Keppler Glass Constructions

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Keppler Glass Constructions

Pavements — Floors — Roofs
Walls — Partitions — Windows
and Crystal Ceilings

Translucent
but not
transparent

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101 Park Avenue New York City

Berlin London Paris Vienna Budapest
Copenhagen Milan Moscow Barcelona

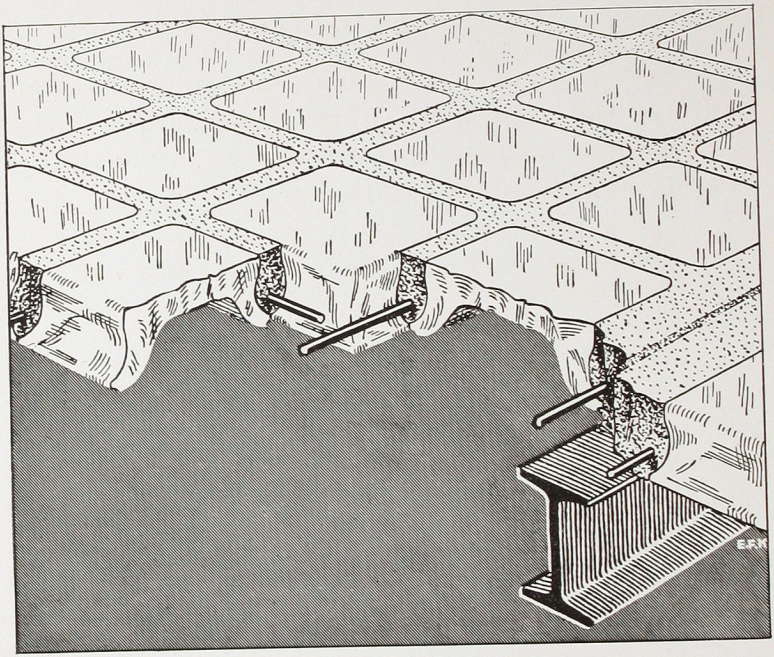


FIG. 1. Keppler Floor, Roof and Vault Light Constructions are composed of translucent glass units, supported by reinforced concrete. They have a large glass area above, and an all-glass undersurface, which admits and distributes the maximum of light. The concrete frame-work, reinforced with rods, gives great supporting strength without cutting off the light.

All parts are stock parts, which makes possible simple, quick construction. No special frames or castings are needed.

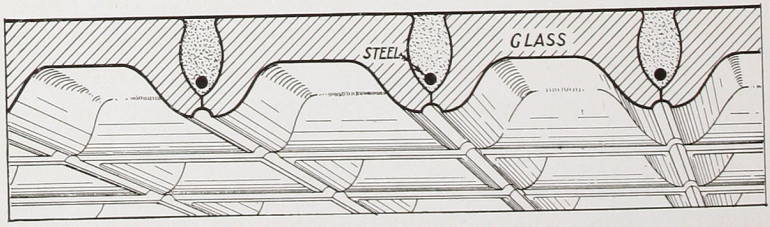


FIG. 2. Cross section of Keppler Floor Light, showing reinforced concrete construction and all-glass undersurface. The concave sides of the glasses are painted white to secure total reflection of light rays striking the concrete ribs.

Introduction

Keppler Glass Constructions may be grouped into three general classes. All three constructions are of unit formation and are distinctive in the method of glazing and the shapes of the units:

1. Keppler Translucent All-Glass Undersurface Constructions for floors, roofs, vaults and pavements (concrete reinforced).
2. Keppler Translucent Wall, Partition and Window Constructions (concrete reinforced).
3. Keppler Translucent Crystal Ceiling Constructions (electro-glazed).

No. 1 and No. 2 are usually constructed at the place of use. In No. 3 constructions the units are electro-glazed at the factory into panels of four to six square feet area. These panels are quickly assembled on structural frame-work on the spot.

The underlying purpose of all three types of Keppler Glass Constructions is to provide more and better light, eliminating to a great extent the need of artificial light by day, and to make the best possible use of artificial light at night.

All three constructions are in extensive use abroad. Through seventeen years of perfecting they have reached a high point of development, particularly the Crystal Ceiling Constructions, for stores, banks and public buildings, which are highly decorative and are made to harmonize with various styles of architecture.

The principal advantages are covered in the following pages, which briefly describe and illustrate each construction. More specific detailed information and cost figures may be had upon request.

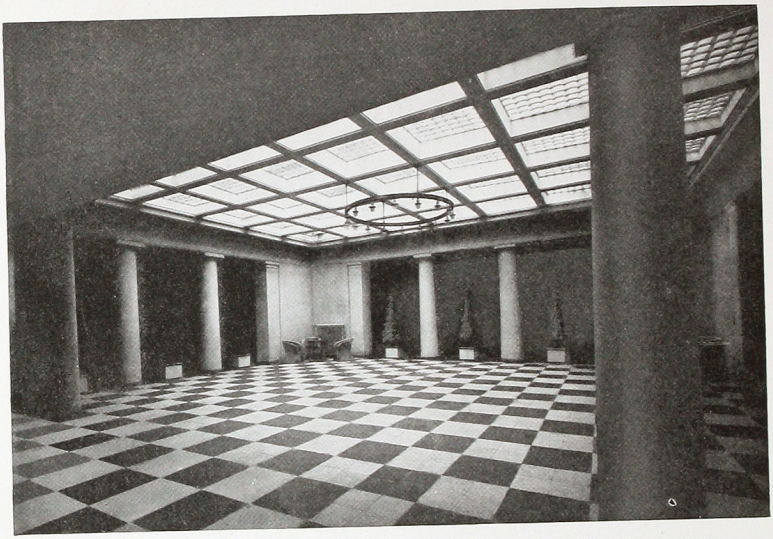


FIG. 5. Interior made light by Keppler Roof Light Construction. Note the all-glass undersurface.

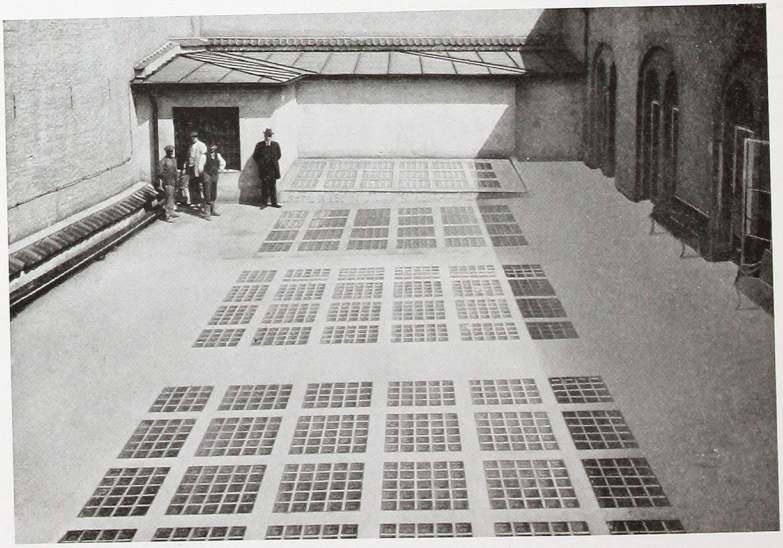


FIG. 6. Top view of Figure 5. These panels, despite the concrete frame-work reinforcements, seem almost as one piece of glass when viewed from inside.

Keppler Floor, Roof and Vault Light All-Glass Undersurface Constructions

(Patent applied for)

Keppler Floor, Roof and Vault Light Constructions are composed of translucent glass units supported by reinforced concrete. No special frame-work or castings are required. The units can be furnished promptly and are easy to install.

This construction admits a maximum of light, and distributes it evenly, for the top surface has a larger glass area than usual, and the undersurface is all-glass.

Keppler Advantages

More Light: The large area of glass on top and bottom admits approximately 40% more light than the average floor light constructions.

The concave sides of the glass units make possible ample supporting strength in the concrete ribs without cutting off the light.

Owing to the special design of this concave feature, light which passes into the glass and strikes the concrete framework is not absorbed, but is totally reflected into the room beneath. The concave sides of the units are painted white to increase this reflection. The all-glass undersurface distributes the light rays and makes concrete joints invisible from below.

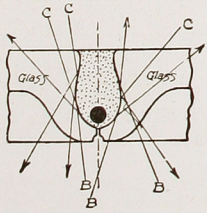


FIG. 3. Showing how light rays which strike Keppler frame-work are totally reflected.

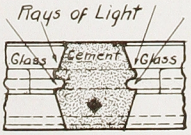


FIG. 4. Showing how rays which strike the average frame-work are absorbed and lost.

Easy to Install: The units are simply laid out on falsework, with the bottom edges touching on all sides and the joints filled in with concrete and reinforcing rods. Any workmen who do concrete work can install the Keppler Construction. We have shipped materials and instructions to distant countries where the installations have been made without the slightest difficulty.

Quick Delivery: As the separate glasses are always kept in stock, any order can be executed immediately. No special frames or castings are required.

Fire Protection: The reinforcing rods are completely surrounded by concrete and are protected from the action of fire; whereas in the case of metal frames, the bearing parts are directly exposed to the heat from the start.

Waterproof: The construction is waterproof. Each unit has a coat of asphalt next to the concrete. The top surface is smooth and affords no opportunity for water to collect.

Built to last: The reinforcing rods are surrounded by concrete, will not rust away and require no painting.

The elastic cushion of specially prepared asphalt around each glass unit takes up all compressional strain due to heavy loads, and prevents "shaling" of the units.

All stresses due to unequal temperature expansion are taken up by properly designed expansion joints and the asphalt coat around the units.

Sizes: Stock sizes for floors, roofs, and vault light constructions, range from 3x3 up to 8x8 inches, and in thickness 1¾ to 2¾ inches. The bearing strength varies with the size and thickness of the unit used. In a recent

FIG. 8. Due to the almost solid glass Keppler Construction overhead, this waiting-room is well lighted from above. Artificial light is required where the glass construction is not used.

test conducted by the Royal Testing Station, Berlin, a plate constructed on supports two feet apart resisted a pressure of 8,000 pounds per square foot.

Weight: Average is 20 pounds per square foot.

Installation: We will furnish the glass units or personally install the construction, just as desired.

Guarantee: We guarantee our materials against defects. Where we install the construction, we guarantee it fully and completely.

How to specify: "All Vault and Roof Lights shall be of 'Keppler' Reinforced All-Glass Undersurface Construction (Frederick L. Keppler, 101 Park Avenue, New York City). Vaulting and Roof Lighting, with sufficient expansion joint provisions, to be done in accordance with the manufacturer's instructions, and in a workmanlike and completely satisfactory manner."

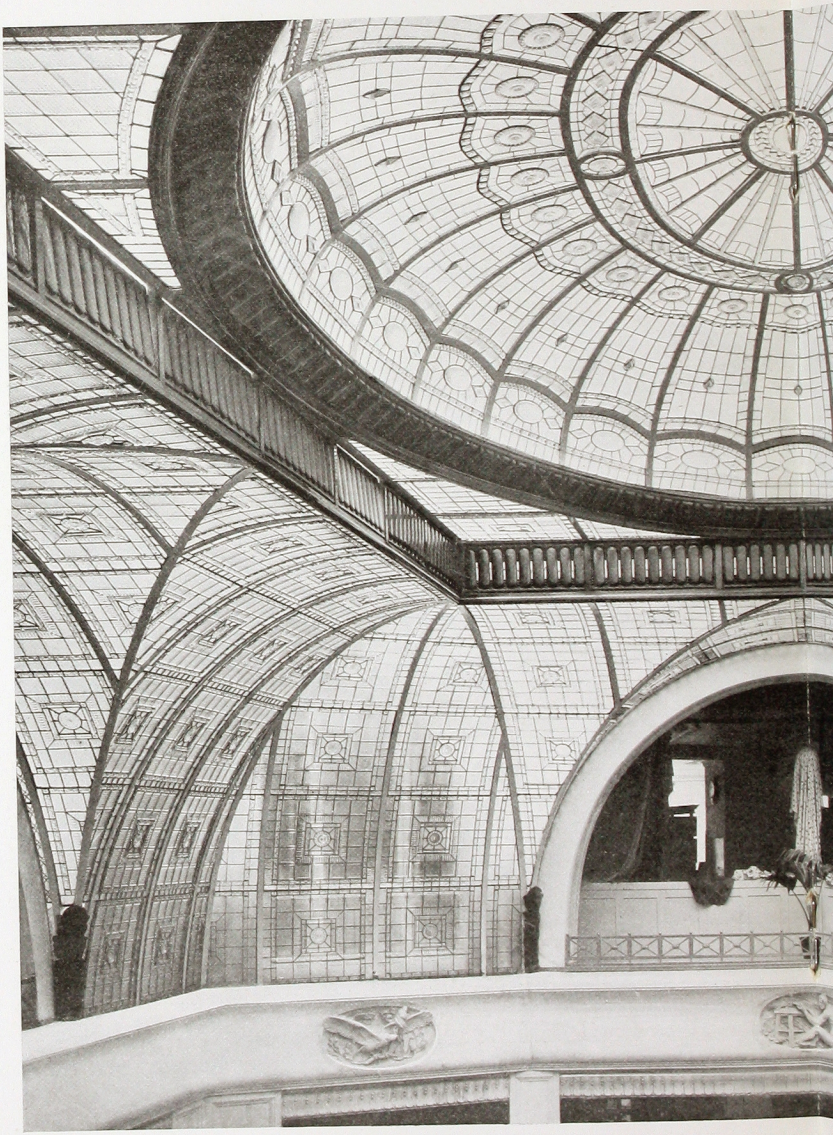
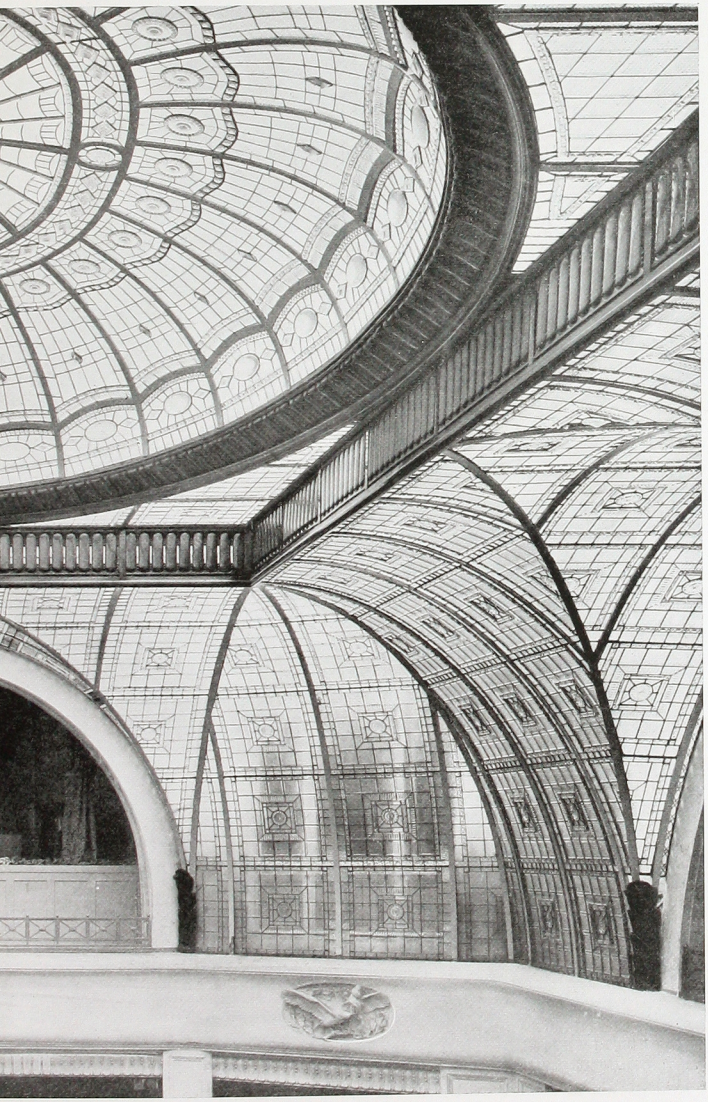


FIG. 9. Keppler Translucent Crystal Dome—composed entirely of standard Keppler Glass Units. These small units are electro-glazed together into unit panels, and assembled on a structural framework. The detailed design was worked up entirely from stock glasses, and shows how Keppler units can be



embled into effective panels, which are in turn made up into a complete dome. Keppler Translucent ystal Ceilings can be designed to harmonize with any architectural style. They are more fully des- ɔed and illustrated on pages 14 and 15.

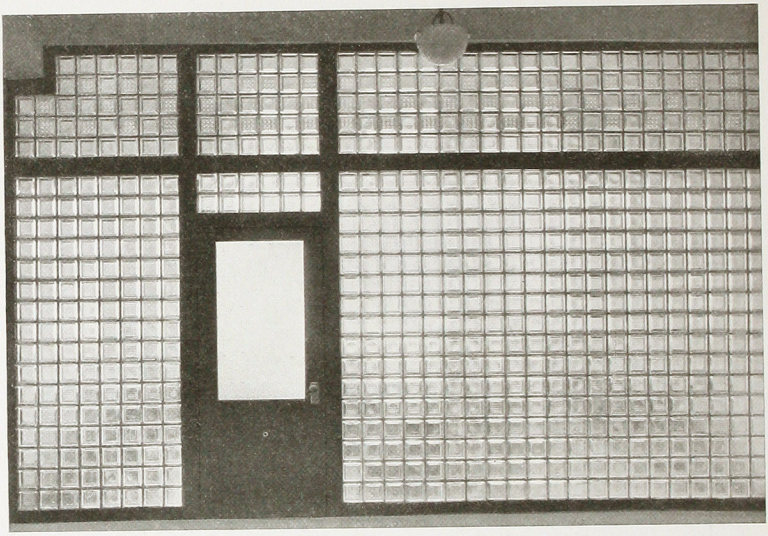


FIG. 10. Keppler Glass Partitions transmit light into inside offices and decrease the need of artificial light. Sizes of units: 6x6 or 8x8 inches.

Keppler Partition, Wall and Window Constructions

(Patent applied for)

These installations embody the same principle of construction as the vault light, being built up with cement and reinforcing rods. They are translucent and admit a maximum of light. Both surfaces are entirely glass, and the cement joints are practically invisible.

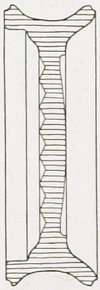


FIG. 11. Section of window unit glass.

Walls and Partitions: Keppler Glass Partitions lessen the need of artificial light in rooms without windows, transmit light from one room to another and use that big portion of light which is shut out by solid walls.

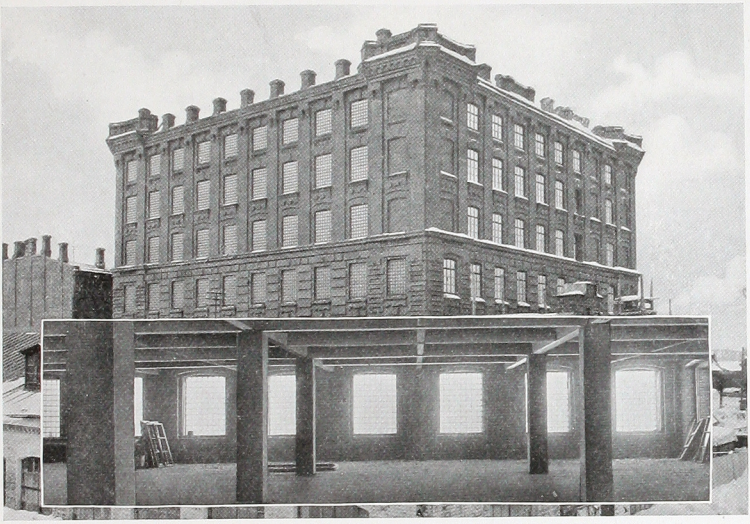


FIG. 12. Candy factory at Moscow, Russia, equipped with Keppler Fire-Proof Translucent Glass Windows. Small insert shows the bright, but not glaring light, transmitted to the interior.

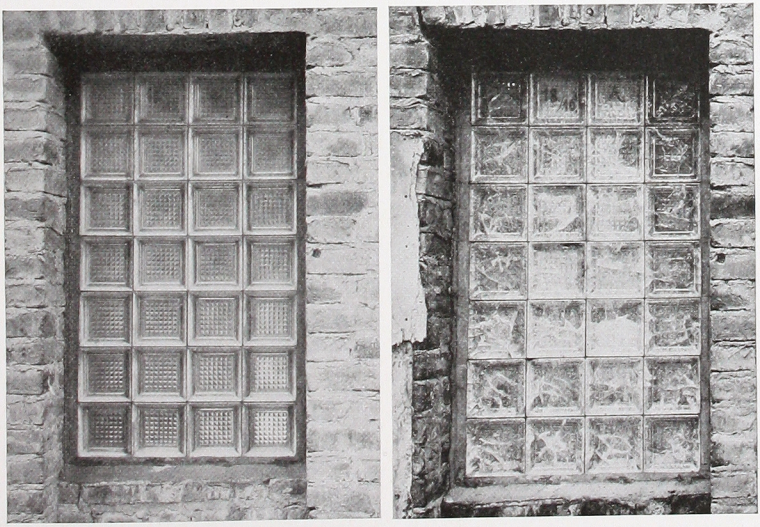


FIG. 13. Two views of a Keppler Fire-Proof Window before and after a fire test, made at the Royal Testing Station, Berlin. The heat was raised to 2,000° Fahr. in ½ hour and then kept at that temperature for ½ hour more.

FIG. 14. Illustrating the use of Keppler Construction for the floor of one room and the ceiling of the room below. This installation extends through four stories.

They are easy to install and are stronger than tile walls or partitions. They are fire-proof, and as sound-proof as the average wall. They are a logical and necessary installation in large stores, office buildings, factories and other places of business.

Windows: Keppler Reinforced Glass Windows diffuse light into the interiors and are fire-proof to a remarkable degree. They are particularly adapted to use near fire escapes, where closed fire-proof windows are imperative. Figure 13 shows a window before and after an official fire test made by the Royal Testing Station, Berlin. The heat was raised to 2,000° Fahr. in ½ hour and then kept at that temperature for ½ hour more. The condition of the window at the end of that time showed its remarkable fire-resisting qualities.

Size, Weight, Delivery: The Glass Units are 6x6 and 8x8 inches in size. They vary in thickness according

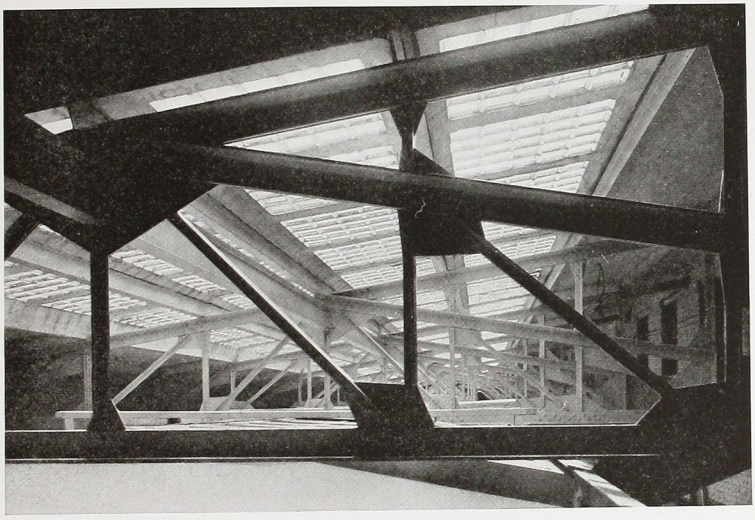


FIG. 15. Factory roof-light. The all-glass undersurface makes this Keppler Roof Light Construction virtually one piece of glass. Easily kept clean and excellent for hospitals; no dirt or germs can collect.

to the size and design of wall, partition or window. They can be furnished in various shapes, depending upon the conditions they are designed to meet.

The weight averages from ten to fifteen pounds per square foot. There is no limit to the space the partitions can be built to fill.

The units are always in stock; orders can be filled immediately. We will install the whole construction or simply furnish the glasses, as desired.

How to specify: "Partitions so indicated on plans shall be of 'Keppler' Reinforced Translucent Glass Construction weighing not less than ten pounds per square foot, and laid with cement mortar and reinforcing bars, in accordance with manufacturer's instructions, and in a workmanlike and completely satisfactory manner."

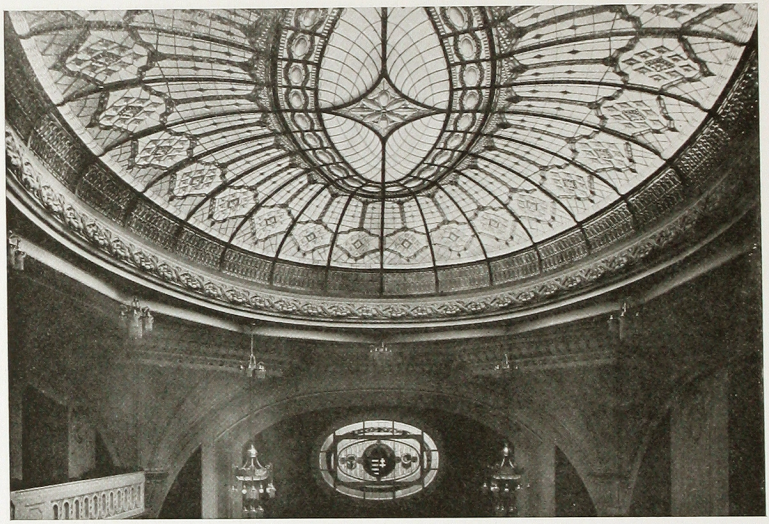


FIG. 17. The unit glasses that form Keppler Crystal Ceilings can be had in crystal white or golden amber. This ceiling shows an effective combination of the two colors.

Keppler Crystal Ceilings

Keppler Ceilings are constructed with translucent glass units ornamented in relief. The units are copper electro-glazed in panels at the factory, and these are installed on iron or concrete frame-work at building.

More Light: Keppler Crystal Ceilings transmit a soft, evenly-diffused light and reduce the need of artificial light, but where artificial light is used, they increase its value because of their fine inside reflective surface.

Decorative and Ornamental: The ceilings are highly decorative and present the substantial appearance of masonry. There are one hundred and fifty different units, which can be assembled in a multitude of differently designed panels, to carry out any architectural style. The actual designing and harmonizing is part of our service.

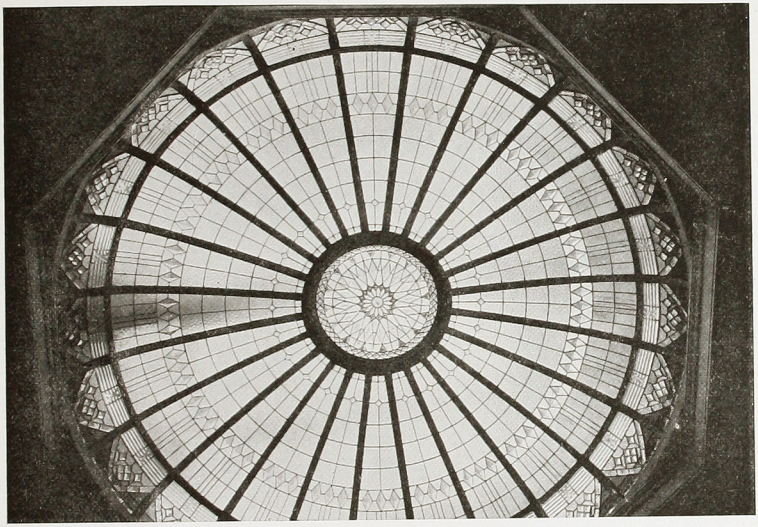


FIG. 18. Simple but effective glass dome. Keppler Crystal Ceilings can be varied from the ultra-plain to the highly-decorative.

Adaptability: Keppler Ceilings are particularly adapted to banks, stores, hotels, libraries, railway stations, apartment houses and fine residences.

Strength: The structural strength of Keppler Ceilings is sufficient to permit a man to walk upon them when cleaning. With large spans, small T and I beams are worked into the design to furnish the requisite support.

Fire Resistance: Numerous tests have shown Keppler Ceilings to be as resistant as the best wire-glass.

Weight and Cost: Average weight, nine pounds per square foot. Cost, $1.25 to $2.50 per square foot. Units furnished in clear glass or in beautiful golden amber.

How to specify: "Ceilings shall be of 'Keppler' Translucent Crystal Construction (Frederick L. Keppler, 101 Park Avenue, New York City); copper electro-glazed, and supported as indicated on plans. All work to be done in accordance with manufacturer's directions in workmanlike satisfactory manner."

Detail Views — Keppler Glass Constructions

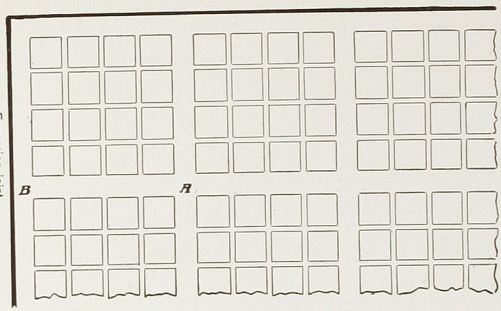


FIG. 20. Keppler Vault-light Construction from above, showing large glass area.

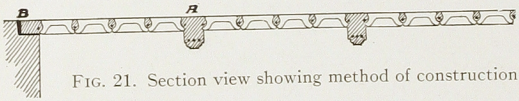


FIG. 21. Section view showing method of construction.

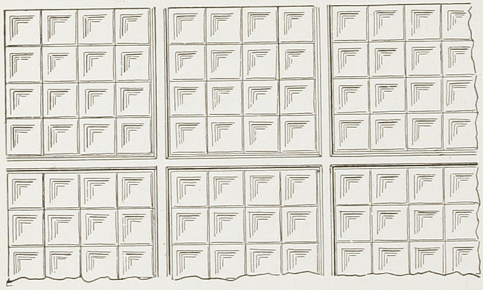


FIG. 22. View from beneath showing all-glass undersurface.

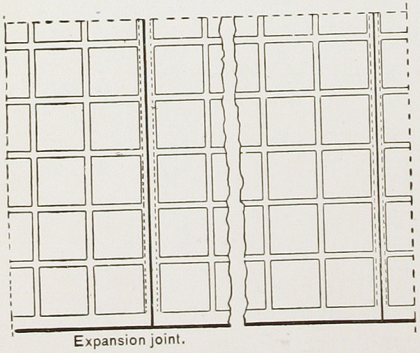


FIG. 27. Plan view of roof-light construction.

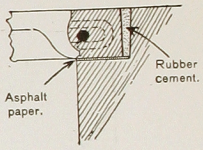


FIG. 23. Detail of panel support showing expansion joint.

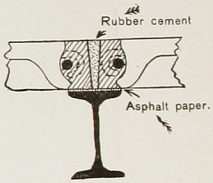


FIG. 24. Detail of I beam support showing expansion joint.

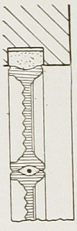


FIG. 25. Cross section of window unit glass construction.

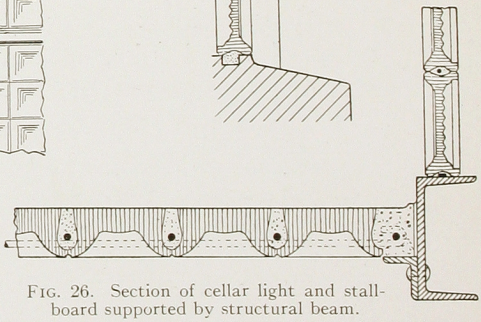


FIG. 26. Section of cellar light and stallboard supported by structural beam.

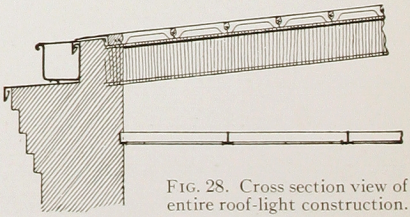


FIG. 28. Cross section view of entire roof-light construction.

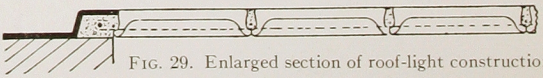


FIG. 29. Enlarged section of roof-light construction.