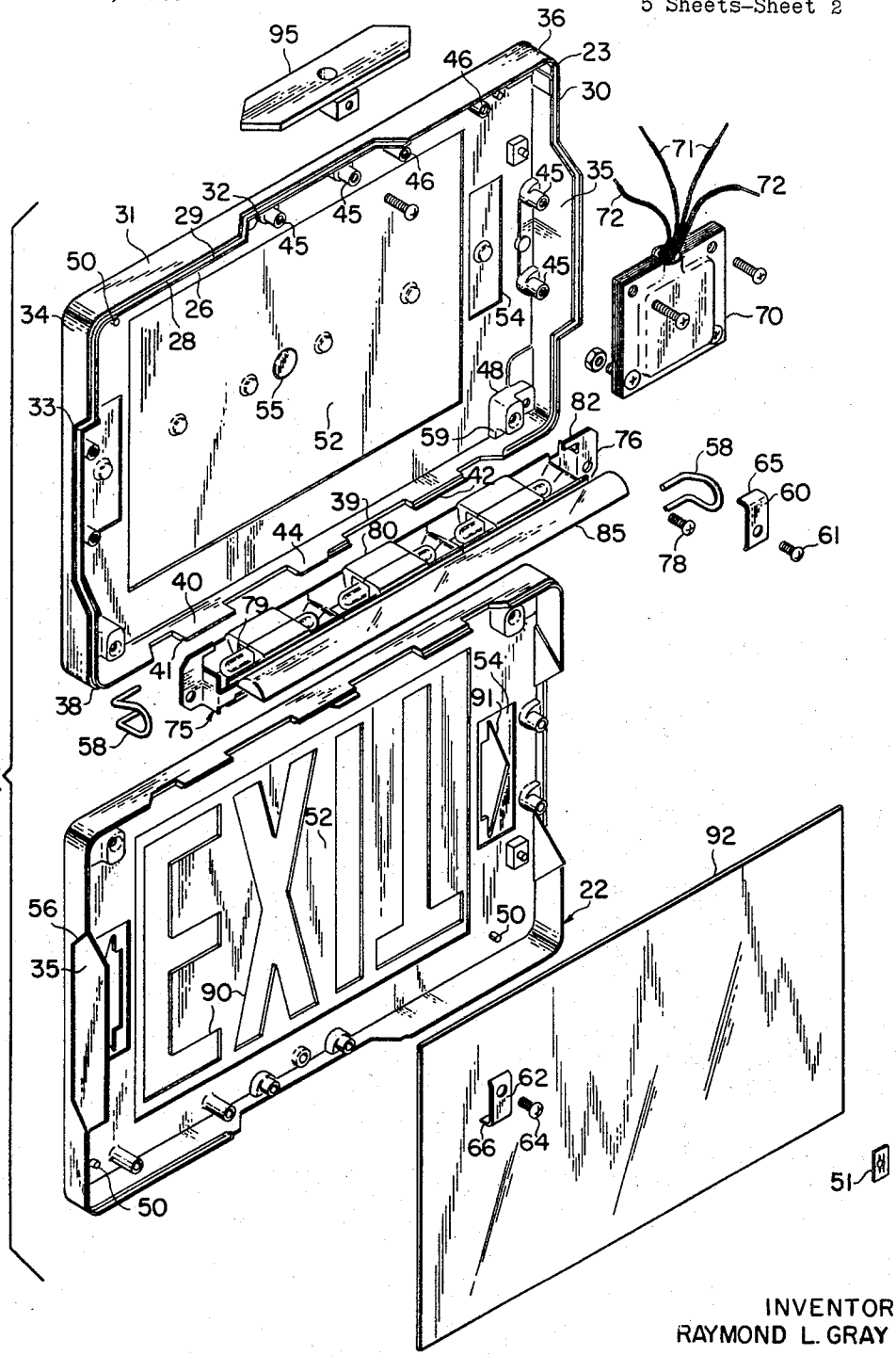
ATTORNEYS

Sept. 24, 1968 R. L. GRAY 3,402,494

INTERNALLY ILLUMINATED SIGN

Filed Oct. 22, 1965 5 Sheets-Sheet 2

FIG. 2



INVENTOR
RAYMOND L. GRAY

Newton, Hopkins, Jones & Ormsby

BY

ATTORNEYS

Sept. 24, 1968 R. L. GRAY 3,402,494

INTERNALLY ILLUMINATED SIGN

Filed Oct. 22, 1965 5 Sheets-Sheet 3

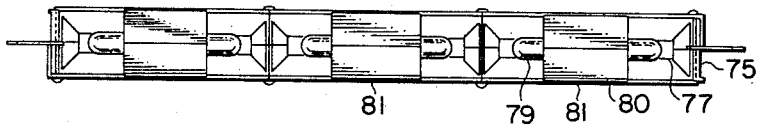


FIG. 3

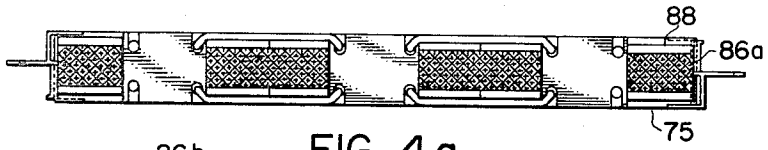


FIG. 4a

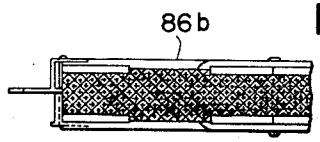


FIG. 4b

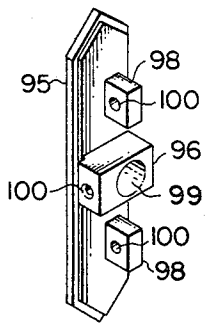


FIG 7

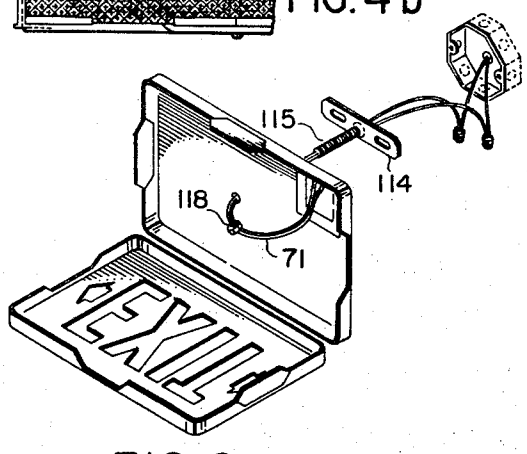


FIG. 9

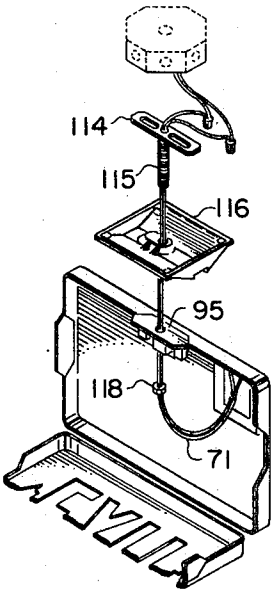


FIG. 5

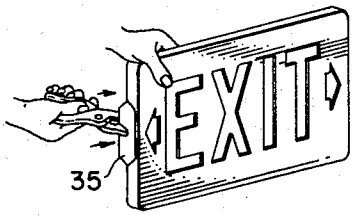


FIG. 6

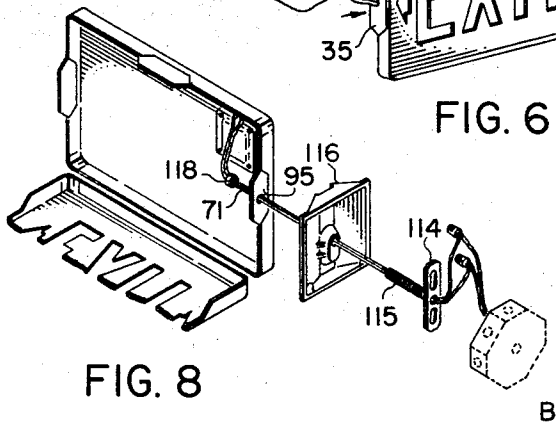


FIG. 8

INVENTOR
RAYMOND L GRAY

BY Newton, Hopkins, Jones & Ormsby

ATTORNEYS

Sept. 24, 1968 R. L. GRAY 3,402,494

INTERNALLY ILLUMINATED SIGN

Filed Oct. 22, 1965 5 Sheets-Sheet 4

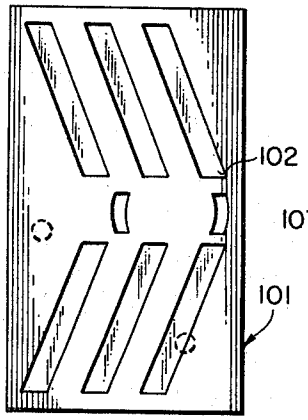


FIG. 10

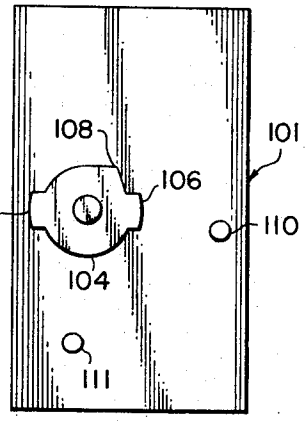


FIG. 11

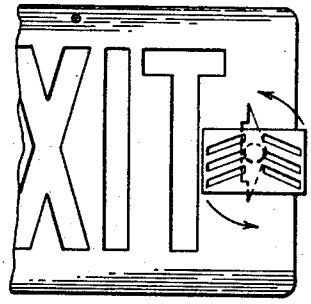


FIG. 13

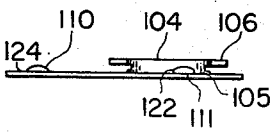


FIG. 12

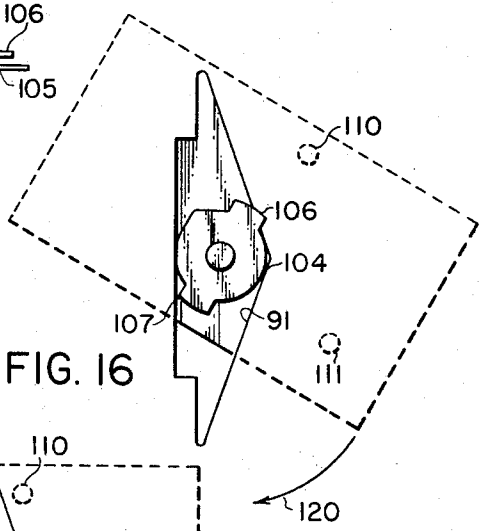


FIG. 16

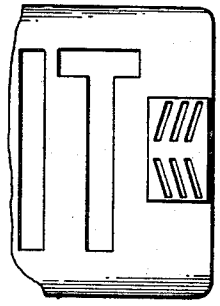


FIG. 14

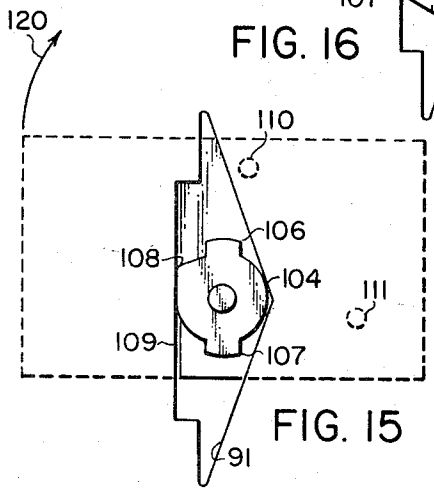


FIG. 15

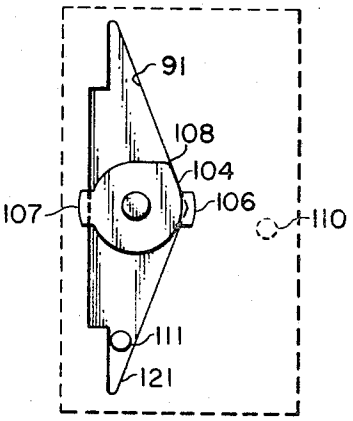


FIG. 17

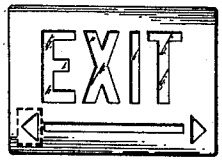


FIG. 23

INVENTOR
RAYMOND L. GRAY

BY Newton, Hopkins, Jones & Ormsby

ATTORNEYS

Sept. 24, 1968 R. L. GRAY 3,402,494

INTERNALLY ILLUMINATED SIGN

Filed Oct. 22, 1965 5 Sheets-Sheet 5

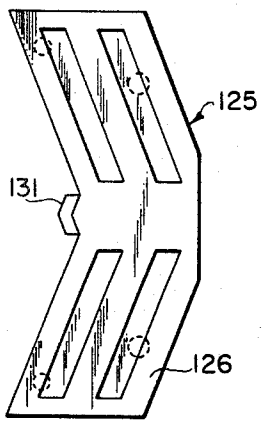


FIG. 18

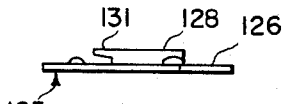


FIG. 20

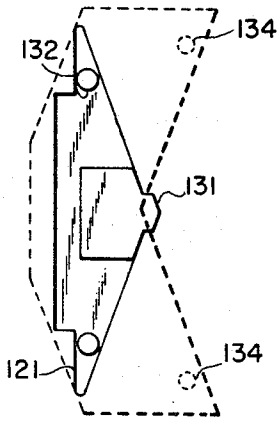


FIG. 21

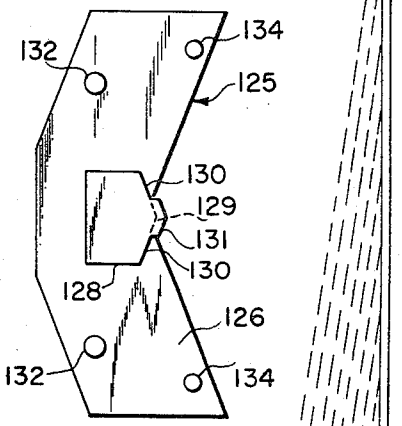


FIG. 19

FIG. 22

INVENTOR.
RAYMOND L. GRAY

BY Newton, Hopkins, Jones & Ormsby

ATTORNEYS

United States Patent Office 3,402,494 Patented Sept. 24, 1968

3,402,494

INTERNALLY ILLUMINATED SIGN

Raymond L. Gray, Lithonia, Ga., assignor to Lithonia Lighting, Inc., Conyers, Ga., a corporation of Georgia

Filed Oct. 22, 1965, Ser. No. 508,416
16 Claims. (Cl. 40—130)

ABSTRACT OF THE DISCLOSURE

An internally illuminated sign having a direction indicator. Two oppositely directed arrowheads and a removable cover for one of the arrowheads constitute the direction indicator. The cover may have the shape of the feather portion of an arrow. The sign case is made from two identical halves and has break-away portions for mounting from either of the sides, the top, the bottom, or the rear face. Light from several lamps spaced along the lower inside edge of the sign case is directed through a lens onto a vertical translucent face mounted within the sign case.

This invention relates to a lighted sign, and more particularly relates to a sign of the type to be mounted in a public building to designate an exit from the building, the location of a lounge, stairs, fire escape, etc., where vivid illumination markings are desired.

In placing signs around a public building to mark exits, etc., it is difficult to utilize one standard sign for every occasion. For instance, if the sign is to be utilized to mark an exit at the end of a hallway where the exit door is perpendicular to the hallway, it would be most desirable to mount the exit sign above the door against the wall, and parallel to the wall, so that the face of the sign can be seen for the full length of the hall. In the instance where the exit is located at the mid point of a long hall it would be desirable to place the sign above the exit door and have its face disposed perpendicular to the wall to which it is attached, and perpendicular to the length of the hall. This arrangement would make the sign visable from its face to the end of the hall. Of course, if it is desired to have the sign mounted above an exit near the center of the hall so that it can be seen from both ends of the hall, the sign should have two oppositely facing faces.

Occasionally, there are instances where hallways intersect, as in the case of a T-intersection, and it is desired to let the people in the hallways know that the exit is through the stem of the T. In this instance, it might be desirable to mount the exit sign to the ceiling by its upper portion.

With each of the arrangements recited above, it can be seen that the various different manners in which exit signs, and other type signs, are mounted in a public place might normally require a different sign for each arrangement.

Since signs of the type utilized in marking public places quite often require the designation of a particular direction of the thing it is marking, as with an arrow pointing toward an exit, the normal previous arrangement of signs of this type have called for "left-handed" and "right-handed" signs, or faces thereof, to adapt the sign to the particular location. Also, there are some instances that require no particular direction indicated so that no arrow is required on the face of the sign.

Thus, it can be seen that the placement of several simple signs such as exit signs in several locations in a public building might require several different type mounting means or frame constructions of the sign, and several different face arrangements on the sign to indicate the proper direction of the item being marked.

Also, included in the previously discussed problems is the problem of properly illuminating the sign so that it is clearly visable over its entire face from a great distance.

Accordingly, this invention comprises a lighted sign including the following features: a casing having two halves, each half being fabricated from a single mold, the halves of the sign casing having break away tab portions that are easily removed so that the mounting means can be attached to the sign casing through the broken away portions thereof, arrows pointing in opposite directions on the face of the sign, arrow covers placeable over either or both of the arrows, and an illuminating means along an inside edge of the sign casing to uniformly illuminate the sign througout its face.

Thus, it is an object of this invention to provide an illuminated sign having a casing formed of two parts, each part being fabricable from a single mold.

It is another object of this invention to provide an illuminated sign having a face with the letters of the sign cut therethrough, a brilliant material positioned behind the face of the sign so that a portion thereof shows through the cutout portion of the face of the sign, and an illuminating means remote from the cutout portion of the face of the sign to uniformly illuminate the cut out portions of the face of the sign.

Another object of this invention is to provide a sign having letters cut in the face thereof, means for indicating a direction on the face of the sign, means for illuminating the sign, and means for changing the direction indicated by the sign.

Another object of this invention is to provide a lighted sign of the type having arrows thereon to indicate direction and means to cover the arrows.

Another object of this invention is to provide a lighted sign that can be mounted from either of its ends, from its top portion, or from its rear portion.

Another object of this invention is to provide a lighted sign of the type utilized in a darkened public building to indicate the directions to an exit, wherein the sign is vividly and uniformly illuminated with a single source of illumination which also illuminates an area immediately beneath the sign.

Another object of this invention is to provide a sign having a plurality of arrow heads cut in the face portion, with arrow covers insertable into the arrow heads, with said arrow covers having a locking means for locking them into place in the arrow heads.

Another object of this invention is to provide a lighted sign which is lighted from within, the source of illumination being a plurality of bulbs disposed along an inner edge of the sign, and a single lens dispersing the light from each of the bulbs uniformly over the inner face of the sign.

Another object of this invention is to provide a lighted sign that is economical to manufacture, simple to install, adapted to a plurality of uses, and well designed to meet the demands of economic manufacture.

Other objects, features and advantages of the present invention will become apparent upon reading the following specification, taken in conjunction with the drawing, in which:

FIG. 1 is a perspective view of the lighted sign;

FIG. 2 is a perspective view of an exploded version of the sign in its open condition;

FIG. 3 is a plan view of the lighting fixture of the sign with the lens removed;

FIG. 4*a* is a bottom view of the lighting fixture of the sign showing a plurality of lens;

FIG. 4*b* is a bottom view of the lighting fixture, similar to FIG. 4*a*, but showing a single lens;

FIG. 5 is a perspective view of the sign and its attach-

ing means, with the attaching means being exploded to show its method of assembly;

FIG. 6 is a perspective view of the face of the sign, showing how the break-away tabs are removed;

FIG. 7 is a perspective view of a closure plate utilized to close the opening created by the breaking away of one of the knock-out tabs;

FIG. 8 is a perspective view of the sign, showing the method in which it is mounted from one end thereof;

FIG. 9 is a perspective view of the lighted sign, showing the method by which the sign is mounted from its rear wall;

FIG. 10 is a front view of a twist connection arrow cover of the lighted sign;

FIG. 11 is a back view of a twist connection arrow cover of the lighted sign, showing its attaching means;

FIG. 12 is a side view of the twist connection arrow cover;

FIGS. 13–17 show the method of inserting the arrow cover of FIGS. 11 and 12 over the arrow head, and locking the arrow cover to the face of the sign;

FIG. 18 is a front view of a snap connection arrow cover;

FIG. 19 is a back view of a snap connection arrow cover, showing its connecting means;

FIG. 20 is a side view of the snap connection arrow cover;

FIG. 21 is a back view of the snap connection arrow cover as it appears in place over the arrow head;

FIG. 22 is a cross-sectional end view of the lens of the light fixture, showing the manner in which light enters, travels through, and emerges from the lens;

FIG. 23 is a plan view of another form of the invention;

Referring now more particularly to the drawings, in which like numerals indicate like parts throughout the several views, the lighted sign **20** comprises a casing **21** having a front face **22** and a rear face **23**. The front face **22** and rear face **23** are identical and are formed from the same mold. Of course, the front face **22** has the lettering **25** cut therethrough while the rear face **23** can be left blank if the sign is to be utilized so that the rear face is not to be used as a sign. Of course, the rear face **23** can also have lettering cut therethrough as the front face **22** so that the sign can be placed in a location where it is visible from both sides.

Referring now to FIGS. 2, the rear face **23** of the casing **21** is rectangular in configuration, with its corners being rounded. The inner edge **26** of the rear face **23** of the casing **21** is grooved at **28** so that a ridge **29** extends around the left side of the rear face **23**. The inner edge **26** is oppositely grooved on the right side of the rear face **23** so that a flange **30** is present on the outer portion of the rear face **23** while a step-down portion is present inwardly thereof.

The upper surface **31** of the rear face **23** is recessed at **32**. A similar recess **33** is present in the left side **34**, while a projection **35** of equal dimensions to the recesses **32** and **33** is present in the right side **36** of the rear face **23**. The lower surface **38** has a plurality of indentations **39** along its length, the tabs **40** between the indentations being constructed at their outer ends in a manner similar to the left side **34** and right side **36** inner edges. In order words, the tabs to the left of the center of the rear face **23** are constructed with a stepped portion so that the flange **41** is positioned toward the inner portion of the rear face **23** and stepped down toward the outside of the sign to form the remaining portion of the tab, while the flange **42** on a tab to the right side of the rear face **23** is positioned outwardly of the inner portion of the rear face so that it is stepped down toward the inside. The center tab **44** is divided at its center so that its left portion matches the left portion of the inner edge **26** of the casing while its right portion matches the right portion of the inner edge of the casing.

A plurality of internally threaded bosses **45** are attached to the rear face **23** of the casing **21**, and are located near the ends of each of the recesses **32** and **33**, and near the ends of the projection **35**. Threaded bosses **46** are attached to the rear face **23** of the casing **21** on the right side thereof, as viewed in FIG. 2, and double threaded projections **48** are positioned in the lower corners of the rear face **23** of the casing. The double threaded projections **48** have two threaded apertures therein so that they are adapted to receive two threaded screws. Plain nipples **50** are attached to the rear face **23** of the casing **21**, in the upper corners thereof and are adapted to receive self locking catches **51**.

The rear face **23** of the casing **21** is die-cast in such a manner that its center portion **52** and its small side portions **54** are recessed so that the casing is thin in these areas. The center portion **52** is further recessed at **55** to such a degree that the portion **55** can be easily removed by knocking it inwardly of the casing **21** with a tool.

As shown in the lower portion of FIG. 2, the front face **22** of the casing **21** is constructed from the same die as the rear face **23**, and is identical thereto except for the modifications made therein after it has been removed from the die. It should be noted that the lower portion of FIG. 2 shows that the projection **35** has a groove **56** that extends inwardly of the projection **35** which is a mirror image of the projection. The groove **56** is of such a depth that the projection **35** can be easily removed by bending it inwardly toward the center portion of the side with a tool. This, of course, makes the projection **35** a break-away or knock-out projection, as is the encircled portion **55** of the center portion **52** of the rear face **23**.

The rear face **23** and the front face **22** which has an inner edge **26** is identical to that of rear face **23**, and are positioned so that they are disposed next to each other and their inner edges **26** meet each other. Since the inner edges **26** are grooved, the rear face and front face will fit each other and be locked in place with respect to each other when positioned in this manner.

Hinges **58** of simple bent wire construction are positioned at the lower edge of the rear face **23** in the grooves **59** of the double-threaded projections **48** and fastened in place by inserting clamps **60** thereover and screwing the clamps **60** in place with the screws **61**. The other end of the hinges **58** are attached to the front face **22** in a similar manner by the clamps **62** and screws **64**. The clamps **60** and **62** are bent so that their leg portions **65** and **66** will contact the inner portion of their respective rear face **23** and front face **22**. The clamp **60** and its leg **65** are also utilized to clamp the internal wiring of the sign in place. The hinges **58** are constructed so that the front face **22** can be pivoted away from the rear face **23** along their bottom edges so that they can be disposed generally in the position shown in FIG. 2.

A transformer **70** is attached to the threaded bosses **46** of the rear face **23** and suitable wiring **71** leads to the transformer from outside the lighted sign, while internal wiring **72** leads from the transformer **70** toward the source of illumination of the sign. The wires **72** of the transformer **70** are clamped in place by inserting the self-locking holders **51** thereover and sliding them over the nipples **50** so that the wires **72** are wedged between the self-locking holders **51** and the inner surface of the rear face **23** of the casing **21**.

The source of illumination for the sign is the lighting fixture **75** which is attached to the rear face **23** of the casing **21** by the tabs **76**. The tabs **76** are placed over the double threaded projections **48** and fastened thereto by suitable screws **78**. As is best shown in FIGS. 3 and *4a*, the lighting fixture **75** comprises a plurality of light bulbs **79** positioned along its length in a plastic casing **80** of suitable design. The light bulbs **79** are recessed in the casing **80** and their sockets are located in the platforms **81**. The tabs **76** have projections **82** that extend to a short distance over the housing **80** and the lens **85** is held on the several platforms **81** by wedging it between

these platforms and the tabs or projections **82** of the tabs **76**. The lens **85** is fabricated of a hard plastic material that is transparent and substantially semi-circular in cross-section. The recesses **77** of the fixture extend all the way therethrough and the corrugated prismatic plastic lenses **86***a* (FIG. 4*a*) are positioned on the bottom side thereof by sliding them through the tabs **88** in the conventional manner. When the lighting fixture **75** is attached to the rear face **23** of the lighted sign the bulbs **79** and their prismatic plastic lenses **86** are positioned over the recesses or indentations **39** (FIG. 2) in the lower surface **38** of the casing **21**. As is shown in FIG. 4*b*, a single lens **86***b* can be inserted through the tabs **88** for simplicity of assembly.

As shown in FIG. 2, the front face **22** has letters **90** cut therethrough in its inner portion **52** and arrows **91** in its side portion **54**. While the letters shown in this specific embodiment spell the word "Exit" it should be obvious that other words could be spelled out in the face of the sign.

A translucent cover **92** is placed against the inner surface of the front face **22** so that it covers both the letters **90** and the arrows **91**. The translucent cover **92** is dimensioned so that it can be positioned near the plain nipples **50** and the double threaded projections **48** and self-locking catches **51** can be slipped over the plain nipples **50** so that they trap the translucent cover **92** against the inner portion of the front face **22** while the clamp **62** is attached to the front face **22** by the screws **64** so that its leg portion **66** bears against the cover. In this manner, the translucent cover is firmly maintained in its position against the inner surface of the front face **22** so that the letters **90** and arrows **91** expose a portion of the translucent cover **92**. Of course, the translucent cover is of a color that contrasts with the face of the sign, and in the case of an exit sign, the color usually used is a bright reddish color which is clearly visible when illuminated.

Referring now to FIGS. 6 and 7, it can be seen that the projection **35** of either the rear face **23** or the front face **22** of the sign casing **21** can be broken away by bending it inwardly of the sign. When the projection is broken away in this manner and the front and rear faces of the sign placed back together, as shown in FIG. 1, a hole is left in the side of the sign. The closure plate **95** of FIG. 7, is constructed of a shape that matches the outline of the hole left by breaking away a projection **35**. The closure plate **95** defines a central projection **96** and side projections **98**. The central projection **96** and the closure plate **95** are centrally apertured at **99** while all three projections have screw holes **100** extending into one side thereof, the screw hole of the central projection being threaded. The closure plate **95** is positionable in the hole left by breaking away the projection **35** of the side of the casing **21** and the closure plate is attached to the casing by inserting the screws through the holes **100** of the side projections **98** and threading the screws into the threaded bosses **45**.

As is shown in FIGS. 10, 11, and 12, twist connection arrow covers **101** are provided that comprise a rectangular plate with stripes **102** of contrasting color painted thereon. A locking device **104** is positioned on the rear side of the arrow tail **101**. The locking device **104** comprises a projection **105** attached to the rear face of the arrow cover **101** with tabs **106** and **107** extending on opposite sides thereof, and parallel to the plane of the arrow cover **101**. The tabs **106** and **107** are displaced from the plane of the arrow cover a distance approximately equal to the thickness of the front face **22** of the casing **21**. The projection **105** is generally circular in configuration having a pointed portion **108** substantially intermediate the tabs **106** and **107**.

The arrow cover **101** has a tensioning knob **110** attached to its rear face at a distance displaced from the locking device **104** and a locking knob **111** attached to the rear face at a position remote from the tensioning knob **110**. The locking knob **111** is positioned at a distance closer to the projection **105** than the tensioning knob **110**.

FIGS. 18–20 show a snap-on arrow cover **125** that comprises a substantially flat plate **126** having a projection **128** extending from one surface thereof that functions as a locking device. The projection **128** has a pointed portion **129** and sloping side portions **130** that slope away from the pointed portion **129** at an angle approximately equal to the angle that the wings of the arrow of the face of the sign slope away from its pointed portion. The tab **131** extends outwardly from the pointed portion **129** of the projection **128**, is displaced from the surface of the plate **126**, and extends substantially parallel to the plate. Locking knobs **132** are remotedly disposed from the projection **128**, and the tensioning knobs **134** are remotely disposed from both the locking knobs **132** and the projection **128**.

Referring now to FIG. 22, the transparent lens **85** is shaped in such a manner that the light emitted from the source of illumination **135** is directed primarily upwardly of the fixture as opposed to laterally thereof. The lens is shaped in this manner so that the translucent screen or cover **92** is more uniformly illuminated throughout its entire width even though the source of illumination **135** is located along one edge of the sign casing. The lens **85** has been accurately shaped so that when it is positioned over the source of illumination **135**, the ratio of the intensity of light emitted from the face of the sign from the bottom toward the top of the sign is approximately three to one. Without a lense of this type, the ratio of intensity of the light emitted from the bottom of the sign as compared to that emitted from the top of the sign would be much greater than three to one, since the ratio would be merely a function of the distance of the source of illumination **135** from the various portions of the sign. For instance, if the source of illumination **135** was located at a distance of one-half inch from the lower portion of the sign and at six inches from the upper portion of the sign, the ratio of intensity of the light emitted from the lower portion of the sign to the upper portion of the sign would be approximately twelve to one.

Operation

The lighted sign can be mounted from the ceiling as shown in FIG. 5, extending outwardly from a wall as shown in FIG. 8, or attached in a parallel fashion to a wall as shown in FIG. 9.

When attaching the sign to the ceiling, a mounting bar **114** is attached to the outlet box to which the sign is to be connected. A threaded tube **115** is screwed into the central threaded aperture of the mounting bar **114**, a canopy **116** is slipped over the threaded tube, a closure plate **95** is slipped over the treaded tube, the bar passing through the aperture **99**, and a locking nut **118** is threaded over the end of the threaded tube to tightly assemble the parts. The closure plate **95** is then connected to the threaded bosses **45** and the wires **71** of the sign connected to the wires of the outlet.

Of course, if it is desired to mount the sign from one of its ends, as shown in FIG. 8, one of the projections **35** is broken away and a closure plate **95** is positioned therein and the sign mounted in a similar manner. If it is desired to mount the sign from its rear surface, as shown in FIG. 9, the knock-out **55** is removed from the rear face **23** of the sign and the threaded tube **115** inserted therethrough. Of course, a closure plate is not required when the sign is mounted in this manner.

After the sign is mounted in its proper position it might be desirable to cover one of the arrows **91**, or possibly cover both of the arrows. This can be easily done by covering the arrows with the twist connection arrow covers **101**. As is shown in FIGS. 15–17, the projection **105** of the arrow cover **101** is inserted through

the arrow so that the tabs **106** and **107** extend inside the casing **21**. The arrow cover **101** is then rotated in the direction as indicated by the arrow **120** so that the tabs **106** and **107** extend on opposite sides of the front face **22** from the arrow cover **101**. When the arrow cover **101** is positioned so that its locking device **104** is inserted through the arrow **91**, the tension knob **110** and the locking knob **111** tend to hold the arrow cover **101** slightly away from the surface of the front face **22** so that the projection **105** does not extend far enough through the arrow **91** to permit the tabs **106** and **107** to grip the inner surface of the front face **22** of the casing **21**. Thus, the operator must exert enough force on the arrow cover to bend it slightly so that the tabs **106** and **107** are projected far enough into the casing to grip the inner surface of the front face **22**. Of course, the arrow cover is fabricated of a material that allows it to bend in such a manner.

After the tabs **106** and **107** grip the front face **22** as shown in FIG. 16, the arrow cover is rotated in the direction as indicated by the arrow **120** until the stripes **102** of the arrow cover are in a position so that they appear to be an arrow tail, as shown in FIG. 14. When the arrow cover is in this position, the locking knob **111** has rotated to the position as shown in FIG. 17 where it has slipped into the pointed edge or wing **121** of the arrow **91**. Of course, the tension knob **110** still maintains the arrow cover **102** in a slightly bowed condition so that the locking knob **111** is firmly positioned in the pointed edge or wing **121** of the arrow **91**.

As is shown in FIG. 12, the locking knob **111** is formed with relatively straight side portions **122** while the tension knob **110** has relatively rounded side portions **124**. The straight side portions **122** of the locking knob **111** function to permanently lock the arrow cover to the arrow since it is difficult to remove the straight side portion from the pointed edge **121** of the arrow because of the tension exerted on the arrow cover by the tension knob **110**.

As is shown in FIG. 15, when the arrow cover **101** is inserted in the arrow **91**, the pointed portion **108** of the projection **105** is positioned so that it bears against the base **109** of the arrow and the arrow cover cannot be rotated in a direction opposite to that indicated by the arrow **120**. When the arrow cover **101** has been rotated to the position as shown in FIG. 17, the pointed portion **108** bears against the point of the arrow so that the arrow cover cannot be moved any further.

The arrows **91** can also be covered with the snap connection arrow covers **125**. The arrow cover is merely positioned over the arrow so that the tab **131** slips under the point of the arrows and the pointed portions **129** bears against the pointed portion of the arrow head. The sloping side walls **130** of the projection **128** of the snap connection cover **125** will bear against the sloped portions of the arrow head so that the cover will be properly aligned. After the tab **131** has positioned as described above, the locking knobs **132** will be positioned in the wing portions **121** of the arrow head and tend to lock the arrow cover in place over the arrow head. The tensioning knobs **134** are positioned to one side of the tab **131** so that they bear against the face of the sign and tend to pivot the arrow cover **125** around its tab **131** as it grips the inside surface of the sign casing. This, of course, tends to force the locking knobs **132** into the wing portions **121** of the arrow head so that they are difficult to remove. This construction tends to make the arrow covers tamper-proof so that they are not easily removed by a person that does not know their method of construction. Of course, the locking knobs **132** are configured with substantially straight sides as described of the locking knobs **111** of the arrow cover **101**. Furthermore, the tensioning knobs **134**, together with the resiliency of the plate **126** of the arrow cover **125** tend to compensate for any variations in thickness of the casing of the sign, so that when a substantially thick sign casing has arrow applied thereto, the plate **126** will merely bend slightly more to compensate for the extra thickness; whereas a thinner sign casing will not flex the plate **126** quite as much.

Thus, it can be seen that the instant invention is truly universal in that it requires only a single mold to cast both the front face and the back face of the sign casing so that the faces thereof are interchangeable and the sign can be mounted with a single lettered sign face or with oppositely facing lettered sign faces, the casing can be mounted from either of its ends, from its rear wall, or from its upper edge, and the arrows of the sign face can be covered with arrow covers so that the remaining arrow is the only one visible and the arrow cover covering the opposite arrow helps to emphasize the direction of the remaining exposed arrow. Furthermore, the arrow covers are constructed so that they are locked in place when properly inserted over the arrows so that they are difficult to remove and not subject to tampering.

While the invention has been disclosed as a sign with arrow heads at each end of a sign face and arrow covers to selectively cover the arrows, it is anticipated, as is shown in FIG. 18, that a single, long, double-headed arrow could be utilized along a border of the sign and one of the arrow heads covered by an arrow cover. Furtheremore, to further emphasize the direction of the exit, the arrow cover, instead of having the stripes **102** as shown in FIG. 10, could have a series of apertures cut therethrough so that the light from the interior portion of the lighted sign could pass therethrough.

The lighting fixture **75** functions to uniformly illuminate the interior portion of the sign casing **21**. The plurality of light bulbs **79** are disposed so that they illuminate the single lens **85** which, because of its shape and location, directs a large portion of the light toward the upper portion of the cover **92**, refracts the light and illuminates the entire interior casing **21** and cover **92** of the sign **20** without a bright spot appearing on the face of the sign. Of course, since the bulbs **79** are positioned over the indentations **39** in the lower surface **38** of the sign **20**, a portion of the light emanating from the bulbs **79** is directed below the sign. Of course, this feature is highly desirable in dimly lighted locations, such as a movie house, where the public not only needs to know the location and direction of the exit, but also needs a small amount of light to see the stairs, the aisle, the location of seats, etc. The prismatic plastic lens **86** in the lighting fixture **75** functions to diffuse the light given off from the bulbs **79** so that this light is not disturbing to the people in the darkened area as it might be if a bare bulb were exposed.

It will be obvious to those skilled in the art that many variations may be made in the embodiments chosen for the purpose of illustrating the present invention without departing from the scope thereof as defined by the appended claims.

What is claimed as invention is:

1. In a plate with an inner surface and an outer surface having an arrow head cut therethrough, means for covering said arrow head from the outer surface comprising a substantially flat plate, a projection extending from one side of said plate, said projection having a pointed portion with sides sloping away from said pointed portion at angles generally equal to the sloping sides of the point of said arrow head, a tab extending from the pointed portion of said projection parallel to and spaced from said plate, at least one locking knob extending from said one side of said plate remotely disposed from said projection, and at least one tension knob extending from said one side of said plate remotely disposed from said projection and said locking knob, whereby said projection is adapted to fit through the arrow head with the pointed portion and sloping sides of said projection fitting the pointed portion and sloping sides of the arrow head, said tab grasping the inner surface of said plate, said locking knob projecting

into said arrow head and said tension knob bearing against the outer surface of said plate having the arrowhead cut therethrough.

2. In a sign casing having an arrowhead cut therethrough, an opaque arrowhead cover comprising means for insertion through said arrowhead for attaching said cover to said casing, means for biasing said cover against said casing, and means for preventing rotation of said cover with respect to said casing.

3. In a sign casing having a noncircular hole cut through its face, means for covering said hole comprising a plate having one surface thereof being substantially flat, a projection extending from said one surface for insertion through said hole, tabs extending from opposite sides of said projection, said tabs being spaced from said one surface for gripping said face, and locking means for preventing relative rotation between said sign and said surface.

4. In a sign casing hole covering means as claimed in claim 3, further comprising means for biasing said means for covering said hole away from said face.

5. In a sign having a casing with an arrow with a point, wing portions and a stem cut therethrough, the combination therewith of a cover for covering said arrow comprising a flat plate, a substantially circular projection extending from one surface of said plate, tabs extending from said projection, said tabs being disposed substantially parallel to and displaced from said plate, a knob extending from said one surface of said plate whereby said tabs and said projection are inserted through said arrow and rotated so that said tabs engage said casing on the side thereof opposite from said cover and said knob is inserted into one of said wing portions.

6. The combination of claim 5 wherein said cover has a second knob for biasing said cover away from said casing.

7. In an internally illuminated sign of the type utilized to indicate a direction, the combination of a hollow casing having a front face, a rear face, top, bottom and side surfaces, said front face defining apertures including a direction indicator, a translucent screen juxtaposed the inner surface of said front face, a plurality of lighting means disposed within said casing, a single lens juxtaposed said plurality of lighting means to disperse the light emanating from said lighting means and to uniformly illuminate said translucent screen, means for mounting said sign selectively from its top surface or side surfaces, and means for changing the direction indicated by said direction indicator.

8. The internally illuminated sign of claim 7 including means for illuminating an area below said sign.

9. In a surface having an arrow head cut therethrough, means for covering said arrowhead comprising a flat plate, a projection extending from one side of said plate, said projection being substantially round in cross section with a dull pointed portion, tabs extending from opposite sides of said projection, parallel to and spaced from said plate, a tension knob extending from said one side of said plate and remotely disposed from said projection and a locking knob extending from said one side of said plate and remotely disposed from said projection and said tension knob.

10. A direction indicating means for a sign, comprising: means representing a horizontal arrow shaft having left and right ends, a left directed arrowhead adjacent to said left end, a right directed arrowhead adjacent to said right end, and means releasably engaged with said sign, and covering one of said left directed and right directed arrowheads, said last-named means also being releasably engageable with the other of said left directed and right directed arrowheads.

11. The direction indicating means of claim 10 wherein said arrow shaft, said left directed arrowhead and said right directed arrowhead are translucent, and said cover means is opaque.

12. The direction indicating means of claim 11 including means within said sign for illuminating said arrow shaft, said left directed arrowhead and said right directed arrowhead, and wherein said arrow shaft defines a group of letters forming a message.

13. The direction indicating means of claim 10 wherein the surfaces of said arrow shaft, said left directed arrowhead and said right directed arrowhead reflect light.

14. The direction indicating means of claim 10 wherein said cover means is shaped to form the feather of an arrow.

15. A sign having means for selectively indicating one of two directions or both directions, said indicating means comprising: a rectangular arrow shaft having first and second ends, a generally triangular shaped first arrowhead adjacent to said first end and pointing away from said arrow shaft, a generally triangular shaped second arrowhead adjacent said second end and pointing away from said arrow shaft, and means releasably engaged with said sign and covering one of said left directed or said right directed arrowheads, said covering means also being releasably engageable with the other of said left directed or said right directed arrowheads.

16. A direction indicating means for a sign, comprising: means on the sign for defining a group of letters forming a message, said group of letters having left and right ends, a left directed arrowhead adjacent to said left end, a right directed arrowhead adjacent to said right end, means releasably engaged with said sign and covering said left directed arrowhead, and means releasably engaged with said sign and covering said right directed arrowhead.

References Cited

UNITED STATES PATENTS

1,081,646	12/1913	Witz	40—130
1,145,005	7/1915	Dolan	40—61
1,241,886	10/1917	Rowe	40—130 X
1,385,913	7/1921	Goldstein	40—132
1,497,958	6/1924	Swinford	40—125
1,884,290	10/1932	Schults et al.	40—130
1,932,291	10/1933	Profantaine	215—32
2,148,179	2/1939	Sunderhauf	40—130
2,857,067	10/1958	Lehmans-Leroy	215—132
2,902,784	9/1959	Sukul	40—61
3,215,453	11/1965	Malcom	40—130

FOREIGN PATENTS

5,638	3/1907	Great Britain.

EUGENE R. CAPOZIO, *Primary Examiner.*

W. J. CONTRERAS, *Assistant Examiner.*