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SKYLIGHT AND CEILING LIGHT CONSTRUCTION

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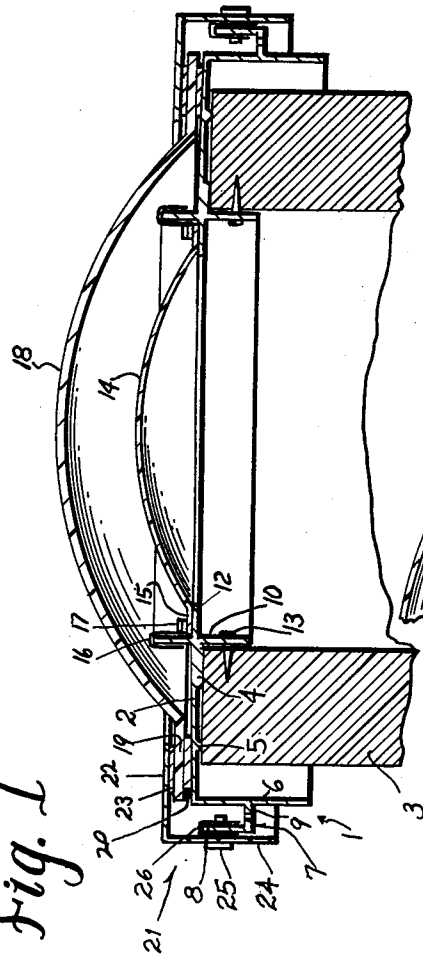


Fig. 1

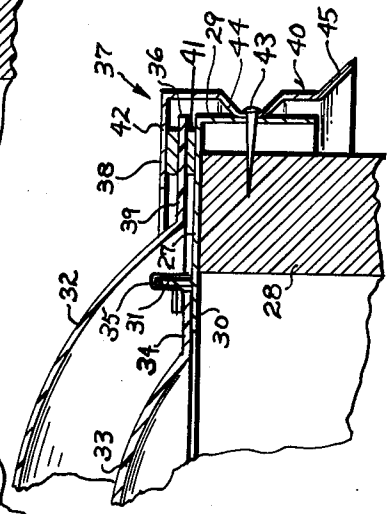


Fig. 2

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SKYLIGHT AND CEILING LIGHT CONSTRUCTION

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The present invention relates to an improved combination skylight and ceiling light construction, and also to an improved frame construction for supporting plastic skylight and ceiling domes.

It is an object of the present invention to provide a combination skylight and ceiling light structure in which an extruded aluminum frame supports and secures in a unitary fashion a pair of plastic dome structures formed with peripheral outwardly extending flanges, with one of the domes functioning as a skylight and the other dome functioning as a ceiling light transparent member.

It is also an object of the present invention to provide a water tight unitary combination skylight and ceiling light of a domed construction in which the ceiling dome is secured beneath the skylight dome to the same frame construction which supports the skylight dome.

A still further object of the present invention is to provide a supporting frame for a pair of plastic domes which may readily be formed of extruded aluminum sections and which is adapted to be fitted over curbings of skylight openings.

These and other objects and advantages of the present invention will be more clearly understood when considered in connection with the accompanying drawings in which:

FIGURE 1 is a cross sectional vertical view of the invention

FIGURE 2 is a fragmentary cross sectional vertical view of a modification of the invention.

Referring particularly to FIGURE 1, there is disclosed a supporting frame generally designated 1, formed of four extruded aluminum sections joined at mitered ends to form a rectangular frame. Each aluminum section has a cross section in which there is a covering member 2, adapted to fit over a wooden curbing 3 of a skylight opening. The cross section of the covering member 2, may be inclined downwardly toward its outer edge by forming shoulder or ridge elements 4 and 5 along its lower surface, with the shoulder element 4 slightly thicker than the ridge element 5. On the outer edge of this covering element 2, is formed a downwardly extending flange 6, which is adapated to extend downwardly beyond the wooden curbing 3. A gutter is formed by the L shaped member 7, which has its lower transverse leg 9 extending outwardly from the downwardly extending flange 6 and its upwardly extending leg 8, parallel thereto.

On the inner end of the covering frame 2, are the downwardly extending flange 10, and upwardly extending flange 11, as well as an inwardly extending flange 12, which is substantially horizontal and preferably in the same plane as the covering element 2. The frame is secured to the curbing by a series of screws or nails 13 which pass through holes in the downwardly extending flange 10 and into the wooden curbing. The upwardly extending flange 11 acts as a gutter member in keeping condensation from seeping into the skylight opening. Supported on the inwardly extending flange 12, is a plastic ceiling dome 14A, of transparent or translucent plastic material. This dome is provided with a peripheral outwardly extending flange 15, which rests upon and is coextensive with the inwardly extending flange 12. The dome 14, is held in position by a series of lock clips 16, which clip on to the upwardly extending flange 11 and

have an inwardly extending section 17 positioned over the ceiling dome 14.

Supported on the cover member 2, is a plastic skylight dome 18 of translucent or transparent material. This dome is also provided with an outwardly extending peripheral flange 19, 19 substantially coextensive with a portion of the covering member 2, and spaced from it by a gasket element 20. The dome 18, is secured down by an angle member generally designated 21, having one leg 22, positioned over the flange 19 and spaced from it by the gasket element 23. The other leg 24 of the angle member 21 extends downwardly and is in face to face relation along a portion of its length with the upwardly extending leg 8 of the member 7. This angle member 21 is secured to the gutter member 7, by a screw 25, passing through the angle member 21, and the leg 8, of the gutter member 7. This screw 25, may be secured in position by a tinnerman nut 26.

In this construction, the ceiling dome 14, may be of somewhat thinner gauge than the skylight dome 18, as it is not subject to the same weather conditions as is the skylight dome 18. The ceiling dome, further preferably has a smaller dome rise than does the skylight dome 18, thus forming a substantial air space between the two domes which acts as insulation.

A modification of this invention is illustrated in FIGURE 2, in which the extruded aluminum frame is formed of sections having a cross section as illustrated in that figure. The covering section 27 extends outwardly beyond the curbing 28 and terminates in a downwardly extending flange section 29. On the inner edge of the covering member 27, is formed an inwardly extending flange 30, and an upwardly extending flange 31. The flange 31 acts as a gutter element to keep moisture formed on the skylight dome 32, from seeping into the skylight opening. The inwardly extending flange 30 supports the ceiling dome 33, at its peripheral outwardly extending flange 34. The dome 33 may be secured in position by a series of lock clips 35, which fits over the upwardly extending flange 31. The skylight dome 32, is secured in position by the angle member 37, which has one leg 38 extending over the peripheral outwardly extending flange 39 of the dome 32 and the other leg 40 extending downwardly and substantially parallel to the downwardly extending flange 29. The flange 39 of the dome may be spaced from the covering member 27, by the gasket 41, and from the leg 38 of the angle member 37 by the gasket 42. The entire structure is secured to the curbing of the skylight, and the dome 32 is secured to the covering member by a screw 43 which passes through the downwardly extending flange 40 and the downwardly extending flange 29 and into the side of the curbing 28. A recess 44 may if desired be provided in the downwardly extending section 40 of the angle member 37 at the point where the screw 43 passes through it. This recess will form a more snug fit and thereby a more watertight fit with the downwardly extending flange 29 and thereby help prevent the ingress of water. It should be noted the downwardly extending flange 40 preferably extends beyond the downwardly extending flange 29, and is flared outwardly at its lower end 45.

In both modifications, the gasket elements supporting the skylight dome should not be continuous all along the covering member, but should be provided with small transverse passages preferably at the corners to permit water to drain out. In the modification as shown in FIGURE 2, the recess 44 should not be so tight as to prevent water draining from the inside of the skylight to pass outwardly from between flanges 40 and 29.

This invention may be modified in a number of ways including but not limited to a combination skylight and ceiling dome in which the supportng frame instead of

being rectangular in form is circular, and supports ceiling domes and skylight domes which have a peripheral circular edge.

Having now described my invention, I claim:

1. A combination skylight and ceiling dome structure comprising a pair of plastic domes of different sizes, said domes positioned coaxial with one another with their peripheral edges in substantially the same plane, common supporting means for said domes having dome supporting surfaces lying below said plane and adapted to fit over a skylight opening, and means securing said domes to said supporting means.

2. In a supporting structure for a combination ceiling light and skylight, a covering member defining an enclosed perimeter and formed to surround and cover a skylight curbing, downwardly extending flanges on the inner and outer peripheral edges of said covering members, and an upwardly extending flange and an inwardly extending flange on the inner peripheral edge of said covering member adapted to support a skylight dome, said upwardly extending flange extending above said inwardly extending flange.

3. A skylight structure comprising a plastic dome mounted on a skylight curbing and having a peripheral outwardly extending flange, a covering member adapted to cover said skylight curbing and support said peripheral flange having a downwardly extending leg on the outside of said curbing and a continuous angle member having one leg laying over said peripheral flange and the other leg extending downwardly parallel to said first mentioned downwardly extending leg, and means passing through both of said downwardly extending legs into said curbing for securing said angle member dome and covering member in position.

4. A combination skylight and ceiling dome structure comprising a supporting frame having a common covering member adapted to lay over and extend beyond a skylight curbing surrounding a building opening,

a skylight dome having an outer peripheral edge supported by said covering member and defining a substantially convex area under said skylight dome,

and a ceiling dome substantially coaxially located under said skylight dome and having a dome rise projecting into said convex area,

said ceiling dome having an outer peripheral edge supported by said covering member with said skylight dome edge and said ceiling dome edge lying in substantially the same plane.

5. A combination skylight and ceiling dome structure comprising a supporting frame having a covering member adapted to lay over and extend beyond a skylight curbing surrounding a building opening and an inwardly extending flange formed on the inner peripheral edge of said covering member, said covering member terminating at its outer peripheral edge in a downwardly extending flange with means forming a gutter on said downwardly extending flange, a pair of plastic domes each having peripheral outwardly extending flanges with the flange of the one dome coextensive with the covering member and the flange of the other dome coextensive with the inwardly extending flange and means securing said domes in position, said securing means comprising an angle member with one leg of the angle member laying over the peripheral flange and the other leg of the angle member extending downwardly beyond said means forming a gutter.

References Cited in the file of this patent

UNITED STATES PATENTS

228,282	Smith	June 1, 1880
918,876	Maier	Apr. 20, 1909
1,385,643	Roberts	July 26, 1921
2,367,035	McConnell et al.	Jan. 9, 1945
2,703,060	Kiefer	Mar. 1, 1955

FOREIGN PATENTS

247,943	Switzerland	Jan. 16, 1948

OTHER REFERENCES

Aluminum Extrusions, published by Reynolds Metals Co., 1952, page 16F.