

BERGER'S  
*Raydiant*  
TRADE MARK  
SIDEWALK LIGHTS





**BULLETIN No. 13**

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The Berger Mfg. Co.  
Canton, Ohio





BERGER'S  
*Raydiant*



## FOREWORD

**D**AYLIGHT—nature's illuminant—properly transmitted, is the best way of transforming dead space into a valuable asset.

The advantage of having the basement and the space under the sidewalks flooded with daylight is apparent. This space, peculiarly adapted for such purposes as sales-rooms, vaults, accounting rooms, restaurants, warerooms, barber shops, etc.—in fact, for practically any purpose imaginable—can be made habitable and valuable from the investment viewpoint. It's an investment that soon pays for itself through the saving of artificial lighting bills alone.

Berger's "Raydiant" System of vault, floor and sidewalk lights is scientifically designed and is the most effective means of transmitting daylight into artificially lighted spaces.

The wide field of application of Vault and Sidewalk Lights is too generally recognized to require extended mention or comment in this catalog. Accordingly, we have confined ourselves to illustrating just a few of the thousands of buildings in which "Raydiant" Lights are installed, and describing and illustrating the technical side fully.

### THE BERGER MFG. COMPANY

CANTON, OHIO

Branches:     BOSTON,     NEW YORK,     PHILADELPHIA,  
                 CHICAGO,     ST. LOUIS,     MINNEAPOLIS,     SAN FRANCISCO

Bulletin No. 13—1016





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ONONDAGA HOTEL, SYRACUSE, N. Y.  
Raydiant Sidewalk Lights Installed.  
Esenwein & Johnson, Buffalo, N. Y., Architects.





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FIDELITY TRUST CO. BLDG., PORTLAND, ME.  
Raydiant Sidewalk Lights Installed.  
G. Henri Desmond, Architect.





BERGER'S  
*Raydiant*



WHITE BUILDING, SEATTLE, WASH.  
Raydiant Sidewalk Lights Installed.  
Howells & Stokes, New York City, Architects.





BERGER'S  
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MASONIC TEMPLE, ATLANTA, GA.  
Raydiant Sidewalk Lights Installed.  
Morgan & Dillon, Architects.





BERGER'S  
*Radiant*

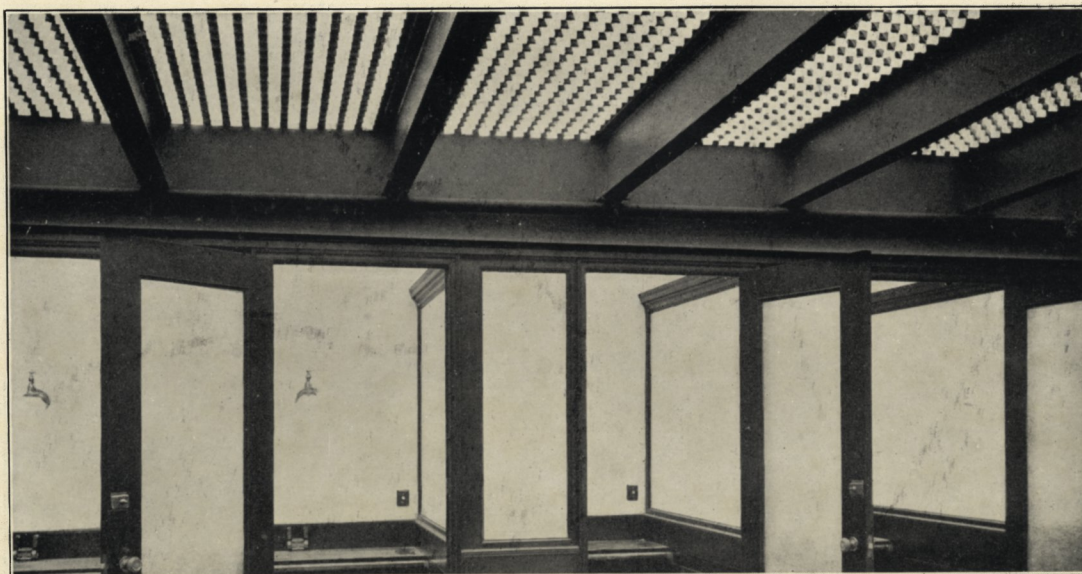


BAUGH & YETMAN STORE, BROWN-MARX BLDG.,  
BIRMINGHAM, ALA.  
Wm. C. Weston, Architect.

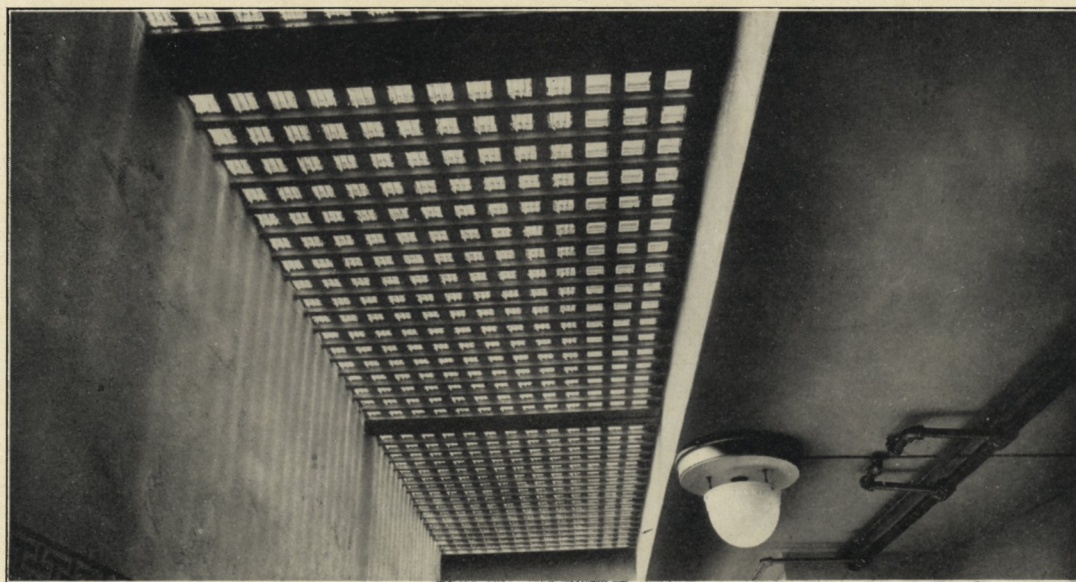




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DIME SAVINGS BANK, BROOKLYN, N. Y.  
Mowbray & Uffinger, Architects.  
Jno. Thatcher & Son, Contractors.



Showing part of Raydiant Sidewalk Lights installed above individual  
private offices of  
THE ZETTLER REALTY CO., DAILY NEWS BLDG.,  
CANTON, OHIO.  
W. S. Epperson, Canton, Ohio, Architect.





BERGER'S  
*Rapdiant*



KAHN DRY GOODS STORE, PHILADELPHIA, PA.  
Stuckert & Sloan, Architects.



CAIRNS DEPARTMENT STORE,  
SASKATOON, SASKATCHEWAN, CANADA.  
J. F. O'Leary, Architect.





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**T**HE Greenwich Y. M. C. A. building, Greenwich, Conn., is one of the handsomest of its kind in the country.

The lower illustration shows the swimming pool, at the bottom of which Berger's "Raydiant" Lights are installed.

Architects:

M. L. and H. G. Emery,  
New York City.







## Points of Advantage

The "Raydiant Special" system is simple in design, therefore quickly and easily installed at a minimum expense.

The "Raydiant Special" system is the strongest vault and floor light system made. It is doubly reinforced by permanent interlocking steel forms and reinforcing rods.

The "Raydiant Special" system is absolutely waterproof.

The "Raydiant Special" system will span a greater distance than any other system, requiring bearings on two sides only, thus eliminating the usual light-obstructing cross beams.

The "Raydiant Special" system requires no false work or centering.

The "Raydiant Special" system provides for expansion and contraction, therefore minimizing breakage of glass due to temperature changes.

The "Raydiant Special" system provides the maximum amount of light—the Lazalite Malleable Coated Glass, used exclusively, giving a brilliancy, toughness and resiliency that insures long life.

The "Raydiant Special" system includes the "Easy Replace" feature of removing and replacing broken glass.

The "Raydiant Special" system is competitive in price to other systems possessing a lesser degree of merit.

That the above points of advantage are appreciated by architects, engineers and contractors throughout the country is evidenced by the fact that Berger's "Raydiant" Sidewalk Lights have been installed in approximately 13,500 jobs, totaling over 1,000,000 sq. ft. of area.



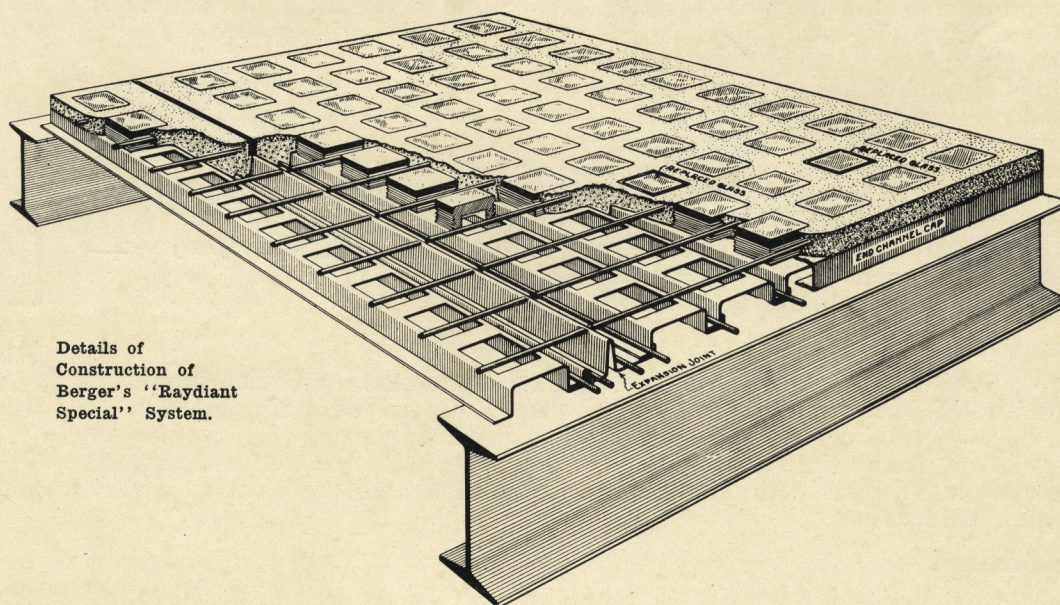
## The Construction in General

## Evolution

**B**ERGER'S "RAYDIANT" SYSTEM is the result of many years of careful study and experience, developing in a construction presenting many points of merit and advantage that cannot be overlooked.

## Present Perfection

It has been brought to its present high degree of efficiency by successive improvements, bearing in mind at all times the vital points of ease, speed and economy of installation, abundance of light area, strength and durability.



### Details of Construction of Berger's "Raydiant Special" System.

## Construction Detail

The construction consists of a series of permanent unit interlocking forms or base plates of heavy galvanized steel. These forms are regularly punched with openings and the glass are fitted directly into and over these openings.

Rods, forms and glass are thoroughly and permanently tied together by the application of concrete.

## Strength

The heavy steel forms interlock one with the other, forming a rigid base for receiving the glass and concrete, and not only serve the purpose of centering, but at the same time brace and stiffen the concrete construction to a remarkable de-





gree; therefore, the completed job is twice strengthened—first by the rods, and second by the forms, so that Berger's "Raydiant" Sidewalk Lights are doubly secure and strong.

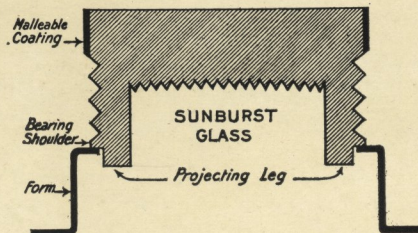
#### Forms

In addition to their strength, the steel forms make a neat and attractive surface underneath, which may be enameled or decorated to harmonize with the interior finish of the room.

The small beams or ribs on the underside of the construction break up the surface just enough to make a strong effect, pleasing to the eye, and while adding to the attractiveness of the construction do not in any way interfere with the diffusion or refraction of the light.

#### Glass Setting

The lower part of the glass fits into the opening in the form and has a supporting shoulder which rests on top of the form and extends entirely around the bottom of the glass; hence, each glass has bearing on all sides, thus equalizing and distributing the strain and preventing their being cracked and broken on account of unequal bearing. The vertical leg, or part of the glass which fits down into the form, prevents the glass from slipping and shifting out of its place, and also engages with the form when under strains in a distinctly characteristic manner, quite similar to mechanical bond of deformed bars in concrete.



#### Alignment

By referring to the views on preceding pages, an idea may be obtained of the great amount of light area procurable; and also of the splendid alignment of glass that is maintained, because each form containing a single row of glass may be shifted or moved at any time before the concrete is placed. Due to this fact, it is possible to complete the job with all glass laid true and straight both ways—a very important consideration.

#### Installations

The construction is very simple, requiring no false work, and the installation can, therefore, be made easily and quickly at a minimum cost.

We have branches and agents in practically every section of the country, whose skilled workmen make the installations. Where their services are not required, any reliable mason or concrete finisher can readily put the material in place.

#### The "Replace" Feature

When it is necessary to replace glass, due to accidents or other causes, this can be accomplished in a simple and practical manner by removing the original glass and inserting another, as illustrated on pages 16 and 17.

#### Conclusion

The advantages secured from these special features of Berger's "Raydiant" System are readily apparent, and their value will be thoroughly appreciated by practical men because it so distinctly fulfills the essential requirements of a satisfactory job with maximum economy and efficiency.





## Materials of Construction

### Combination



VERY good idea may be obtained of the assembled materials entering into this construction by noting the detail perspective cut on page 11.

### Forms

The forms are made from special analysis open hearth, galvanized steel.

They have an effective covering width of four and one-quarter inches and are furnished in depths of one, one and one-half, and two inches, according to the span and the load to be carried.

See pages 29 and 30 for table of safe loads.

### Reinforcing

As reinforcing, it is possible to use any design of rods, the main point being that the construction should not be burdened with an excess of steel, which is not only entirely unnecessary but has a tendency to break up the construction and thereby weaken it. Rigorous tests indicate that  $\frac{1}{4}$ -inch rods are amply sufficient.

### Concrete

The concrete entering into this construction should be made of the very best Portland Cement and clean sharp sand. Details regarding this are given later in the directions for installing.

See pages 23 and 24.

## Lazalite Glass—Malleable Coated

No manganese or other ingredients which tend toward brittleness are used in the manufacture of Lazalite glass. This glass is made from a special formula, insuring a very tough texture and brilliancy of a permanent and lasting color, which will not turn pink nor purple when exposed to the elements.

Specially constructed ovens, in which the glass is annealed for 36 to 40 hours, assure absolute uniformity. Each piece of glass is tested with the polariscope and any showing stresses or strains are rejected.

As an additional safeguard against cracking and shaling, the sides of all glass are provided with a cushion compound which produces absolute cohesion between glass and concrete and absorbs the expansion and contraction of the slab due to temperature changes.





## Design of Glass



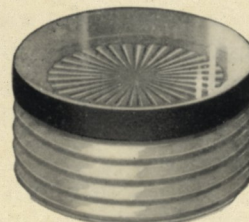
THE glass are designed to scientifically diffuse or refract the light rays to various distances, all of the styles giving different results. (See following cuts.)



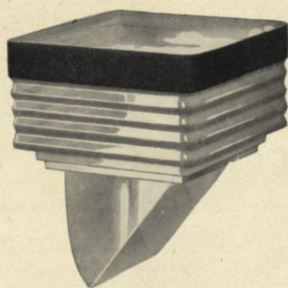
No. 5-L Glass

Berger's No. 5-L is the standard *square* glass, used for diffusing the light to space directly below and immediately adjacent thereto. Having a sunburst lens, the diffusion is materially greater than the ordinary plain lens, and is, therefore, the most popular glass for general service. It is 3 inches square and 1½ inches deep.

Berger's No. 6-L is the standard *round* glass for the same purpose as No. 5-L, but, being round, it presents less light surface. This also has the sunburst lens feature. It is 3 inches in diameter and 1½ inches deep.



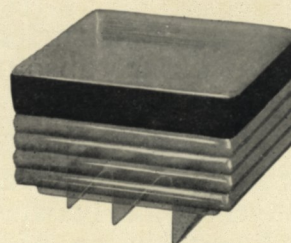
No. 6-L Glass



No. 7-L Glass

Berger's No. 7-L is the standard *square pendant prism* glass for refracting the light downward and back into deep basements. It is 3 inches square and 1½ inches deep.

Berger's No. 8-L is the standard *square three-point prism* glass for refracting the light downward and back into shallow basements. It is scientifically designed, with a series of three prisms set at different angles so as to give the best results. It is 3 inches square and 1½ inches deep.

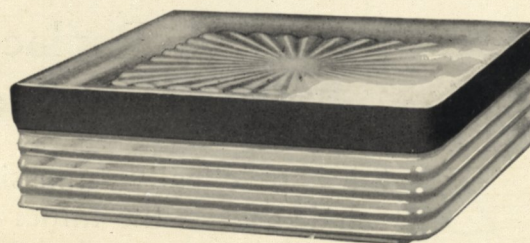


No. 8-L Glass

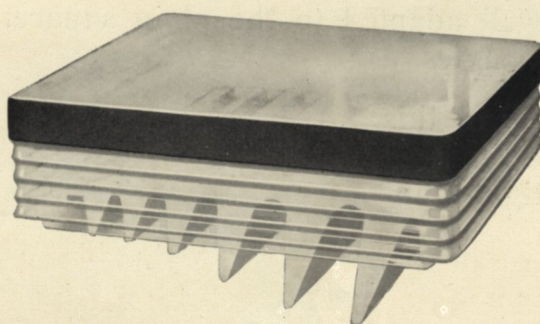




Berger's No. 9-L is the standard *square* glass for floor, roof and skylight construction—also having the sunburst lens feature. It is  $5\frac{1}{2}$  inches square and  $1\frac{1}{2}$  inches deep.



No. 9-L Glass



No. 10-L Glass

Berger's No. 10-L is the standard *square multi-prism* lens for floor, roof and skylight construction. It is  $5\frac{1}{2}$  inches square and  $1\frac{1}{2}$  inches deep.

Berger's No. 11-L is a sunburst lens, and, due to its intermediate size, is adaptable for use in either vaults or floors and skylights. It is 4 inches square and  $1\frac{1}{2}$  inches deep.



No. 11-L Glass

Both No. 9-L and No. 10-L Glass are designed especially for the purposes above mentioned, where the loads are not so heavy and the light area must be of the greatest percentage possible. On page 30, we present data relative to the carrying capacity of the construction when these two systems are used.

This construction is built up on Berger Steel Forms, the glass being  $6\frac{1}{2}$  inches on center in each direction. By the use of this system, the old style light-well and consequent dead space is eliminated, such space utilized, and at the same time satisfactory light obtained.





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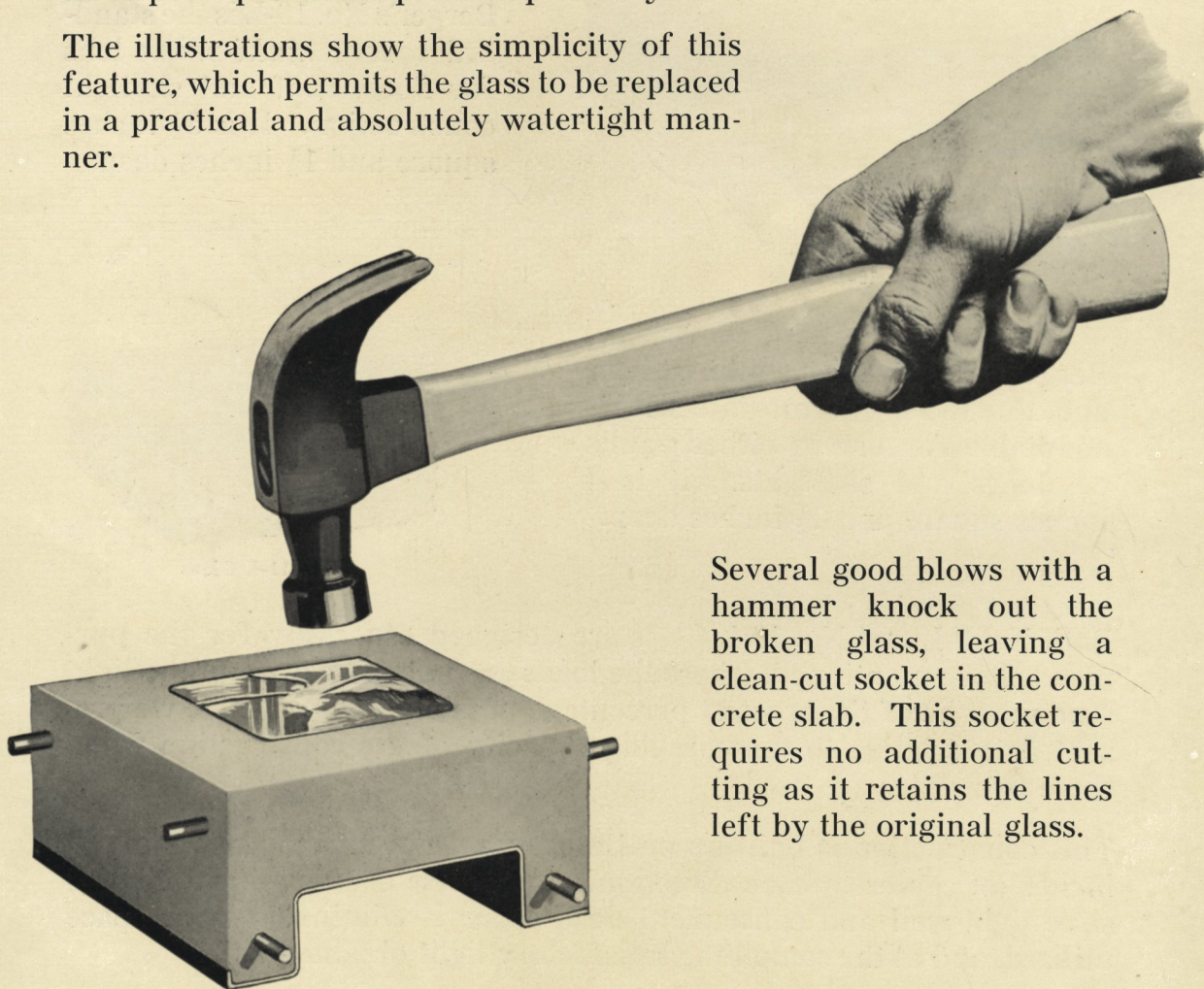
## The Easy Replace Feature of the "Raydiant Special" System



As it is practically impossible to entirely eliminate cracked or shaded glass, the importance of the replace feature will be readily appreciated.

The "Raydiant Special" method of replacement is *not* confined to the round glass alone, but is equally well adapted to the plain square, three-point prism and pendant prism styles.

The illustrations show the simplicity of this feature, which permits the glass to be replaced in a practical and absolutely watertight manner.

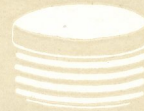


Several good blows with a hammer knock out the broken glass, leaving a clean-cut socket in the concrete slab. This socket requires no additional cutting as it retains the lines left by the original glass.



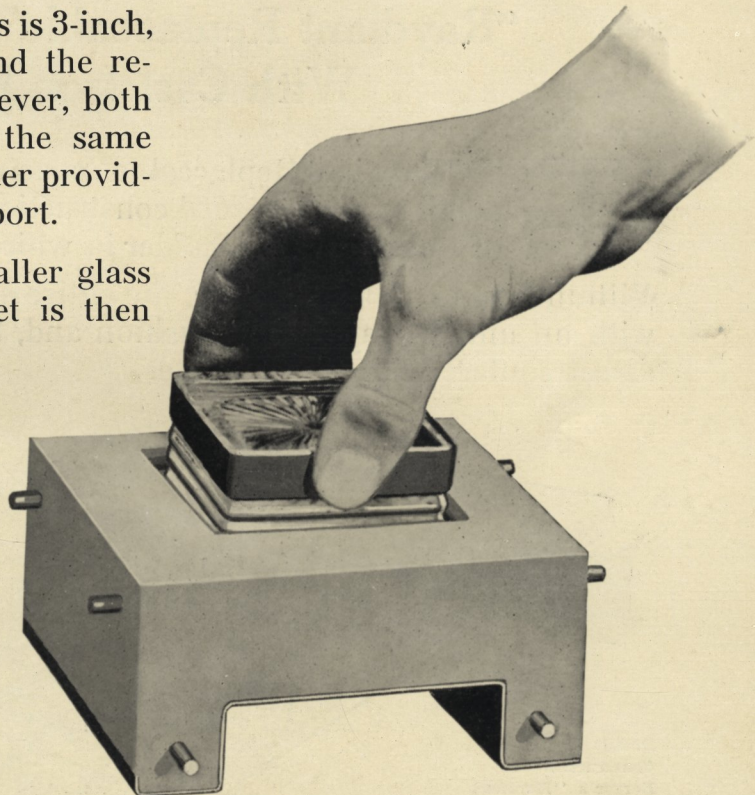


BERGER'S  
*Raydiant*



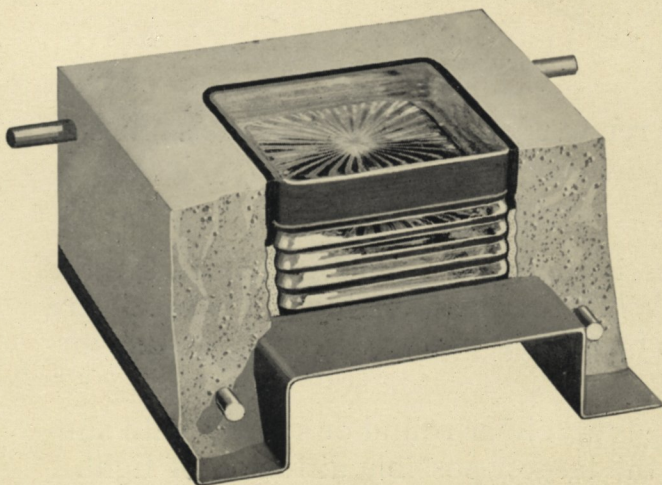
The size of the original glass is 3-inch, either square or round, and the replace glass is 2 $\frac{3}{4}$ -inch; however, both glass are designed to fit the same opening in the form, the latter providing a definite ledge to support.

The space between the smaller glass and the wall of the socket is then filled with a fine grout (composed of one part cement and one part sand) half way up the side of the glass, while above this is poured a specially prepared waterproofing compound, completely calking the new glass, making it as effective as the original.



### Specifications "Raydiant Special" System

*Sidewalk Lights shall be of the "Raydiant Special" System with replaceable glass as manufactured by The Berger Mfg. Company of Canton, Ohio. They shall consist of permanent Galvanized Steel Forms and Berger's No. .... Lazalite Glass and  $\frac{1}{4}$ -inch plain round, square or twisted reinforcing rods, concreted together with a first-class Portland Cement Concrete, of one part cement and two parts clean, sharp sand. The work shall be completed in a workmanlike and satisfactory manner and substantially as per manufacturer's directions.*





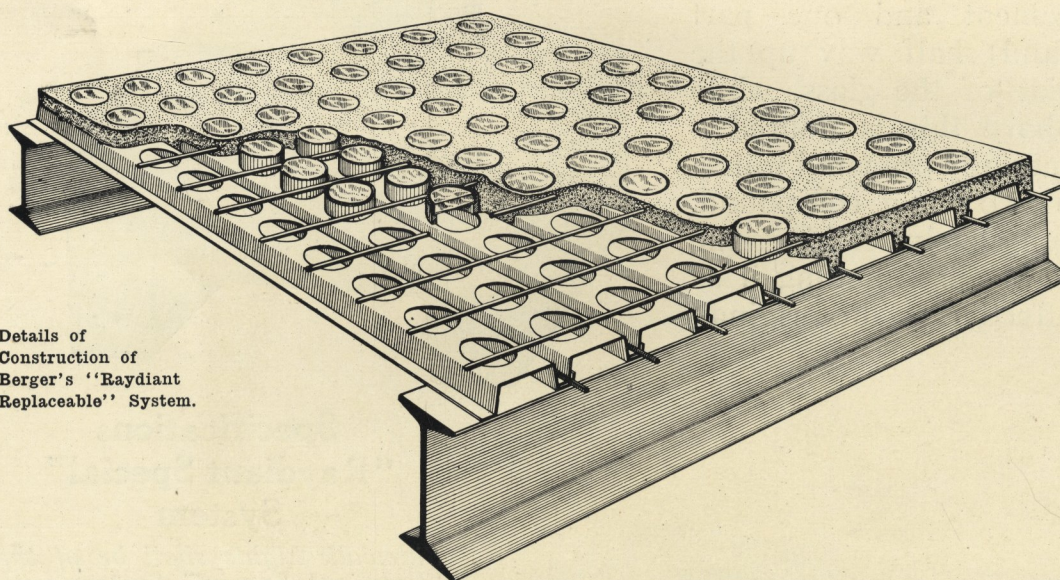


## **“Raydiant Replaceable” Construction With Cast Iron Holder**



HE “Raydiant Replaceable” construction is similar in general detail to the standard construction but has the added feature of a cast iron lens holder in which the glass is imbedded.

With this type of construction, the entire depth of the glass is provided with an ample waterproof cushion and, therefore, does not come in direct contact with the concrete.



Details of  
Construction of  
Berger's "Raydiant  
Replaceable" System.

In case of breakage, it is easily removed and replaced by the same size glass.

### **Safety Tread**

Another feature of importance is the safety tread, provided by the upper portion of the casting. While the glass, casting and concrete are all flush, the small teeth at top of casting prevent wearing of the surface and insure a safety tread.

The glass used is of the Lazalite type, either round or square, with sun-burst under surface, insuring the largest possible diffusion of light.

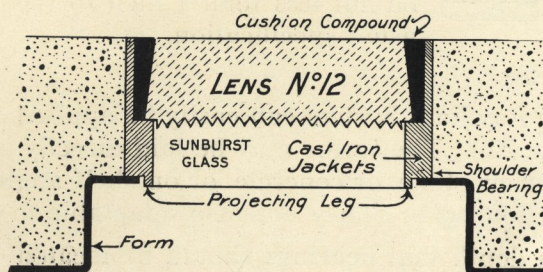
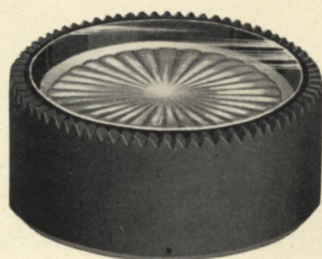




BERGER'S  
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The cuts below show the details of the glass casting and form. Note the teeth at top of holder which are flush with the glass and concrete when completed.



The installing of the "Raydiant Replaceable" Construction with Cast Iron Holder is similar in every respect to that of the "Raydiant Special." The glass are imbedded in the holder at the factory and the assembling, concreting, finish, etc., is done with the same simplicity and ease as with the other type of construction.

### Specifications "Raydiant Replaceable" System

*Sidewalk Lights shall be of the "Raydiant Replaceable" System with grey iron lens holder, as manufactured by The Berger Mfg. Company of Canton, Ohio. They shall consist of permanent Galvanized Steel Forms with Berger's No. .... Lazalite Glass and holder and  $\frac{1}{4}$ -inch plain round, square or twisted reinforcing rods, concreted together with a first class Portland Cement Concrete, one part cement and two parts clean, sharp sand. The work shall be completed in a workmanlike and satisfactory manner and substantially as per manufacturer's directions.*





## Installation in Detail



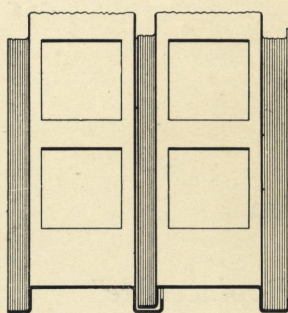
REAT care should be taken to have the bearings level and true and set at the proper grade or pitch for sidewalk work. This grade should be not less than  $\frac{3}{8}$  inch to the foot, and had better be  $\frac{1}{2}$  inch—the usual specification.

### Bearing

The Raydiant System can easily be applied to any kind of bearings. (See cuts, page 22.) The forms may be laid directly on beams of steel or concrete, on walls of brick, stone, or concrete, or on shelf angles attached to walls by means of expansion bolts. They are also adaptable to cast iron frame construction.

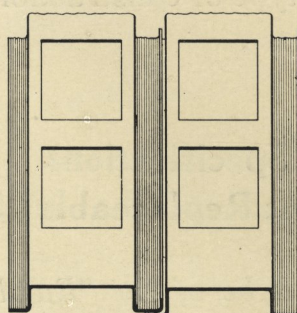
The depth that bearings should be located below the finished walk level is as follows:

Desired Safe Load	Span	Depth of Bearing	Desired Safe Load	Span	Depth of Bearing
200 Lbs.	up to 5'-6"	2½"	250 Lbs.	6'-0" to 6'-6"	3½"
200 Lbs.	5'-6" to 6'-6"	3 "	300 Lbs.	up to 4'-6"	2½"
200 Lbs.	6'-6" to 7'-0"	3½"	300 Lbs.	4'-6" to 5'-6"	3½"
250 Lbs.	up to 5'-0"	2½"	300 Lbs.	5'-6" to 6'-0"	3½"
250 Lbs.	5'-0" to 6'-0"	3 "			



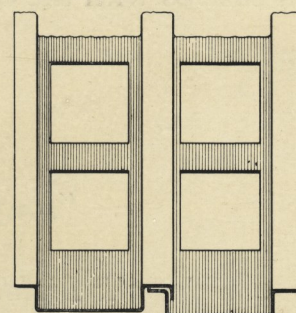
Interlocking lap

THE RIGHT WAY



Not interlocking

THE WRONG WAY



Upside down

THE WRONG WAY

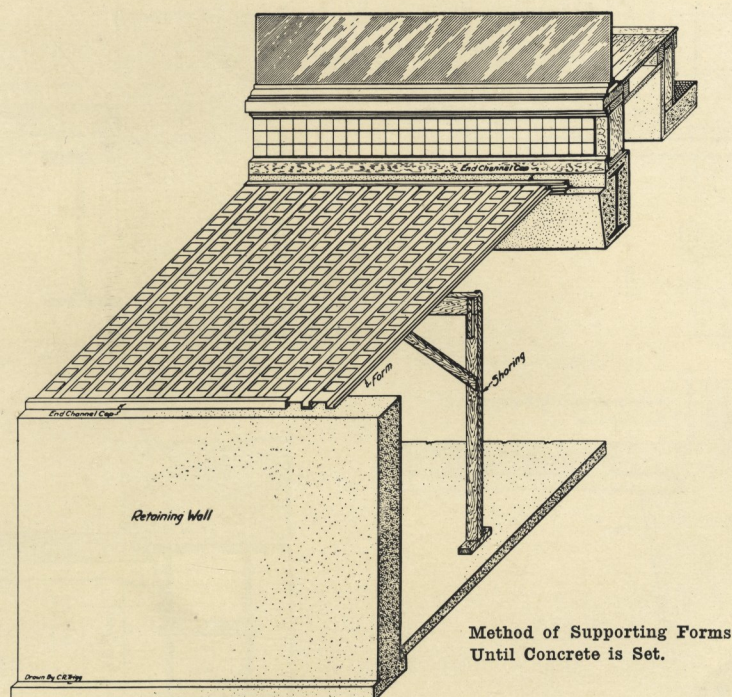
### THE LAYING OF FORMS.

The forms should be laid so that they *interlock* with each other, with the holes on top and the beam parts below, as shown.

### Bracing

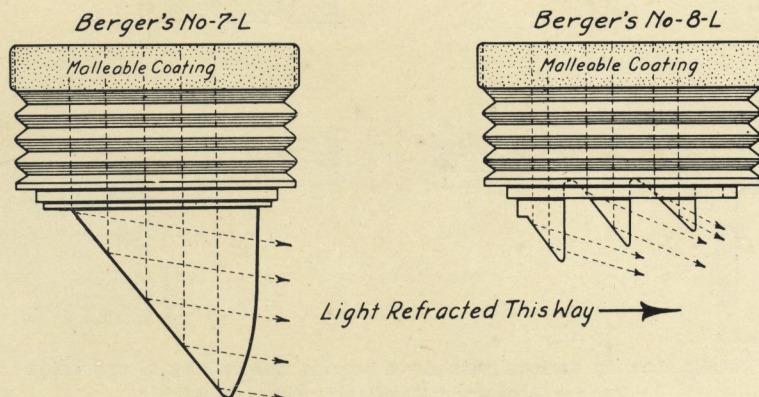
After the forms are properly placed on the bearings, they should be braced or supported underneath (see cut on page 21) until the concrete is in place and thoroughly set. This is to prevent any movement taking place during installation of concrete and will eliminate any slight deflection which might otherwise occur.



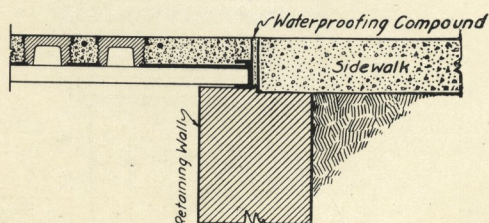
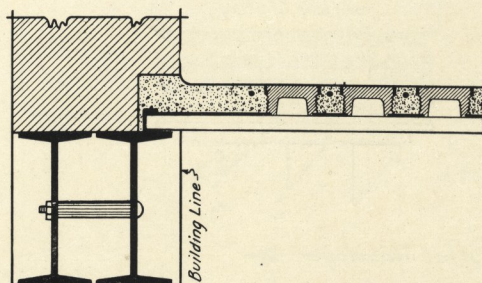
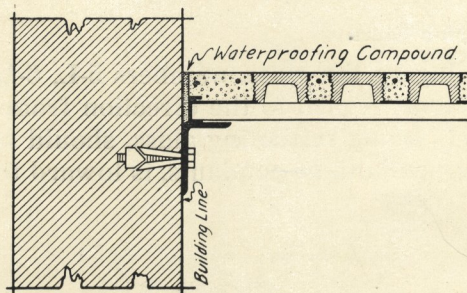
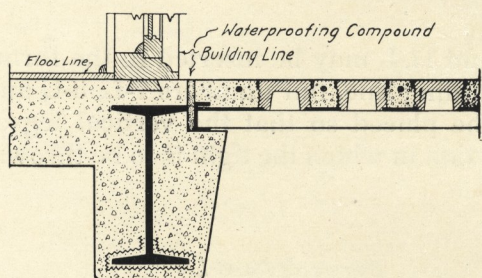
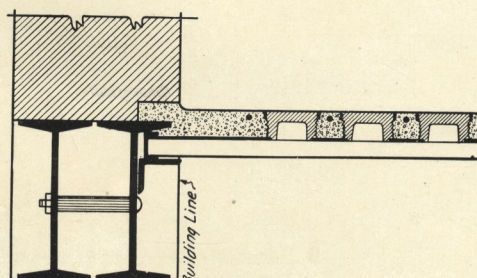
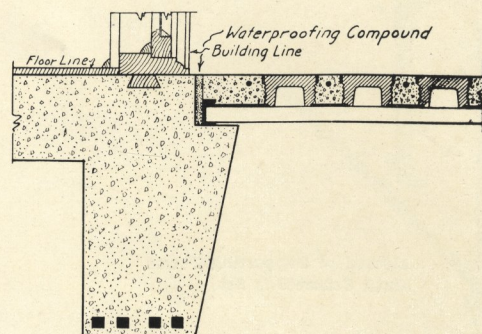
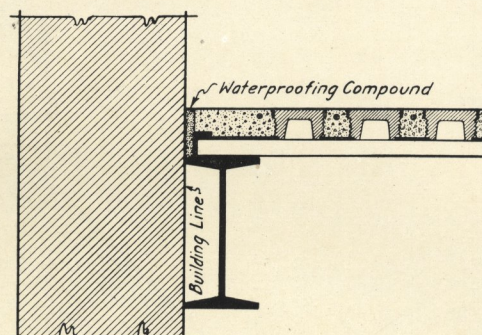
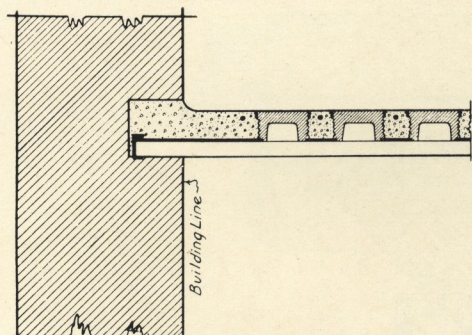


#### Laying Glass

In laying the glass, numbers 5-L, 6-L, 9-L and 11-L may be inserted in the forms without regard to the direction from the building line, but numbers 7-L, 8-L and 10-L, being refracting glass, should always be placed so that the vertical leg of the pendant, or pendants, is toward the direction in which the light is to be thrown.







Details showing various methods of bearing and calking of expansion joints for Berger's "Raydiant" Sidewalk Lights.





## Concreting

### Bridging



AFTER the forms have been placed and braced as shown, and the glass inserted properly, the job is ready for the concrete. This should be applied from bridging, being careful to keep off the construction at all times while same is being concreted and until thoroughly set.

### Mixture

The concrete should be made up of one part good Portland Cement to two parts clean, sharp sand. This should be thoroughly mixed dry, then enough water added, and the whole thoroughly worked so as to make it the consistency of thick mortar.

### Application

The concrete should be placed at different points, and worked between the glass thoroughly, after which a small straight-edge should be drawn over the surface of the glass until all spaces have been completely filled level with the tops of the glass. Then throw over the surface a mixture made of one part Portland Cement to two parts dry sand which has been passed through a  $\frac{1}{8}$ -inch sieve. This mixture is called "dry stuff" and its purpose is to take up the surplus water which rises to the top and thereby facilitate the setting of the concrete. Next, after allowing the dry stuff to stand a few moments, the straight-edge should be used with a circular movement to rake off all materials flush with the top of the glass, as before. After going over the surface in this manner more dry stuff should be thrown over the top and allowed to stand a few minutes longer than the first application.

### Rubbing

Then begin to rub the surface with excelsior or navy oakum, all the while throwing on a little more dry stuff. A circular movement should be used in rubbing, being careful not to bear too heavily, lest the concrete be displaced and made lower than the top surface of the glass. This rubbing should be continued until the surface is uniform and even, and setting of concrete well advanced.





#### **Reinforcing**

The reinforcing rods should be put into place at the time of placing the concrete. Those that run the length of the forms are the tension rods and should be placed in position by means of the rod holder shown on page 27, before concrete is put in. The other rods that run between the glass at right angles to the length of the forms should be used between every row of glass. These cross rods should be kept near the top surface, being placed immediately after the concrete has been leveled off with the top of the glass, pressing them down so that they will be about  $\frac{3}{8}$  of an inch below the top. In this way they prevent cracking, which might otherwise result from expansion and contraction, or from any settling in bearings or other parts of the construction.

#### **Expansion Joints**

Expansion joints should be provided at proper intervals by using special expansion joint sections and cutting down in the concrete over them in the same manner as employed in solid concrete work. (See pages 25 and 26.) Our experience proves that the area between joints should not exceed 30 square feet of surface—a smaller area would be preferable.

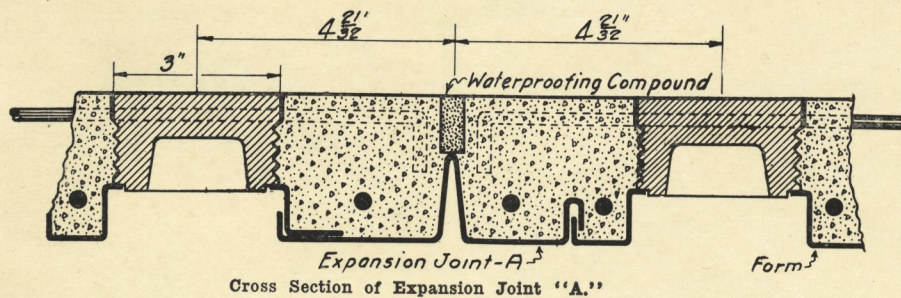
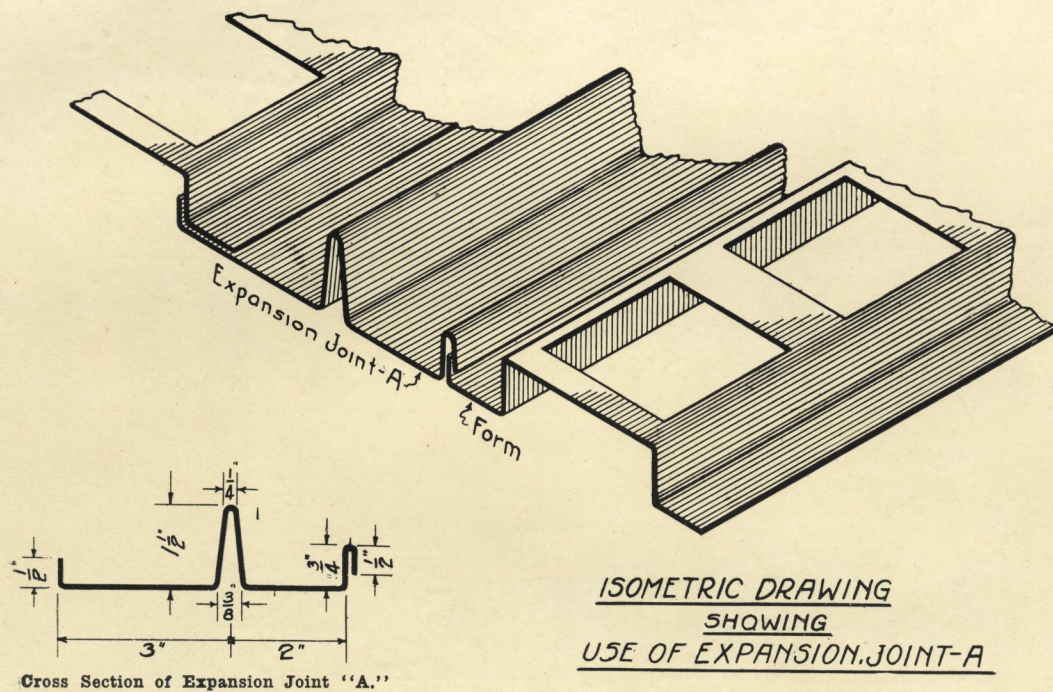
#### **Finish**

For the borders surrounding the glass surface it is best to use a finisher's steel trowel so as to give this part of the work a good smooth finish.





## Expansion Joint "A"

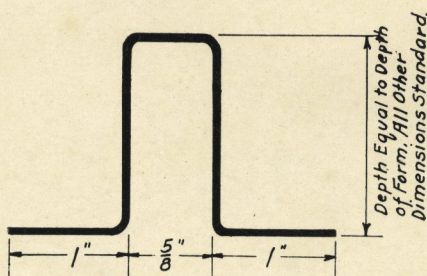


**E**XPANSION Joint "A" is the expansion joint provided for use parallel to the direction of the forms. In addition to providing the means of expansion and contraction, it adds a stiffening beam of concrete to the slab. These joints should be provided at proper intervals as indicated under the heading "Expansion Joints" on page 24.

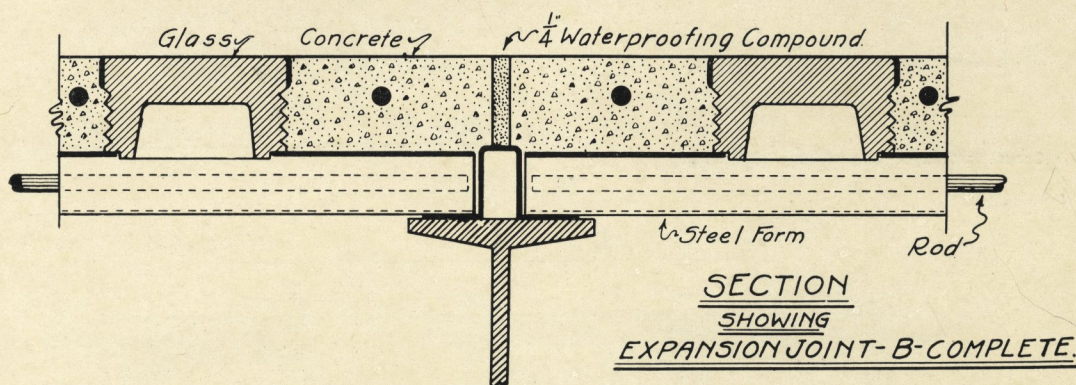
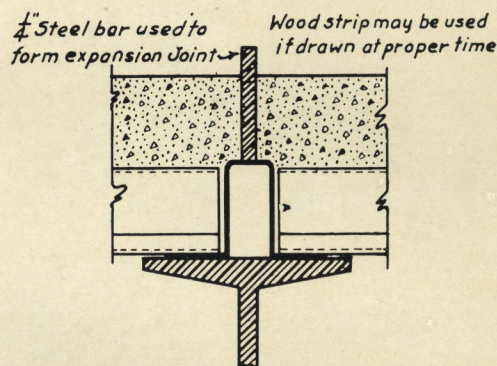




## Expansion Joint "B"



CROSS SECTION  
SHOWING  
EXPANSION JOINT-B



SECTION  
SHOWING  
EXPANSION JOINT-B-COMPLETE.

**E**XPANSION Joint "B" is the expansion joint provided for placing at the ends of forms. It is so made as to provide ample water break and yet is flexible enough to allow for expansion and contraction.

Both Joints "A" and "B" are furnished with all shipments without extra charge, and are positive insurance against leaks and attendant trouble.

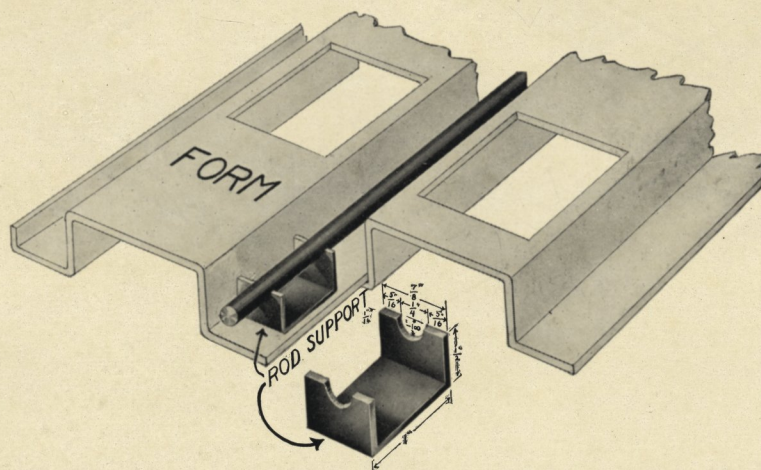




## Rod Holder

**T**HE illustration shows the rod holder—a convenient addition to the “Raydiant” system.

The rod holders are laid on the bottom of forms holding the reinforcing rods  $\frac{1}{2}$ -inch above



lower part of slab. Enough concrete is then thrown on the rods to hold them in proper place until the remaining concrete is applied.

The upper or temperature rod is installed by pressing into the concrete from the top surface.

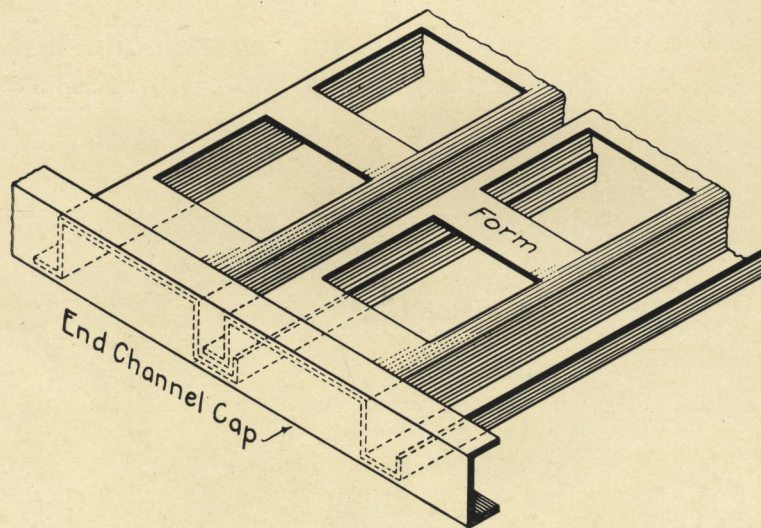
The rod holders are furnished with all complete shipments without extra charge.





## End Channel Caps

**T**HE End Channel Cap is used for covering the open ends of the forms which is desirable in connection with calking the outside edges of the panels. It also serves to hold the forms in line and, at the same time, improves the bearing arrangement.



Cuts shown on this page illustrate the method of using the Cap and also its use in connection with an Expansion Joint at the end of the forms.

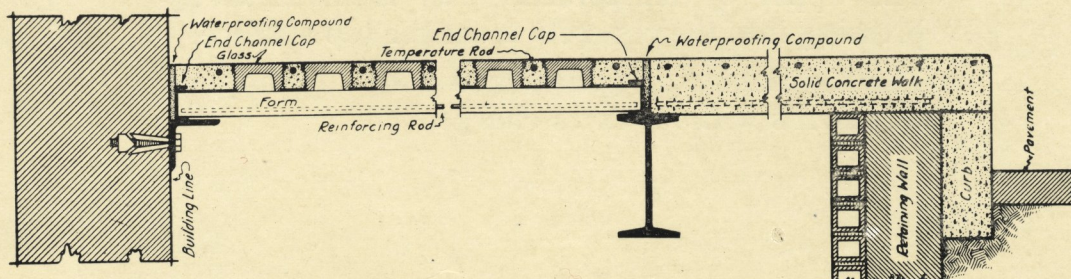






TABLE OF SAFE <sup>BERGER'S</sup>  
LOADS FOR *Raydiant* Sidewalk Lights

SAFETY FACTOR OF FOUR

Load in pounds per square foot uniformly distributed.  
Deflection in one sixty-fourths of an inch.

Clear Span in Feet and Inches	DEPTH OF FORMS					
	1 Inch		1½ Inch		2 Inch	
	Load	Defl.	Load	Defl.	Load	Defl.
3-0	910	2	1060	2	1200	1
3-6	620	3	710	3	800	2
4-0	450	3	530	3	580	3
4-6	340	4	415	4	450	4
5-0	265	5	335	5	365	4
5-6	215	5	282	5	305	5
6-0	175	6	240	6	260	6
6-6	150	7	205	7	225	6
7-0	125	9	175	8	195	7
7-6	110	10	157	9	175	8
8-0	95	12	140	10	157	8
8-6	82	14	125	11	142	9
9-0	75	18	115	12	132	10
9-6	70	23	110	13	125	12





BERGER'S  
*Raydiant*



TABLE OF SAFE <sup>BERGER'S</sup>  
LOADS FOR *Raydiant* Floor Lights

SAFETY FACTOR OF FOUR

Load in pounds per square foot uniformly distributed.  
Deflection in one sixty-fourths of an inch.

Clear Span in Feet and Inches	DEPTH OF FORM		
	1 Inch	1½ Inch	2 Inch
	Load	Load	Load
3-0	270	600	800
3-6	210	465	615
4-0	165	345	450
4-6	130	270	340
5-0	100	220	275
5-6		180	230
6-0		150	190
6-6		130	170
7-0		115	135
7-6		100	120
8-0			100

NOTE—For the safe loads herewith the maximum deflection is *in no case* greater than 1-16 inch.





## How to Order

### First

**S**END sketch or blue-print, if possible, showing the layout of openings, supporting walls, beams, or other supports on which the Sidewalk Light Construction is to rest. Forms should have 3 inches end bearing, and may run either at right angles or parallel to the building line, although they are usually placed at right angles.

### Second

Forms are cut to fit, therefore be very accurate in your measurements *always stating whether opening is in the clear or whether you have allowed for end bearings of forms*. If bevels are to be cut give sufficient details and measurements.

### Third

Compare the load you must carry on the span in question with tables on page 29 for Sidewalk Lights, and page 30 for Floor Lights, and from same determine the depths of forms to specify. The depth of forms regulates the depth of bearings below finished surface, as the glass are 1½ inches deep above forms in all cases.

### Fourth

State the style of glass you desire, being careful to make the selection according to your requirements.

### Fifth

Mention any and all conditions peculiar to the job in question.



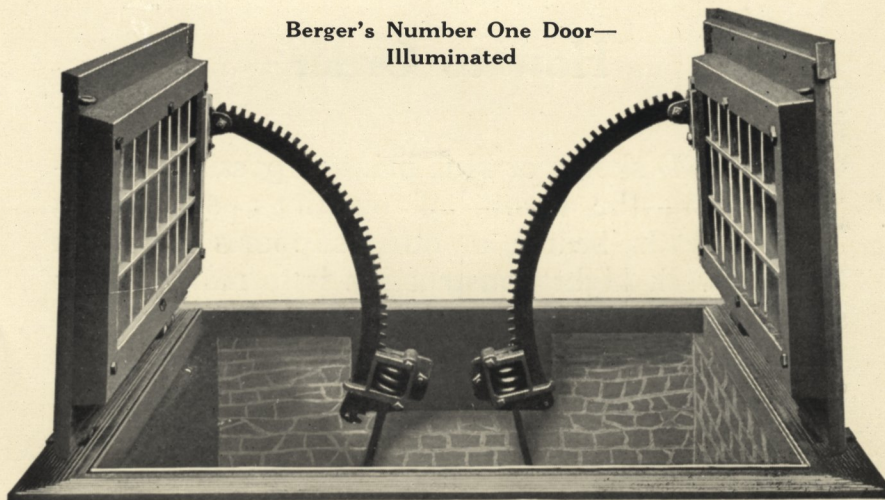


BERGER'S  
*Raydiant*



## Accessories

Berger's Number One Door—  
Illuminated



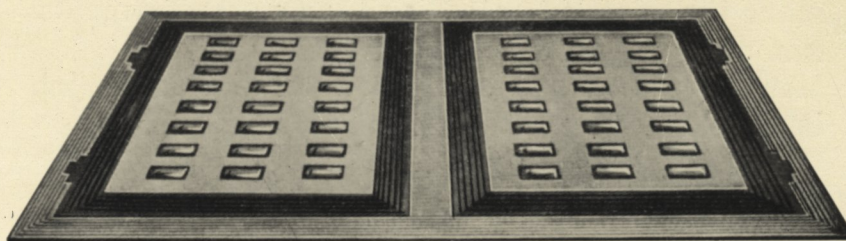
Doors Opened with Ratchet Attachment.

**T**HIS door is shipped from the factory ready to be set into place. After setting the door frame and doors, the glass (which are of the same size and character as the glass used in the Raydiant System) are then placed in position and concreted the same as the sidewalk lights.

The ratchet attachment is used in connection with the illuminated door because of the weight and the necessity of avoiding shocks which might otherwise occur by dropping the door.

In ordering, the clear opening should be stated and the side on which the doors are desired to be hinged.

Note.—Flange of door frame is  $4\frac{1}{2}$ " wide. Frame and door frames cast iron.



Doors Closed, Set Flush with Sidewalk.  
Concrete Surface Between Glass.

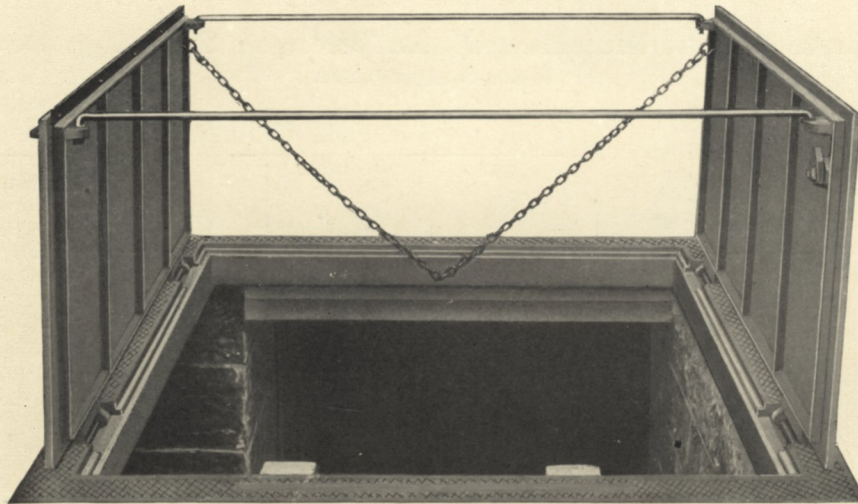




BERGER'S  
*Raydiant*



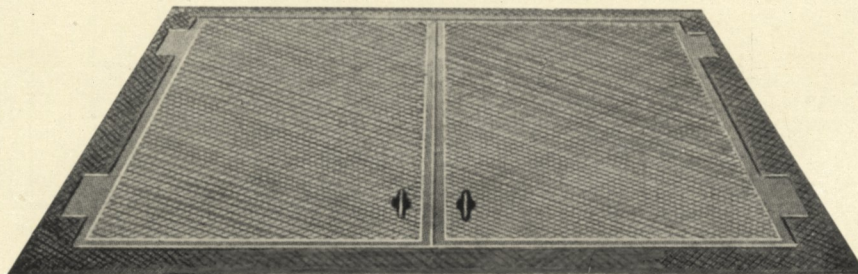
Berger's Number One Door—Not Illuminated



Doors Open—Stay Chains, Guard Rods, Padlock, etc.

**T**HIS door is shipped complete from the factory ready to be placed in position, and is furnished with door plates of wrought steel. For the larger sizes the ratchet attachment is included. For the smaller sizes the ratchet attachment is not usually shipped with the non-illuminated doors. In ordering, state clear opening and the side on which doors are to be hinged.

Note.—Flange of door frame is  $4\frac{1}{2}$ " wide. Frame cast iron. Doors wrought steel.



Doors Closed—Set Flush with Sidewalk.





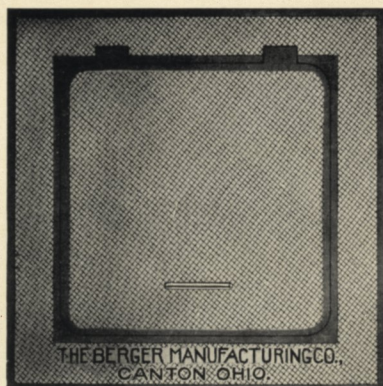
**Standard Sizes Illuminated and Wrought Steel Top Doors**  
Prices on Application

Clear Opening in Inches	Hinge on Side Length	SHIPPING WEIGHT IN LBS.			
		Cast Iron Doors Complete	Wrought Iron Doors Complete	No. Glass	Illuminated Doors Complete
30x42	30	460	340	36	490
48	"	500	360	48	550
54	"	550	400	54	600
33x58	33	620	440	84	700
72	"	720	500	98	820
36x36	36	470	340	48	510
44	"	550	400	64	620
48	"	590	420	64	660
60	"	610	450	96	710
72	"	770	530	98	870
40x48	40	610	430	64	680
54	"	700	470	80	780
60	"	720	500	96	820
72	"	840	570	112	950
43x41	43	570	400	54	630
44x36	44	540	380	60	600
44	"	610	430	80	690
48	"	650	460	72	720
60	"	770	530	108	880
72	"	890	600	128	1,020
48x30	48	510	370	60	570
36	"	570	410	60	630
48	"	700	480	80	780
54	"	740	500	100	840
60	"	830	560	120	960
66	"	890	600	140	1,030
72	"	950	630	140	1,090
52x45	52	700	490	88	790
52	"	780	530	110	890
60	"	870	580	132	1,000
72	"	1,000	670	154	1,160
54x36	54	530	340	72	600
48	"	820	550	100	920
56x26	56	530	380	60	590
60x36	60	680	470	78	760
48	"	830	560	112	940
64x52	64	930	620	140	1,070
65x59	65	1,030	680	160	1,200
66x36	66	740	510	90	830
48	"	900	600	112	1,010
54	"	980	650	150	1,130
70x52	70	1,000	670	150	1,150
72x44	72	900	610	128	1,030
48	"	960	640	160	1,120
60	"	1,110	720	192	1,310
76x42	76	920	620	144	1,060





BERGER'S  
*Raydiant*



Coal Hole Door, Closed.

### Standard Sizes of Coal Hole Frames and Doors.

(Flush Hinge)

Inside Clear Measure- ment Inches	Hinge Side	WITH CHECKERED TOP	WITH ILLUMINATED TOP	
		Weight	No. Glass	Weight
20 x 18	20	175	54	225
24 x 18	24	200	64	260
24 x 24	24	225	86	300
30 x 24	30	275	127	350
30 x 30	30	310		
36 x 30	36	350		

Note.—Weights given represent approximate shipping weight



Coal Hole Top (Illuminated).

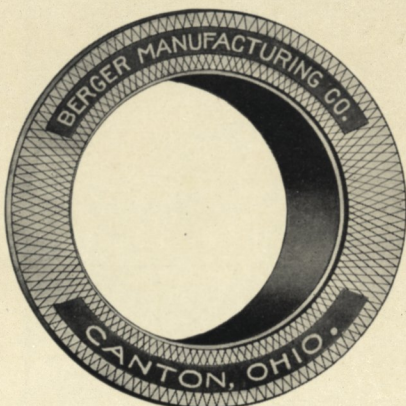


Ventilated Top.



Coal Hole Cover, Plain.

### Standard Sizes Coal Hole Rings and Covers



Coal Hole Ring—14, 16, 18, 20, 24, 30 and 36 Inches.

						THIMBLE WITH TOP		
Size Clear Opening	Thimble	Solid Top Only	Ventilated Top Only	Illuminated Top Only		Solid	Ventilated	Illuminated
	Wt.	Wt.	Wt.	No. Glass	Wt.	Wt.	Wt.	Wt.
14 in.	35	18	15	27	32	53	50	67
16 in.	50	26	20	33	36	76	70	86
18 in.	53	30	25	41	40	83	78	93
20 in.	62	50	32	45	57	112	94	119
24 in.	65	63	37	69	80	128	102	145
30 in.	75	93	62	86	116	168	137	191
36 in.	95	120	83	121	148	215	178	243

Sidewalk Gutter Box—Prices on application.

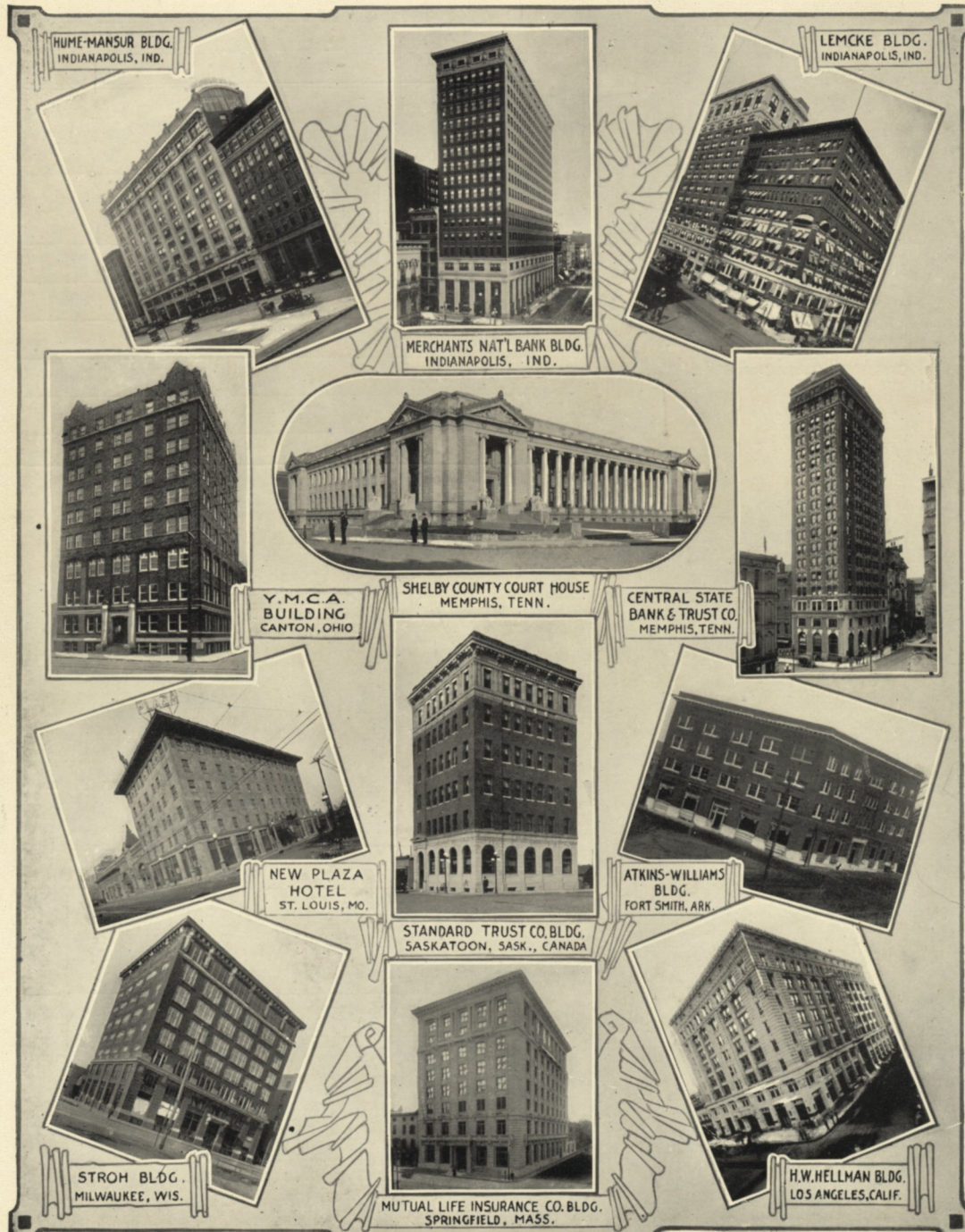
Grating—Prices on application.

Street Crossing Plate—Prices on application.





BERGER'S  
*Raydiant*



A GROUP OF BUILDINGS IN WHICH BERGER'S "RAYDIANT" SIDEWALK LIGHTS ARE INSTALLED.



