July 10, 1928.

1,676,498

H. W. LAWRENCE

SUB OR REMOVABLE BUILDING FRONT

Filed April 25, 1927

2 Sheets-Sheet 1

Fig. 2.

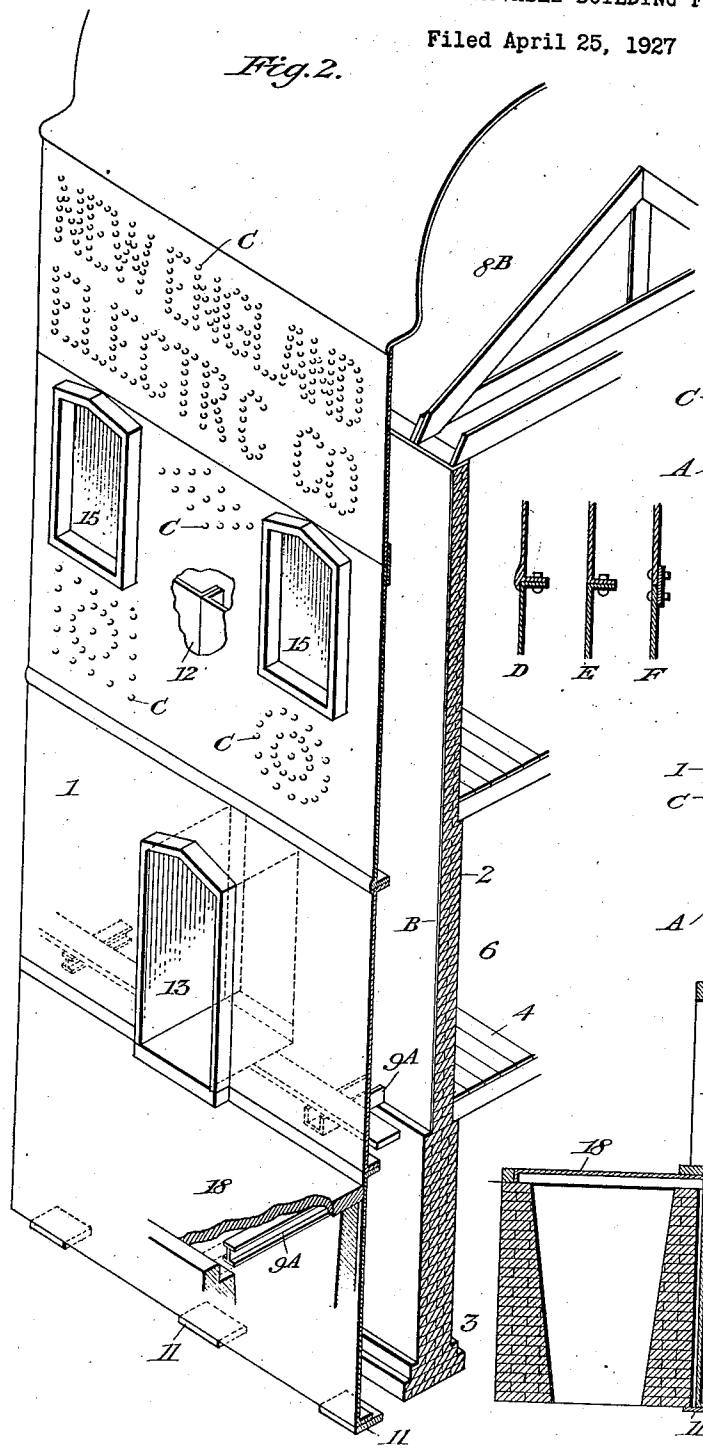
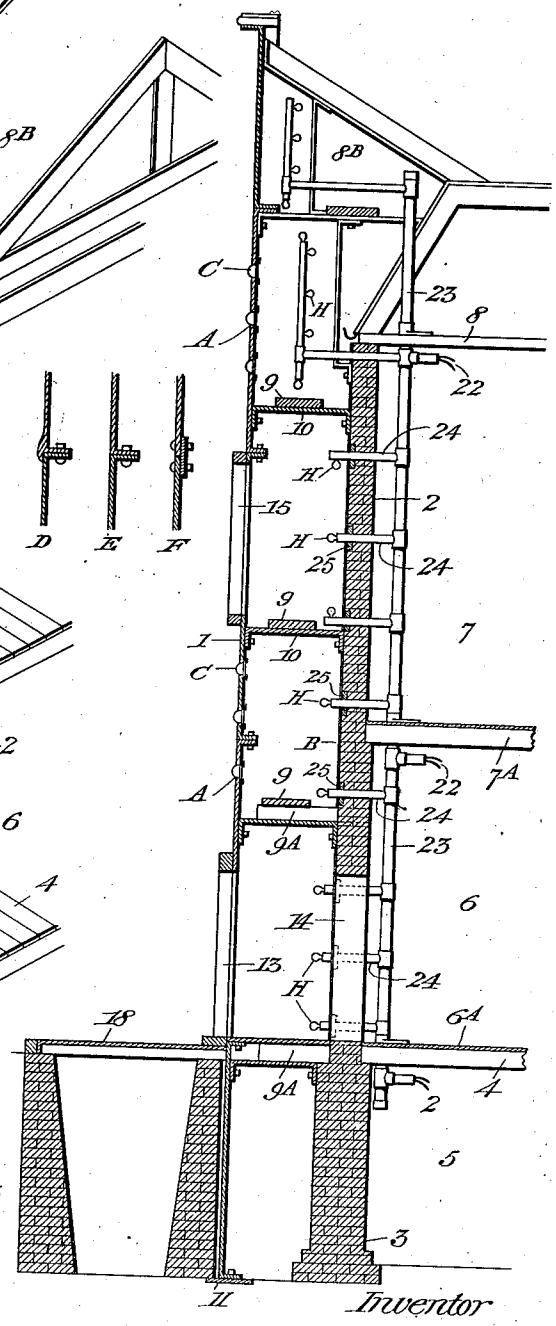


Fig. 1.



Inventor

Harry W. Lawrence

By H S Bailey Attorney

July 10, 1928.

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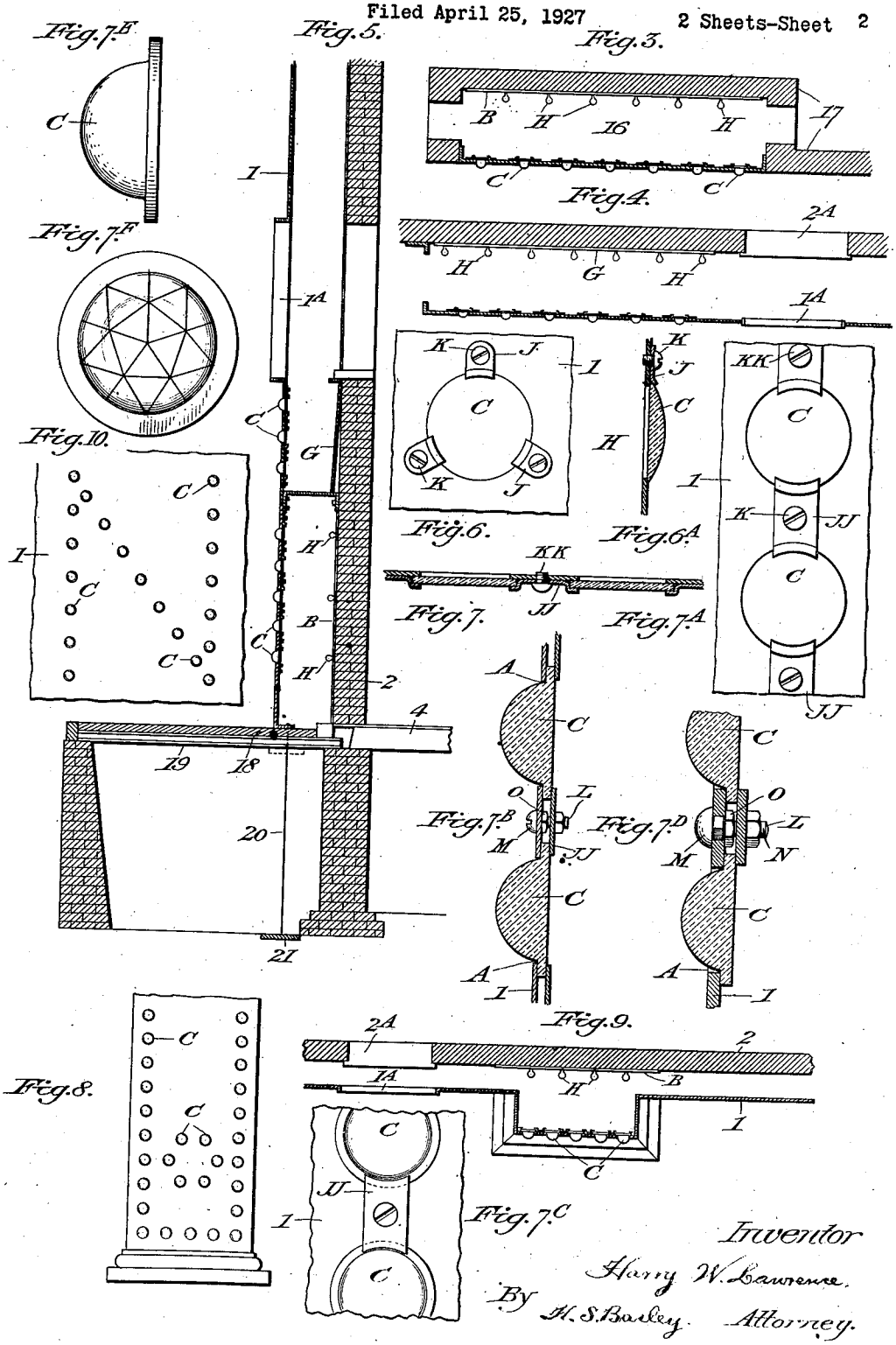

Patented July 10, 1928. 1,676,498

UNITED STATES PATENT OFFICE.

HARRY W. LAWRENCE, OF DENVER, COLORADO.

SUB OR REMOVABLE BUILDING FRONT.

Application filed April 25, 1927. Serial No. 186,480.

My invention relates to a sub or removable building front, that can be applied to old or new buildings.

The object of this sub or removable building front, is to provide a front that can be removed in whole or in section. A front that can be provided with different designs, names, trade-marks, symbols, words or letters, or pictures formed by cutting through this removable front and inserting or placing different colored transparencies or a combination of colored transparencies over or in the cut through portion of the removable front for the purpose of advertising, beautifying and illuminating the removable front with colors, or a combination of colors during the day by daylight, showing through regular windows, or windows provided for this purpose, in the removable front on the front or outer surface of the permanent building front, which has been turned into a reflector by covering its outer surface with white enamel, white paint, white tile, white porcelain, white brick or other methods of forming reflecting surfaces. When necessary, I use removable, adjustable or if desired permanent or fixed reflectors, independent of the permanent wall, or secured to or attached to it or leaning against it or supported by any suitable means in front of it in such positions as will best illuminate the transparencies in the sub or removable building front during the day.

At night the reflectors, movable or stationary and a part or whole of the permanent front wall that has been turned into a reflector surfaced by white enamel or paint, or otherwise, will be illuminated by a sufficient number of electric lights to give the daylight appearance.

To provide a sub or removable front that permits of colors, combination of colors, names, words, letters, or pictures etc., to be changed at will and by this method or system, the cost of operating is reduced to about one-tenth of the cost of present methods of exterior lighting, decorating, beautifying or advertising; and as there are no sockets, lamps or current carrying parts attached to sub or removable front, fire hazard is entirely eliminated.

I attain these objects by the mechanism illustrated in the accompanying drawings.

Figure 1, is a vertical sectional view of the permanent front wall of a new or old building showing a section through the removable thin metal subfront 1, that is built in front of the premanent front wall 2 of the building with a sufficient space in front of it to allow a workman to stand between them to make such changes as desired in the rear side of the removable thin metal subfront wall 1, in making up the words, symbols and such other advertising matter that is to be illuminated in different colors on the front side of the removable subfront, or removing lamps and doing such work as necessary on permanent walls.

Figure 2, is a perspective section view of a permanent front wall of a building and of my subfront wall showing a door, window, advertising and decorative designs thereon.

Figure 3, is a plan view of a recess portion of a permanent brick wall of a building 2 and of my subfront wall 1, extending across the recess in the wall from the outer edges of the recess, thus forming a space for workman to make and change the signs between the wall.

Figure 4, is a plan view of a straight front portion of a permanent brick wall, showing my thin metal building subfront built out from the straight face of the wall a sufficient distance to allow a space between its inner side and the brick wall for workman to work in.

Figure 5, illustrates in vertical section a permanent brick wall containing a cellar portion and a first floor portion and as illustrated my subfront as shown resting on a sidewalk constructed to support its weight.

Figures 6 and 6^A, 7 and 7^A and 7^B and 7^C, illustrate side and edge views of a colored lens, and they show three different ways of removably securing a lens to a fragmentary part of the subfront, and Fig. 7^D, illustrates an enlarged clamping clip and screw construction I preferably use to quickly secure or release the lens from the aperture in the subfront, and Figures 7^E and 7^F, illustrate edge and side views of the shape of the lens I use in and over the apertures in my subfront.

Figures 8 and 9, illustrates in a plan view and a fragmentary front elevation of the construction of a column or pilaster arranged with a man working space within it.

Figure 10, illustrates a side view of the

letter N, formed of the lenses placed a short distance apart throughout and on the lines of its shape.

Similar letters of reference refer to similar parts throughout the several views.

Referring to the drawings:—

Figures 1 and 2, represent vertical sectional views showing my sub and removable front, attached to a permanent front wall of old or new buildings and illuminated by daylight or electric lamps; said views embodying most of the principal features of my invention.

In the present state of the art, large and small buildings have been electrically illuminated by outlining in very attractive arrangements with electric lamps, but such lamps have been placed in fixed positions and could not be moved out of that position and placed in new positions, consequently the design for illuminating in which they were first placed, has remained permanent with no change possible.

My invention, however, provides a system by which different kinds of illuminating, beautifying and advertising can have any number of different colors and characters and arrangement that can be changed on the outside surface of my sub or removable front, from day to day or week to week or month to month or after a series of a few months display of a certain design, advertising matter, colors, words, letters or pictures can be removed and a complete new front or section substituted for the one that has been in use.

Another new and very important feature of my invention is, that there are a great many old buildings to which my thin sheet iron changeable sub building front for advertisements can be applied, simply by placing the subfront a short space in front of the permanent front and attaching them in a substantial manner to the permanent front of the old buildings; and furthermore, another valuable feature is this, that where a manufacturer or a builder of any kind or character of a business building or other character of building for amusement purposes or a theater or whether it is for a manufacturing establishment, the front wall of the building, back of my sheet metal illuminated subfront can be built in front of it, and it can be very easily adapted to changable advertising matter of the particular business for which the building is to be constructed and used for.

My thin sheet metal advertising subfront 1, can be also decorated with architectural features, such as doors, columns or pilasters, windows or any other character of architectural embellishment that it is desired to give to it; but I have omitted from the illustration of my invention some of these features as it is obvious that they can be applied to the outside surface of my illuminated advertising metal sub building front, and I have only shown in the drawings, plain smooth sheet metal subfronts 1, with a door and windows, and my sheet metal subfronts are constructed preferably of 12 gauge sheet metal, but slightly thinner or a thicker metal can be used if desired. It is essential that it be thin enough to allow apertures A to be quickly cut or drilled or punched through it to make up from time to time new designs; and I paint its inside surface and also its outside surface with white or enamel or aluminum or any other suitable paint B, as the paint used on its inner surface increases the light between the subwall 1 and the permanent wall 2, and consequently increases the light that shines against the rear sides of different colored transparencies C, which may be made of any suitable material, such as glass or crystal or other clear transparencies and colored material or materials.

The numeral 2, of the drawings, represents a section through the front brick wall of a building adapted for manufacturing purposes or for holding manufactured goods, and this wall is shown in section and it extends from its foundation members 3, of concrete or brick placed below the floor 4, of the cellar portion 5 of the building up to the front story 6 as indicated by the fragment of the floor joist and floor 6-A, and the second floor 7, as indicated by the fragment of the floor joist and floor 7-A and this front brick wall 2, of the building extends up to the ceiling joist 8, of the roof story 8-A of my subfront 1, which is positioned at only such a short distance in front of the permanent brick wall 2 of the building, as will allow workmen to work between them by standing or sitting or kneeling upon suitable planks 9, which are placed across and rest on top of either channel or I beams 9-A that are built at one of their ends into the brick wall 2, and project into the space between the brick wall and the inside surface of the subfront 1, as is illustrated; but these planks can be placed across and rest on top of anchor straps 10, as is illustrated at the upper floor and near the top of the building and which are bolted to the inside surface of the brick wall at one end and are releasably secured to the inside surface of the metal subfront at their opposite ends and the distance between the brick wall and the inside surface of the metal subfront, vary from about two and a half to three feet depending largely upon the amount of changeable advertising matter that is contemplated doing in the metal front and also on the character of illuminating light that is to be developed in the space and transmitted through transparencies that

are placed over apertures formed in the metal subfront, that are arranged in the form of letters, words, symbols or designs.

As illustrated in this Figure 1, my metal advertising subfront extends vertically up from the floor 4, of the cellar portion 5 of the building and its bottom edge rests upon a copper grounding plate or plates 11, and if desired the sheet metal front may extend in one continuous integral sheet from the copper grounding plate 11, up to the full height of the building and as far above it as desired.

For convenience in handling and removing and erecting the metal advertising subfront of building, I divide it into sections of about the height of each story which may be 10–12–14–16 or more feet as desired, and where a high metal subfront is to be built that requires several wide sheets of metal, their horizontal meeting edges can be releasibly secured together by the use of either one of the three methods of joining the edges together shown in Figures D, E and F, or by any other suitable means.

The thin sheets of metal out of which my sub building fronts are made can also be divided vertically as shown at 12 in Fig. 2, as this view represents a metal front that might be from twenty-five to fifty or more feet in length, depending on whether the advertising metal front extends along the whole or only a part of the building to which it is to be applied, and where very long metal fronts are required that would have to be made up of a number of sheets of metal, secured together at their edges, and a doorway 13 can be formed in a long metal front if desired that would lead to a doorway 14 in the front brick wall of the building. Windows 15 are also placed in the front to light up the different colored transparencies C, of the advertisements and ornamentals made in the subfront by allowing the sunlight to show through the windows against the white enamel paint B on the outer faces of the permanent front brick wall or from the light reflectors G, and from which the sunlight would be reflected against the rear side of the transparencies and through them out through the apertures on the subfront into the daylight.

My sub-front 1 can be set across the front space of recesses 16 formed in the front walls 2, of buildings between their side walls 17 as shown in Figure 3, and in that case the entrance doors through the brick wall can be placed in either one or both side walls, but where the sub-front 1, is built directly in front of the front brick wall 2, the entrance door into it, if one is required from the sidewalk, can be placed in one end of the sub-front 1, as shown in Figure 4.

In Figure 5, I illustrate a simpler and less expensive construction of my sub-front for low buildings than is shown in Figures 1 and 2. In this view, the first story subfront 1, rests on top of the sidewalk 18, which is supported on metal beams 19 and a copper rod or wire 20 extends from it to a copper grounding block 21, in the bottom of the cellar or in case there is no cellar underneath a building, the ground 21 may be placed directly below the sidewalk as shown in dotted lines.

This construction differs from that shown in Figures 1 and 2, as in them, the lowest metal plate of the sub-front extends from the floor 4, of the cellar up close to or above the roof of the brick building as desired and consequently there is a clear space between the brick wall 1 and the sub-front 1, while in Figure 5, the subfront starts from the sidewalk.

My invention contemplates broadly any means for directing electrically generated light or daylight either from a light reflecting surface such as a white painted or enameled surface B, on the brick or on the surface of a separate surface of wood or metal G, as shown in Figures 1 and 4, that is separate from the brick wall and is placed in front of it, and the light from the several sources of daylight and electric lamps H, in each story of a building arranged substantially as on the different floors shown in Figure 1, and shines directly onto and against the inside white enameled or polished surface of the brick wall, or separate light reflecting surface and the bright light is reflected directly onto the inside white surface of the sub-front 1, and consequently on the rear sides of the different colored transparencies C, that are secured over the holes A, that are formed in this submetal front to receive them.

I preferably lead the electric lamp current carrying wires 22 up along the rear side of the wall 2 in a steel conduit pipe 23, from which the current carrying wires are taken out of lateral metal pipes 24, that extends through the wall 2 and into and through fuse and switch boxes 25, that are built into the wall, or any other suitable way, consistent with the rules of the National Board of Fire Underwriters covering electric wiring; and the wires extend through the pipes to electric lamps H, that light up the light reflecting surfaces onto or between the two fronts 1 and 2.

The current carrying wires that extend through the pipes are taken out of their side and ends as desired and are positioned to secure the desired amount of reflected light and to direct it upon the rear side of the transparencies and the wires 22 and protecting pipes are preferably extended along the ceiling of each room substantially as shown.

The transparencies that I use for reflect-

ing signs of different and varied colors are for the most generally used size of sign, preferably about two inches in diameter, but transparencies of larger or smaller sizes can be used as desired. Whenever a sign of any kind is to be made, the design of it is drawn out carefully and true to form on the inside surface of the metal subfront and then holes A, which may be of any shape desired, such as square, hexagon, heptagon, octagon or any other form, but preferably round apertures are used, and the apertures are laid out at equal distances apart throughout the line of the shape of the design or advertising matter or whatever form and arrangement of its outlines may assume, and then the holes A, are cut through the thin metal and the rows of holes are cut on the outline of the letter, or letters or the ornamental design and the transparencies are removably secured centrally over each hole on the sub-front on its inside surface. The hole through the subfront is slightly smaller in diameter than the diameter of the transparencies, consequently the transparencies overlap the edges of the holes while their bodies extend through the subfront and they are secured to the inside surface of the subfront by any suitable means.

I illustrate, however, three different ways of removably securing lenses of slightly different shapes to the sub-front in a manner that will permit them to be easily and quickly attached to or removed from over the apertures through the sub-front; thus in Figures 6 and 6-A, a lens C is shown over the aperture H, formed in a fragmentary piece of the sub-front 1, and three metal clips J and screws K, are threaded in the metal front to swing on their clamping screws K, and they are made to overlap the edges of the lens C, and in Figures 7 and 7-A, double ended clips JJ, and their clamping screws KK, are shown clamping a lens in an aperture H, in a fragmentary piece of the subfront.

I preferably use, however, lenses that are provided with a thick flange at their rear side edges that overlap the apertures H. These flanged lenses project through and beyond the aperture in the metal subfront and they have substantially a semi-circular outline in their lens portion. This shaped lens is illustrated in Figure 7-B and 7-C, and they are removably secured to the inside surface of the sub-front 1, by the same form of double ended clips JJ, as is used for the lens illustrated in Figures 7 and 7-A. I preferably, employ, however, for securing this form of lens to the inside surface of the sheet metal front 1, a square shanked screw L, that projects and fits closely in a square hole formed through the sub-front to receive it, and it extends through the subfront from its outside surface and its head M, bears against the outside surface of the subfront. Its square shouldered portion is a little less in length than the thickness of the metal of which the sub-front is made, and its stem portion N, is threaded down to the shoulder and a check nut O, is threaded on it and is screwed down tight against the inside surface of the metal sub-front which clamps its head tightly against the outside surface of the subfront, and the screw is prevented from turning in its square hole by means of its square shank filling the same. The stem portion N, extends beyond the check nut through the double clips JJ, and beyond it far enough to receive a nut on its outer end and the double clip extends over the square shouldered thick flanger portions of two adjacent lenses and they are securely but removably clamped against the inside surface of the subfront by screwing the nut down on the stem to clamp the clip tightly against the outside surface of their flanges as shown in Fig. 7-B.

In Fig. 7-B I illustrate an enlarged view of the square shouldered screw L, and its check nut and clamping clip and the flanges of two lenses between the clamping clip and the underside surface of the sub-front and the nut on the end of the screw that clamps the clip to the flanges of the lens. The three different methods of securing the transparencies to the inner surface of the subfront allow the entire area of their rear sides to be exposed fully to the light that is reflected against the rear sides of them and the reflected light strikes them centrally in their full diameter and their red or white or blue or green or scarlet or other colors are projected from them through the holes in the front plate into the atmosphere.

In Figures 8 and 9, I illustrate my system of different colored transparencies applied to either plasters or columns. The manner of forming a colored sign or ornamental design in them is the same as on the inside surface of the sub-front, and they receive the light reflected from the enameled white painted surface B, or the inside of the permanent wall 2, the same as the entire flat surfaces of the permanent wall and the sub-front.

My sub-front is adapted to extend along the whole or only a part of the whole length of a building and where it extends the whole length or a considerable part of the whole length of a building, it is necessary to put windows in the subfront in alignment with windows in the permanent brick wall in order that the rooms in the building back of the permanent wall will be lighted by daylight, thus in Figures 4, 5 and 9, I illustrate windows 1-A, in the subfront and a window 2-A in the permanent wall positioned opposite to each other, which permits daylight to enter into a room in the building

back of the permanent wall 2. These windows must be placed at one side or the other of the advertisements, or above or below them so that wherever they are placed in the permanent wall they will not interfere with the reflecting enamel paint or other light reflecting surfaces that are placed either directly on the permanent wall or that stands up against it, thus in Figures 1, 3, 4 and 9.

The white enamel paint light reflecting surface is illustrated applied on the outside surfaces of the permanent wall so that the electric light is reflected directly onto the rear side of the different colored lenses, but in Fig. 5, I illustrate a large board or sheet of metal G, that is provided with a light reflecting surface, the lower end of which rests on an anchor strap 10, and lean up against the inside surface of the permanent wall, consequently it can be moved around and placed wherever it is desired to have a removable reflecting surface, and in Fig. 5, an advertising design of the lenses is shown below the window 1-A, in front of the movable reflecting surface G, and the outline of a design of an advertisement or an ornamental design is also outlined on the vertical section of the subfront which extends up from the sidewalk in this view opposite to the white enameled wall surface B of the permanent wall 2.

The roof portion of a building can consist of any of the types or roofs in use and may contain domes or other architectural features with either straight or curved surfaces, and they can be very attractively illuminated with advertising matter by my system of colored transparencies. My invention provides a way by which any character of practical lettering for signs and any practical form of an ornamental design may be displayed in illuminated colors, and while I have illustrated and described the preferred construction and arrangement of my invention, changes may be made in it without departing from the spirit of my invention.

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

1. A sub and removable building front for the front permanent walls of old or new buildings; comprising a thin sheet metal front wall member constructed of attachable and detachable sections of sheet metal; and secured to said permanent wall by structural members at a sufficient distance from it for workmen to work between said walls; and a platform between said walls for workmen to stand on; said subwall being provided with apertures arranged to form the outlines of advertising letters and ornamental designs; transparent lenses of any predetermined color removably secured in said apertures; a light reflecting surface on the wall of said permanent wall behind said lenses; and electric lights arranged to illuminate the light reflecting surface on said permanent wall; whereby said lenses are illuminated.

2. In a sub building front wall for the permanent front walls of old or new buildings; the combination with the permanent front wall of a building having doors and windows; with a sub-front erected vertically in front of said permanent wall at a sufficient distance in front of it for workmen to stand between said front walls; means including structural iron brackets secured at their opposite ends to said front walls for securing said sub-front to said permanent wall; a workmen's supporting platform on said brackets adjacent to said doors; a copper plate buried in the ground at the base of said permanent wall; said sub-front extending down to and resting on said copper plate; said subfront being provided with apertures cut through it by workmen standing on said platforms between said walls, transparencies of different colors removably secured in said apertures; a light reflecting surface painted on said permanent wall back of said transparencies; and means including electriclights for illuminating said painted light reflecting surface.

3. The combination of a sub and a removable building front with a permanent front wall of an old or new building provided with a basement and with floors and doors and windows; of the sub-front placed in front of said permanent wall with an intervening space between it and said permanent wall large enough for workmen to work in; means including brackets secured at one end to said permanent wall and at their opposite ends secured to said sub-front for securing said subfront to said permanent wall; a copper plate buried in the ground in said basement; said sub-front extending down through said basement and resting on said copper plate; and its upper end extending to and secured to the roof portion of said permanent wall, said subwall consisting of sections of thin sheets of metal attachably and detachably secured together at their meeting edges and provided with apertures containing transparent lenses of different colors windows in said subfront placed to admit daylight to the space between said walls, a reflecting surface on said permanent wall back of said transparencies and means including electric lights for illuminating said permanent walls reflecting surface whereby the electric light reflecting surface illuminates the transparencies at night and the windows illuminate the light reflected surface in the daytime by daylight and the daylight illuminated surface illuminates the transparencies in the daytime.

4. A sub-front building wall in combination with the front wall of an old or a new

building; said old or new building having a permanent front wall and a basement and floors and doors and windows and structural brackets secured at one of their ends to and projecting from said permanent wall, and an operative electric light wiring system installed along the vertical side of it and projecting through it on each floor of it and its roof portion to its outside front wall surface; and electric lights connected to said electric wiring system on each floor and its room portion; a sub-front building wall composed of attachable and detachable sections of thin sheet metal extending from the basement of said permanent wall to its roof portion and secured to the outer ends of said brackets; a copper plate secured to the lower edge of said sub-front, and buried in the ground in said basement adjacent to the lower end of said permanent wall; entrance doors on the sidewalk level of said permanent wall into said subwall and said permanent wall; windows in said subfront; said sub-front being positioned far enough from said permanent wall to form an intervening space between it and said permanent wall large enough for workmen to work in and a plank on said brackets for workmen to sit and stand on. Said subwall being provided with apertures arranged in the outlines of advertising matter, colored transparent lenses removably secured in said apertures, a light reflecting surface on said permanent wall back of said lenses positioned to receive and reflect the light from said electric lights; into and through said lenses.

5. The combination of a subfront building wall; with the permanent walls of new or old buildings; said sub-front comprising a thin sheet metal front wall placed at a sufficient distance in front of said permanent wall for workmen to work in between them; brackets arranged to secure the subfront to said permanent front wall; planks on top of said brackets for supporting workmen when working on said sub-front; reffecting surface on said permanent wall; apertures through said subwall; lenses of any desired color arranged to fit into and over the apertures in said subwall and with means including a screw secured in said subwall against turning; and a strap mounted on said screw and extending over said lenses and arranged to clamp them against said sub-front.

6. In combination the permanent front walls of new or old buildings provided with doors and windows through them at each of its floors in their height and a basement and a roof member; and with brackets projecting from it a few feet; with a sub-front wall composed of thin sheet metal made in sections and detachably secured together; and secured to said brackets; a plank on each of said brackets for supporting workmen between said walls; and a doorway in said permanent wall adjacent to said plank on each floor of said permanent wall; a light reflecting surface on said permanent wall facing said sub-front; windows in said sub-front arranged to admit daylight to said light reflecting surface on said permanent wall; apertures in the surface of said subwall cut by workmen supported by said planks between said walls; colored transparent lenses in said apertures arranged to receive the daylight reflected by said light reflecting surface on said permanent wall and transmit their colors through said subwall into the daylight; and means including electric lights arranged to illuminate the light reflecting surface on said permanent wall at night; whereby the colored lenses transmit their colors into the atmosphere at night.

In testimony whereof, I affix my signature.

HARRY W. LAWRENCE.