

THROUGH THE AGES

JANUARY, 1927

"We require from buildings, as from men, two kinds of goodness: first, the doing their practical duty well; then, that they be graceful and pleasing in doing it; which last is itself another form of duty."

—RUSKIN: *The Stones of Venice*.



THROUGH THE AGES



VOL. 4

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NO. 9

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A graceful staircase of Texas marble in the Majestic Theater, Dallas. The floor is gray Georgia and black Vermont marble. John Eberson, Chicago, architect.

THROUGH THE AGES

A Monthly Magazine devoted to
the uses of Marble - its universal
adaptability, beauty, permanency
and economy.

VOL. 4

JANUARY, 1927

NO. 9

REMOVAL OF STAINS FROM MARBLE

Suggestions for Treating Stains Caused by Oil, Fire, Urine, Copper
and Those From General Service

By D. W. KESSLER

(Published by Permission of the Director of the National Bureau of Standards of the U. S. Department of Commerce)

IN the September, 1926, number of *THROUGH THE AGES* methods were discussed for removing the more common stains which are found on interior marble work, such as tobacco stains, iron stains, and stains from various kinds of ink. Other kinds of stains which sometimes occur are: oil stains, fire stains, urine stains, copper or bronze stains and general service stains.

Linseed oil stains are usually found where putty is used around plumbing fixtures. Mineral oils may accidentally come in contact with marble in various ways, but probably the most common cases of stain from this type of oil are around machinery where the lubricating oil drips on the marble. Stains from either type of oil are very difficult to remove, especially where the oils have thoroughly oxidized and yellowed with age.

Fire stains caused by pine wood burning in

contact with the marble result in a considerable penetration of pitch which may, in many cases, be practically hopeless of removal. However, a means has been found which may be of value in many cases of this kind.

Urine stains may occur on marble used in toilet stalls. While such stains may render the marble very unsightly, their removal does not offer any particular difficulty.

The green stain from bronze statuary or copper work is inevitable where the rain falling on such metals washes down over the marble. Occasionally brown stains form on marble work adjacent to or near bronze work. While the green stains are easily accounted for by the formation of a carbonate of copper, the brown stains are not so easily explained. Methods of removing the green stains have been developed which appear to be fairly satisfactory. Due to the rarity of

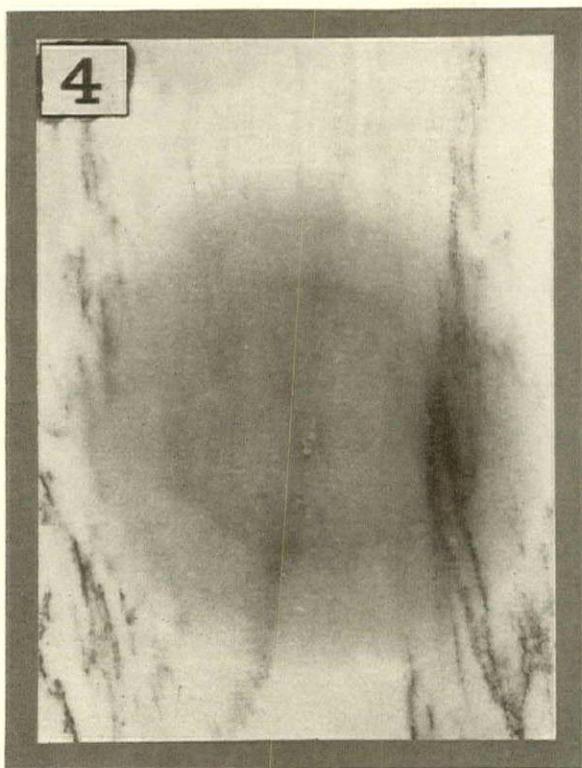


FIGURE 1. Lubricating oil stain due to three weeks' exposure to oil-saturated waste.

the other type of stain, no material has been received for experimental purposes in connection with this research.

The term "service stains" may be used to describe a type of discoloration which occurs on interior marble when it is not properly cleaned. Such discolorations may vary in intensity from a slight yellowing of the surface to very prominent or ugly brown stains. The cause of such is not well understood, and it seems quite likely that there is no single cause that will explain all cases. Some are inclined to attribute such discolorations to "burning" with the polisher or gritting machine. It seems quite evident, however, that some cases of "yellowing" are due mainly to the conditions of exposure and lack of an occasional cleaning. It is practically impossible to find a structural material that will not become badly soiled if it is entirely neglected for a few years. What-

ever the cause of service stains or degree of soiling, it is usually possible to bring the marble back to its original appearance.

REMOVING LUBRICATING OIL STAINS

Method No. 1. Cut a piece of white Canton flannel somewhat larger than the stain and saturate it in a mixture of equal parts acetone and amyl acetate. Place this over the stain and cover with a piece of pane glass or even better, a small slab of scrap marble. If the stain is on a slab of marble in the wall, it will be necessary to improvise a means of supporting the cloth and its cover in place. Usually it will not be a difficult matter to arrange a prop of some kind to answer the purpose. When the cloth becomes dry, it should be again saturated and covered as at first.

Old oil stains are difficult to remove and may require a great deal of patience. The

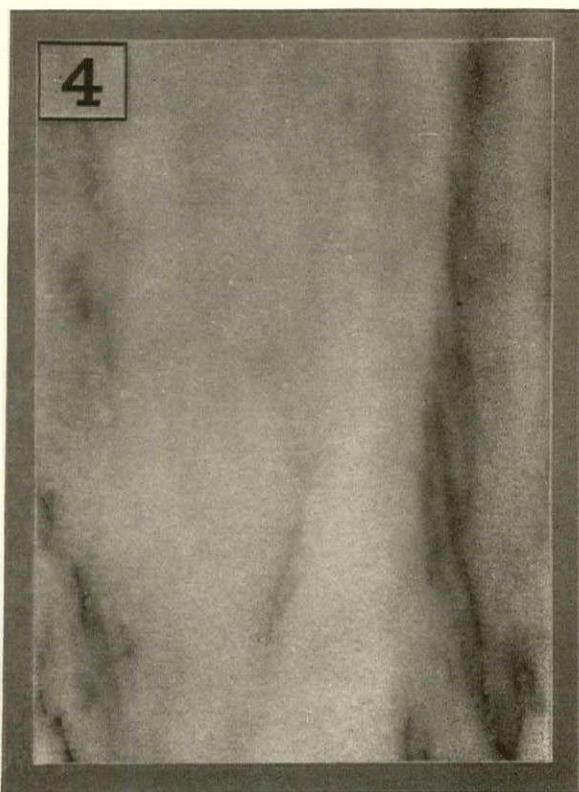


FIGURE 2. Oil stain shown in Figure 1 after treatment with amyl acetate and acetone mixture.

solvent may spread the stain somewhat, in which case a larger cloth should be used. In covering the saturated cloth with a piece of glass the stain is driven into the marble, while if a dry slab of marble is used instead of the glass, some of the oil will be drawn out into it.

Method No. 2. A method frequently used in marble mills consists in mixing a solvent such as benzol or gasoline with a dry powder to form a paste, which is plastered over the stain. Hydrated lime, marble dust, whiting or similar material may be used for this purpose.

While this method is said to be satisfactory for such oil stains as occur around the mills, it is rather slow to produce results on old oil stains which have dried and oxidized. In the mills the marble is apt to be full of "quarry sap" or water used in the fabricating processes; hence, oil accidentally

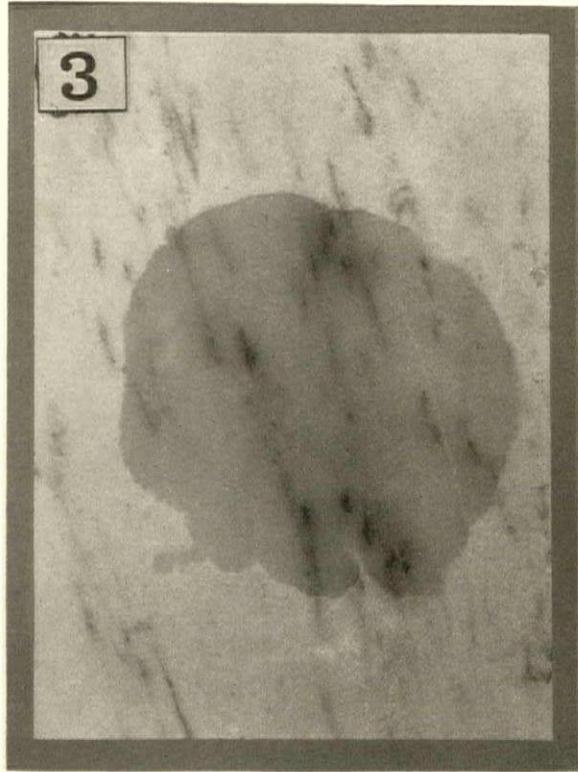


FIGURE 3. Linseed oil stain caused by putty on the surface for three weeks.



FIGURE 4. Linseed oil stains shown in Figure 3 after removal by methods described.

dropped on the surface does not penetrate to the same degree as in thoroughly seasoned marble in buildings. In treating the latter, the formula recommended above will be found more expedient.

REMOVING LINSEED OIL STAINS

Old stains from linseed oil are probably the most difficult to remove of any encountered on marble work. The reason for this is believed to be that this oil in oxidizing forms a resinous material which practically seals the pores of the marble and hence, any solvent that is applied cannot penetrate. Method No. 1 recommended for lubricating oil stains will slowly dissolve this resinous matter and reduce the stain, but it is not well adapted for use around fixtures where such stains are usually found. It is sometimes satisfactory to bleach the coloring matter in the stain in the following way:

Method No. 1. Cut a piece of thick white

cloth or a layer of cotton to fit around the fixture. Saturate this in hydrogen peroxide and paste it over the stain. The bleaching action may be accelerated by moistening another cloth in ammonia water and placing this over the first. Repeat the operation as described until the discoloration is removed.

Method No. 2. Mix together in the dry state the following: One part trisodium phosphate, one part sodium perborate, and three parts powdered talc. Make a strong soap solution in hot water and add enough of this to the dry mixture to form a thick paste. Cover the stain with the paste and leave until dry.

The same material can be used over again by reducing it to a paste by adding some more of the soap solution. In some cases it may be found desirable to alternate this



FIGURE 5. Fire stains caused by burning pine wood in contact with marble. Blackened area represents what could not be removed by scouring.

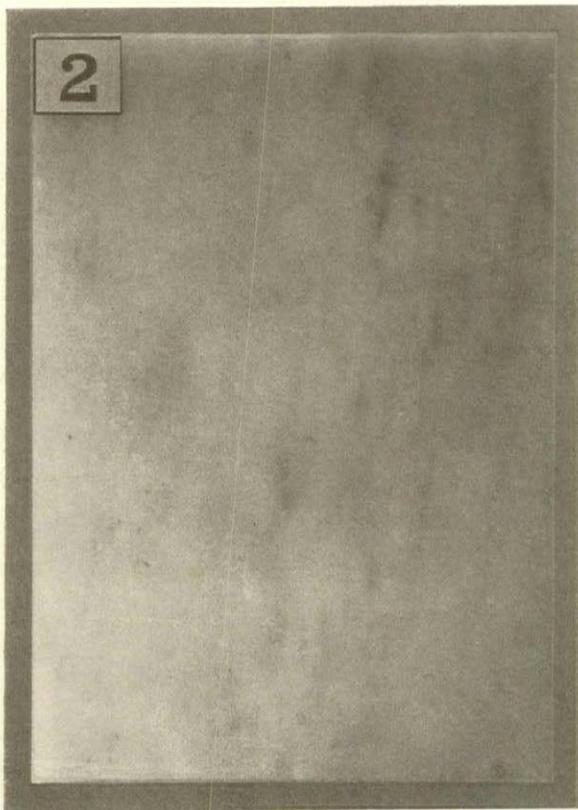


FIGURE 6. The very pronounced fire stains shown in Figure 5 were removed by applications of the solution described on the next page. Several treatments are usually necessary to remove such stains as these.

treatment with Method No. 1 for lubricating oil stains.

REMOVING FIRE STAINS

Evidently a great variety of stains may occur during a fire and in a conflagration of considerable size the marble would be injured beyond repair. However, a sufficient number of inquiries have been received concerning the removal of a particular type of stain occurring during fires to indicate the need for a means of treatment. That type of stain referred to is the result of a condition where pine wood burns near to or in contact with the marble and the pitch from the wood penetrates the marble.

A good illustration of what may occur will be found in Figure 5. This is a slab of marble that was stained in the laboratory for experimental purposes. The blackened portion, which was caused by burning a pile



FIGURE 7. Urine stains on marble.

of pine sticks alongside of the slab, represents what could not be removed by scouring the marble with a grit cleaner. In places the pitch penetrated entirely through the marble.

The treatment which proved effective on this stain as evidenced by Figure 6, was as follows: Dissolve one pound of trisodium phosphate in a gallon of hot water. Mix the contents of a 12-ounce can of chlorinated lime to a paste in a shallow pan by adding water slowly and mashing the lumps. Pour this and the trisodium phosphate solution into a 2-gallon stoneware jar and add water until approximately two gallons of the mixture is obtained. Stir well, cover the jar and allow the lime to settle. Saturate a layer of cotton or fold a white Canton flannel cloth to form three or four layers and use instead of the cotton. Paste this over the stain and allow it to remain until nearly dry. Saturate

the cotton again in the liquid and replace it over the stain, repeating until the stain is removed.

This liquid is very corrosive on metals, especially iron or steel, hence it should not be allowed to drip on radiators, pipes or other such fixtures. It is also a strong bleaching agent and care should be exercised to protect the clothes or other fabrics.

REMOVING URINE STAINS

Make a mixture of chlorinated lime and trisodium phosphate solution as described above for use on fire stains. Make a paste by adding some of the liquid to precipitated whiting or powdered talc. Talc is preferable for two reasons: first, because it dries slowly; and second, because it is easier to remove from the marble after it has dried. However, when talc is used, a small amount of sugar should be added (about a teaspoonful to a pound of talc) to give the paste the de-

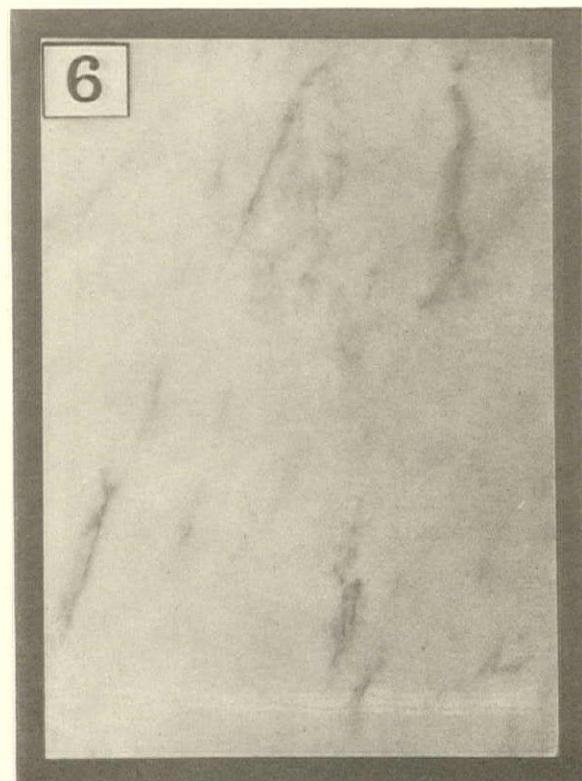


FIGURE 8. Urine stain shown in Figure 7 after its removal by method described.

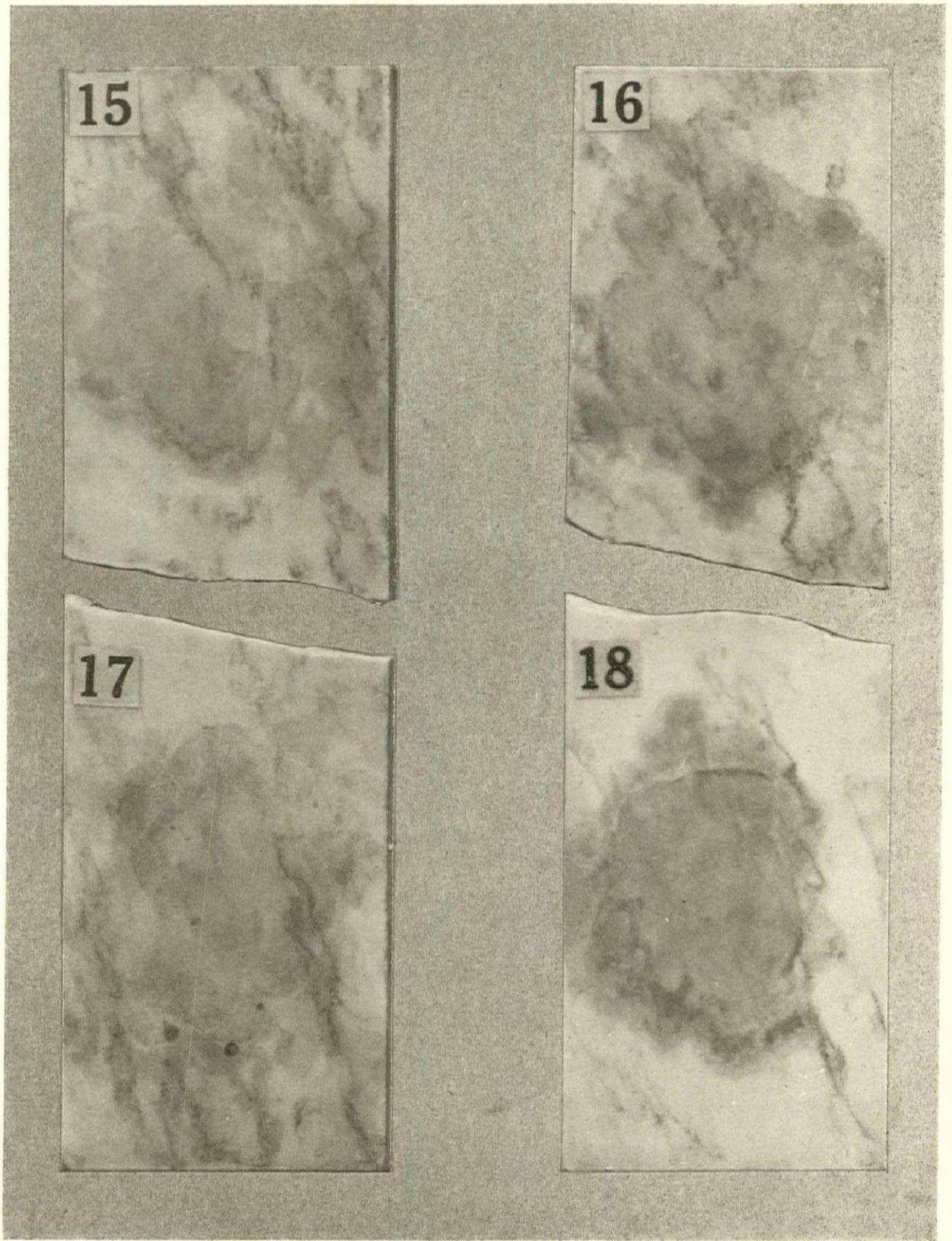


FIGURE 9. Copper stains on marble such as form around bronze statuary.
The color is green.

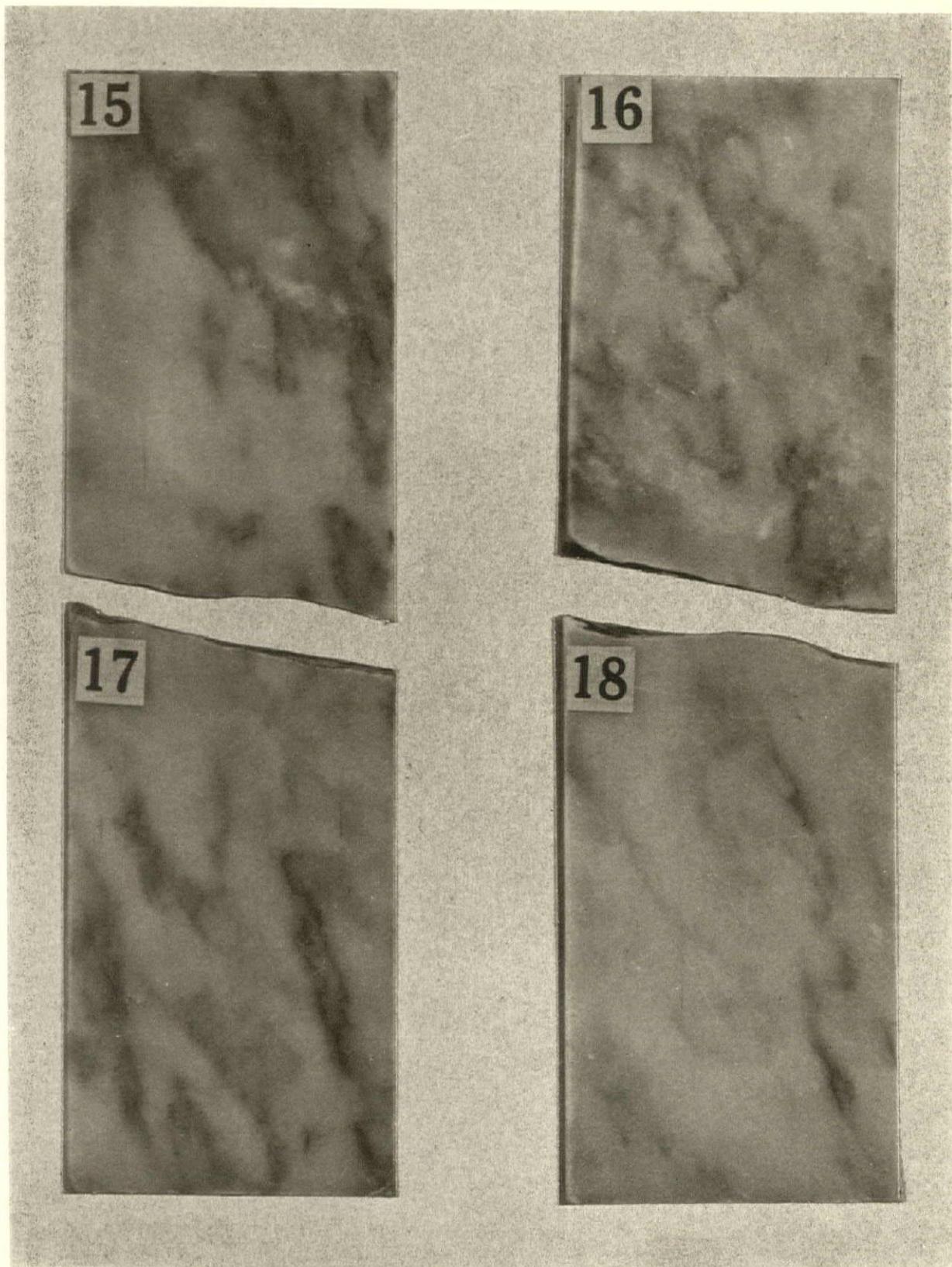


FIGURE 10. After the removal of copper stains by various methods described in the text.

sired working qualities. Powdered talc is cheap and can be obtained in the larger cities through talc or soapstone distributors or in small quantities from automobile tire distributors.

The paste should be made of such consistency that it can be applied to the marble with a paint brush. It should be applied in a layer $\frac{1}{8}$ -inch thick or more and left until dry. It is then scraped off with a wooden paddle. In bad cases of such stains a few repetitions of the above procedure may be necessary.

REMOVING COPPER STAINS

Method No. 1. Mix together in the dry form one part of ammonium chloride and four parts powdered talc. Add ammonia water and stir until a stiff paste is obtained. Place a layer of this over the copper stain and leave until dry. Scrape off with a wooden paddle and repeat the operation if necessary. A stain of this kind that has been collecting for several years may require several treatments to completely remove. Sometimes aluminum chloride is used instead of ammonium chloride.

Method No. 2. Dissolve eight ounces of potassium cyanide in one gallon of water. Saturate a thick white cloth in the solution and place it over the copper stain. When the cloth has become dry, soak it again in the cyanide solution and repeat the operation until the stain disappears. Sometimes it may be advantageous to combine this and the method above—that is, remove the greater part of the stain with the poultice and finish with the cyanide solution. In using the cyanide solution, care should be taken to avoid getting any of it in the mouth, on food or in other matter that is apt to be put into one's mouth, since it is *extremely poisonous*.

GENERAL SERVICE STAINS

Usually such stains have to be treated by

poultice methods, but in some cases a surface washing with diluted Javelle water will prove satisfactory. Javelle water can be purchased as such at drug stores or compounded according to the following formula:

Dissolve three pounds of washing soda in one gallon of water. Mix the contents of a 12-ounce can of chlorinated lime to a paste in a shallow enamel pan by adding water slowly and mashing the lumps with a spatula or pointing trowel. Add the paste to the soda solution, make up to two gallons by adding water and place in a covered stoneware jar to settle. Pour off the clear liquid when required for use and dilute with six times its volume of clear water.

Use this solution to wash the marble the same as a soap or other scrubbing solution is used. In using this, it is advisable first to rinse the marble with clear water before scrubbing with the Javelle water. This is a strong bleaching material; hence it should not be allowed to drip on colored fabrics. This is not recommended for general cleaning purposes, but its occasional use on stained marble is believed to be entirely safe.

Poulticing with commercial grit scrubbing powders such as those commonly used for cleaning marble floors will prove satisfactory for removing most stains of this class. Such cleaning materials are found on the market under various trade names, many of which are familiar to building superintendents. They are usually purchased in the form of a fine gray powder, but some are sold in the form of a paste.

In poulticing with these, the material is slowly stirred into a pail of hot water until a thick paste of mortar consistency is obtained. This is applied to the marble with a trowel in a layer $\frac{1}{4}$ -inch or more thick and allowed to remain until dry, when it is scraped off with a wooden paddle. Usually one application will be found sufficient. The

addition of a small amount of whiting to this type of poultice is beneficial to its working and adhering qualities, but such an addition is not generally necessary.

Considerable attention has been given, during the course of the research work at the Bureau of Standards on methods of cleaning marble, towards developing a satisfactory form of poultice that can be applied with a brush instead of a trowel. That form of poultice described above for treating urine stains appears to meet practically all of the requirements except that powdered talc is not easily obtained in some cities. For that reason the following list of firms are given which can supply the material at a small cost:

Georgia Talc Co.	Asheville, N. C.
Hartford Talc Co	Baltimore, Md.
Rock Products Co	Easton, Pa.
Binney & Smith	New York City
Harshaw, Fuller & Goodwin . .	Cleveland, Ohio.
Wishnick-Tumpeer Chemical Co.	Chicago, Ill.

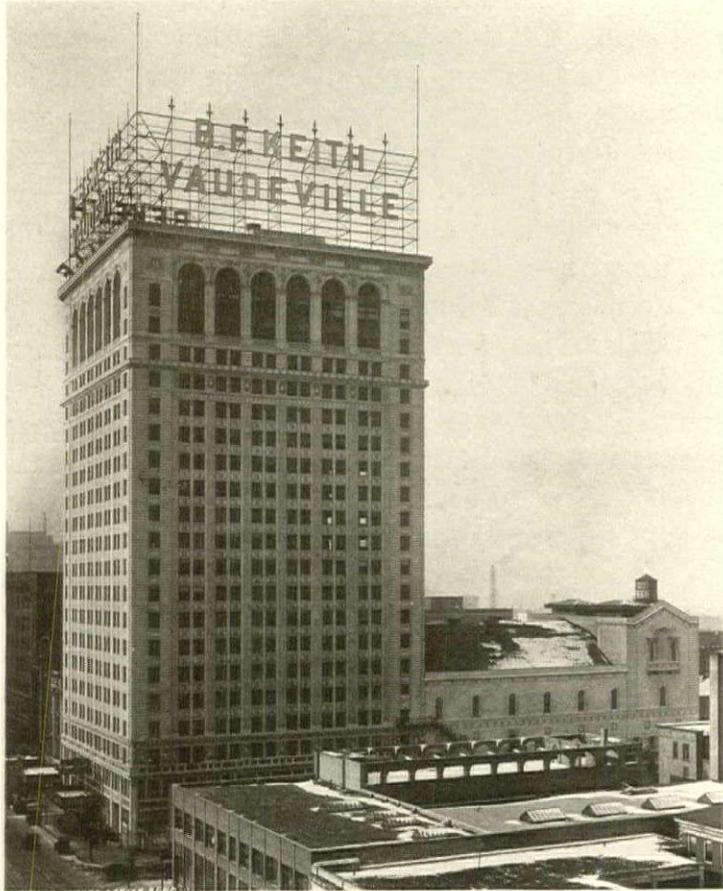
Other rare types of stains have been

brought to the Bureau's attention, such as red or yellow stains due to the use of lead spacers in the joints of marble masonry. Such stains have not, as yet, received specific attention in this research. Marble setters sometimes place excelsior behind slabs of marble in the wall. Under damp conditions the wood rots and may cause a dark-colored stain on the marble. This type of stain yields readily to the treatment described for urine stains.

Marble work in bathrooms is, of course, exposed to numerous staining materials from the medicine closet. A general suggestion for treating such stains is to find the solvent for the particular stain, mix it with powdered talc or talcum powder into a thick paste and place it over the stain. Solvents which are usually safe to try on such stains are as follows: alcohol, ammonia water or a weak solution of potassium cyanide. In using the cyanide it must be remembered that it is *very poisonous*.



"Faith, Hope, Charity"—executed in pink Tennessee marble by A. A. Weinman, sculptor. Henry Bacon, architect.



THE KEITH THEATER AND OFFICE BUILDING

Cleveland's Highest Building Contains Considerable Marble

CLEVELAND has never shown any inclination to compete with Chicago, New York or Detroit in the struggle to determine which one can claim the honor of possessing the "tallest building in America." Although it has no Woolworth Building, Tribune Tower or any similar structure that could hope to vie with the proposed Book group in Detroit, that does not imply that there are no large buildings in Cleveland. As a matter of fact, the sky line of that city is broken by many impressive architectural creations, some of them mounting upward

to a considerable height, and most of them comparing favorably in design with the best of modern skyscrapers.

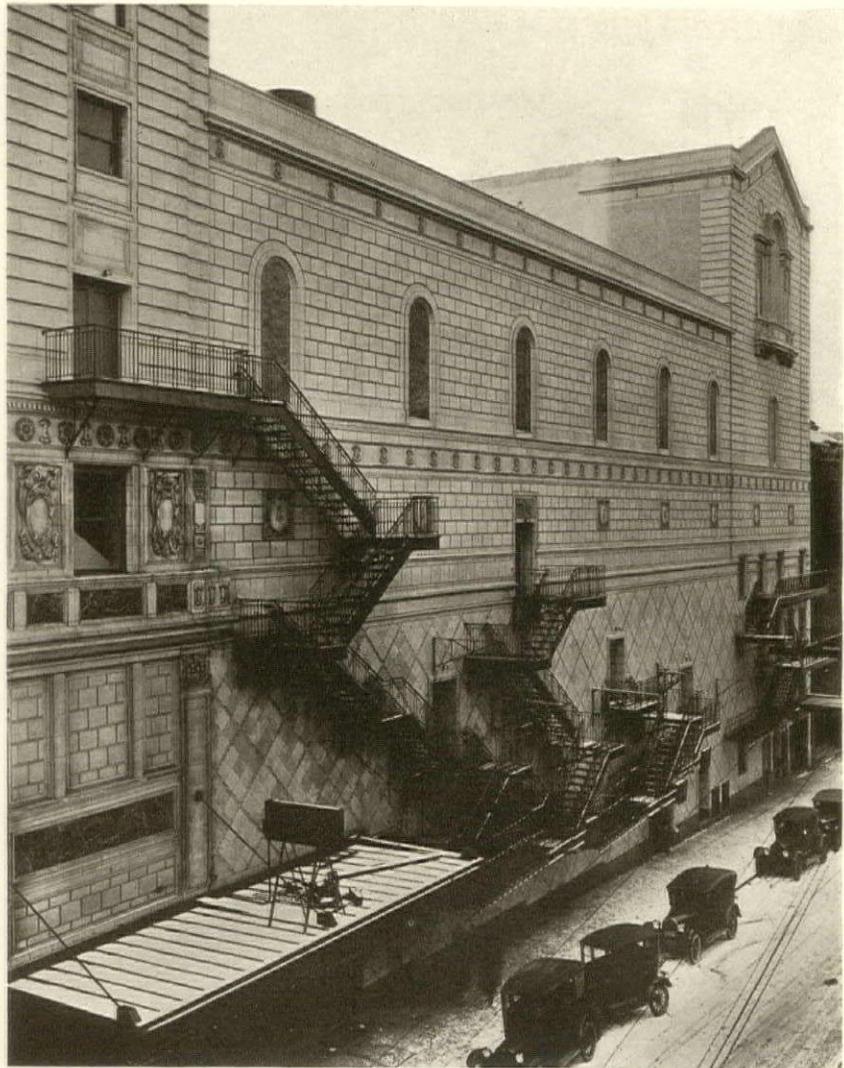
The highest and foremost of these large office structures is the B. F. Keith Building, completed in 1922. It is twenty-one stories high and stands, together with the beautiful new B. F. Keith Theater, on a lot with a frontage of 135 feet along the south or Euclid Avenue, and 300 feet along the east or Seventeenth Street side. The architects were Charles W. and George L. Rapp, of Chicago and New York.

The building, of modern fireproof steel construction, rests upon a concrete pile foundation; it is L-shaped in plan above the theater, giving a maximum of light for all offices. The façades on Euclid Avenue and Seventeenth Street are faced to the height of the base course with polished granite, and above that point for the entire height of the building with granite-finished terra cotta harmonizing with the granite in color; the west and north façades are of terra cotta and glazed brick. On the exterior elevation of the commercial building Tinos marble spandrels nearly three feet high have been worked in very effectively over the ground floor shops' show windows, between the terra cotta pilasters; also, in the heavy sill course or cornice at the third floor, similar marble panels occur continuously around the building on the street fronts, extending over the theater building entrance.

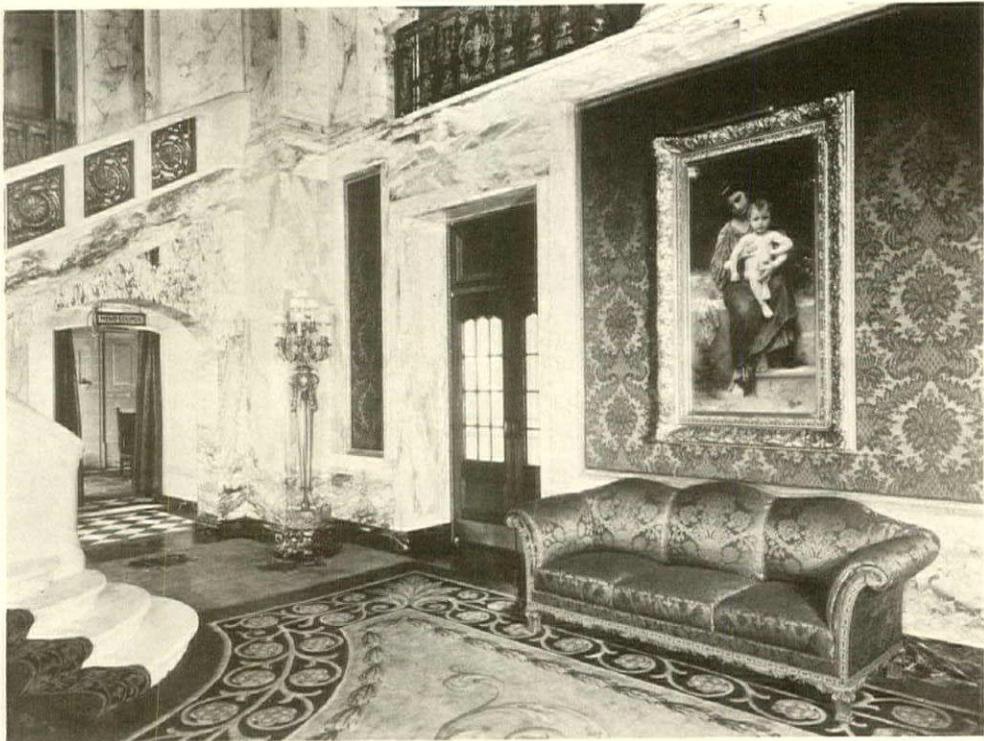
On the upper wall of the Seventeenth Street side of the theater building on a line with the fourth-story windows of the office building, large Tinos marble panels occur in arched-head recesses in the terra cotta ashlar, as shown in our illustration on this page. On this same elevation in the upper part of the stage façade, above a classical balcony and triple opening motif, similar marble panels are provided in the side panels, with terra cotta in pattern work in the center panel.

The main entrance to the commercial building, on the Euclid Avenue side, is through a large outer lobby with a terrazzo floor and Belgian Black marble border; the walls are paneled in Alabama marble, including the panels above the intermediate cornice, to a height of 13 feet; the base, trim and strips, as well as the cornice, are of Black and Gold marble.

This outer lobby gives direct access to the elevator lobby and stairways. This spacious elevator lobby has a floor of gray Tennessee marble with Belgian Black marble borders and panelled marble walls as in the outer



The B. F. Keith Theater, adjoining the Office Building. The marble panels in the upper walls are Tinos. Chas. W. and Geo. L. Rapp, Chicago and New York, architects.



The northwest corner of the main foyer of the theater, showing the marble wall treatment. To the left is the Men's Lounge.

lobby, with the cornice and pedimented enclosures at the elevator doors extending to the same height as in the entrance lobby, with a highly ornamented cornice at the ceiling. The stair halls and stairs from this lobby to the basement and to the top floor of the building are of art marble, with terrazzo for floors, treads and landings.

The public corridors and elevator lobbies on typical floors of the office building have Pink Tennessee marble floors and Verde Antique marble bases with an Alabama marble wainscot 5 feet high. Moulded Alabama marble trim is provided around the elevator enclosures on all floors. The public toilet rooms have Alabama marble wainscot and stall partitions, and the floors are of Tennessee marble. In the basement is a modern barber shop and manicurist room.

The entrance to the B. F. Keith Theater is located in the center of the Euclid Avenue façade, and through this passageway more

than 8,000 people pass daily. Adjoining this portal on the west is a large store, while on the east a smaller store separates it from the main entrance to the office building.

This theater entrance is through an outer lobby, 20 by 30 feet, having a terrazzo floor with Alabama marble borders and a Tinos marble base. Interestingly detailed Breche Opal marble walls and marble pilasters, with a heavily ornamented plaster cornice, give a definite character of elegance to this approach.

The outer lobby opens in turn upon the ticket lobby, a spacious area 30 feet wide and nearly 50 feet long. The floor is of Alabama marble, with wide panelled marble borders and a Breche Opal marble base.

The walls of this chamber, as in the outer one, are of marble, but with this difference: Statuary Italian Vein was the wainscot material, with the marble panels framed with heavy marble architraves, the top of which

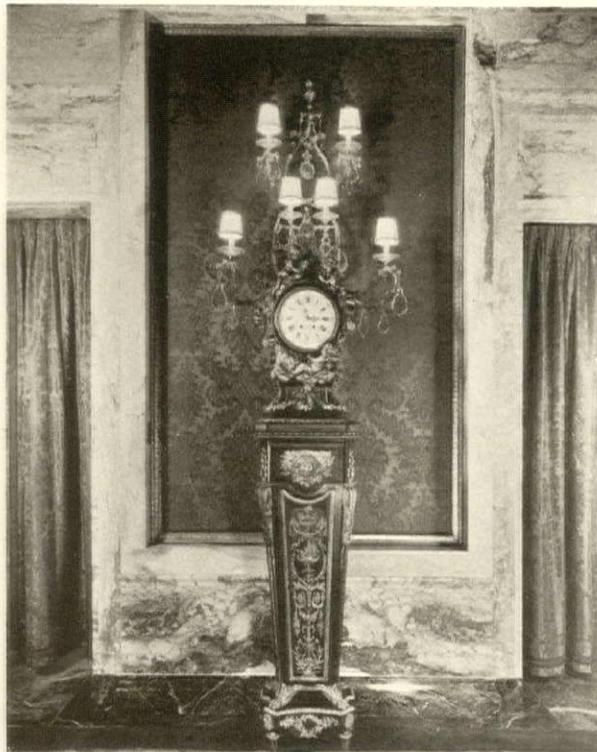
are arched. Breche Opal marble was used for the turned columns. The ticket booth is of marble, too, having a shelf and a dado of Statuary Vein Italian with a bronze screen above.

The intermediate lobby, with its coved end bays, measures 28 feet by 42 feet; it connects through large openings into the grand hall arts salon or foyer, 40 feet by 104 feet in area by 80 feet in height. This hall is surrounded on all sides by an open promenade on the entresol level above. The promenade is extremely effective, much thought being given to its design and general arrangement. It is literally a grand hall, taking in a total area of 80 feet by 130 feet on the promenade level, with a raised open palm room niche 15 feet by 30 feet extending beyond this area on the south side. Other niches and the vomitory entrances to the theater balcony, as well as an open double stairway to the upper balcony, still

further increase the actual size of this grand hall. An open balustrade surrounds the promenade between the large scagliola columns, affording a grand and inspiring view of the entire hall including the foyer and lobby below.

A Tinos marble base adorns the walls of the intermediate lobby; polished marble borders appear under this hall for its entire length. In the grand hall, a Breche Opal border is used with the wall treatment and this extends all around the hall and up to the promenade floor of marble, including the dado mould and the cornice band. Decorated fabric panels occur on the walls in those portions between marble panels.

A grand staircase 20 feet wide is located at each end of the grand hall leading up to the promenades above. These stairs have Alabama marble treads, risers and landings, and heavy curved Alabama marble balustrades, with ornamental bronze panels in



A candelabra-clock and one of the wall panels in the Grand Hall.

between the marble dividing stiles. The strings and facias are of Breche Opal marble. Two check rooms, an emergency room, the theater offices and a women's retiring room connect with this grand hall. This latter is an elliptical shaped room about 24 by 28 feet, with Alabama marble base and an Italian marble mantel. A cosmetic room with an Alabama marble base, a women's smoking room in Arabic architecture, in addition to a men's room 18 feet by 30 feet with Black and White marble floor, marble base, stone walls and mantel, also connect with this hall. This men's room is equipped with bookcases, wall seats and a large fireplace, the mantel of which was specially supplied by the owner himself. A marble stair leads from this men's room to the washroom lobby below, which has a similar marble floor and base, with walls of stone. This stairway itself has its treads, risers, landings and strings built of Alabama

marble. Six telephone booths are provided for women and six for men in alcoves with marble floors and base.

The stairs leading to the balcony cross aisle from the center of the north promenade have Alabama marble treads, risers and landings, and the wide steps leading into each side vomitory entrance are of the same kind of marble. Breche Opal marble bases are provided under the columns around the promenade and similar bases occur on all the walls of the promenade under the scagliola wainscot and pilasters. In the vomitory passages, too, the same material is again seen as the wall base.

Within the auditorium, marble has also been extensively used. The rear wall of the orchestra floor is embellished with marble piers, and a balustrade of marble forms the fronts of loges and boxes along each side. A similar marble base forms a substantial and striking support under the proscenium arch



A stairway of Alabama marble in the Keith's Theater, Cleveland.
C. W. and G. L. Rapp, Chicago, architects.



Interior of Keith's Theater, Cleveland. Statuary Vein Italian and Alabama marble was extensively used, both in orchestra and balcony.

at each side of the stage. Pilaster columns under the entresol proscenium boxes and pier columns at the side aisles are marble; the standing rail at the rear of the seating space is also of this material. Statuary Vein Italian was selected for practically all of this work. A wainscoting of scagliola 4 feet 6 inches high, having a moulded cap, occurs along the outer wall of the side aisles, and this is carried as a trim around the exit doors.

The balcony floor has its share of marble, although the wainscot on the side walls, the piers at the rear of the balcony and the wainscot in the tunnels are of scagliola. The bases around the vomitory well openings and the head fascia in the tunnels and openings are of Alabama and Breche Opal marble respectively. On the other hand, all the public toilet and washrooms have Alabama marble wainscots, stalls and floors. Even in the stage bathrooms connected with all the

dressing or chorus rooms, marble wainscot cap and marble trim is provided around all doors and windows. The main exit to Seventeenth Street has its steps and landing of Alabama marble; the walls are of Breche Opal with a base of Tinos.

The mechanical equipment of both theater and office building is complete and of a modern type. The office occupants are cosmopolitan in character, no particular emphasis being given to housing specific industries or professions. The location is very desirable, with the Euclid Avenue stores only a block away, and the various railway stations readily accessible.

The Keith Building has been popular from its completion. It would be, indeed, a matter of surprise if a structure so well situated, so well planned and so thoroughly modern in its appointments were unable quickly to fill its rentable spaces with permanent, substantial tenants.



STABILITY

THE suggestion of strength and permanence conveyed by the banking room built of marble is more than a source of satisfaction and pride to the builders—it is a subtle, but powerful, advertisement of actual financial stability—a condition readily reflected in the increased faith of its patrons.

And such marble treatments are, aside from their psychological aspect, an actual economy. Because of its durability, its low maintenance cost, its ease of cleaning, and its very reasonable initial cost, marble is the most practical of materials, not only for banking rooms, but for corridor floors—wainscot and lavatory work.





A stairway in the Dallas Municipal Building.

MARBLE IN THE BUILDINGS OF DALLAS

By L. W. HICKEY

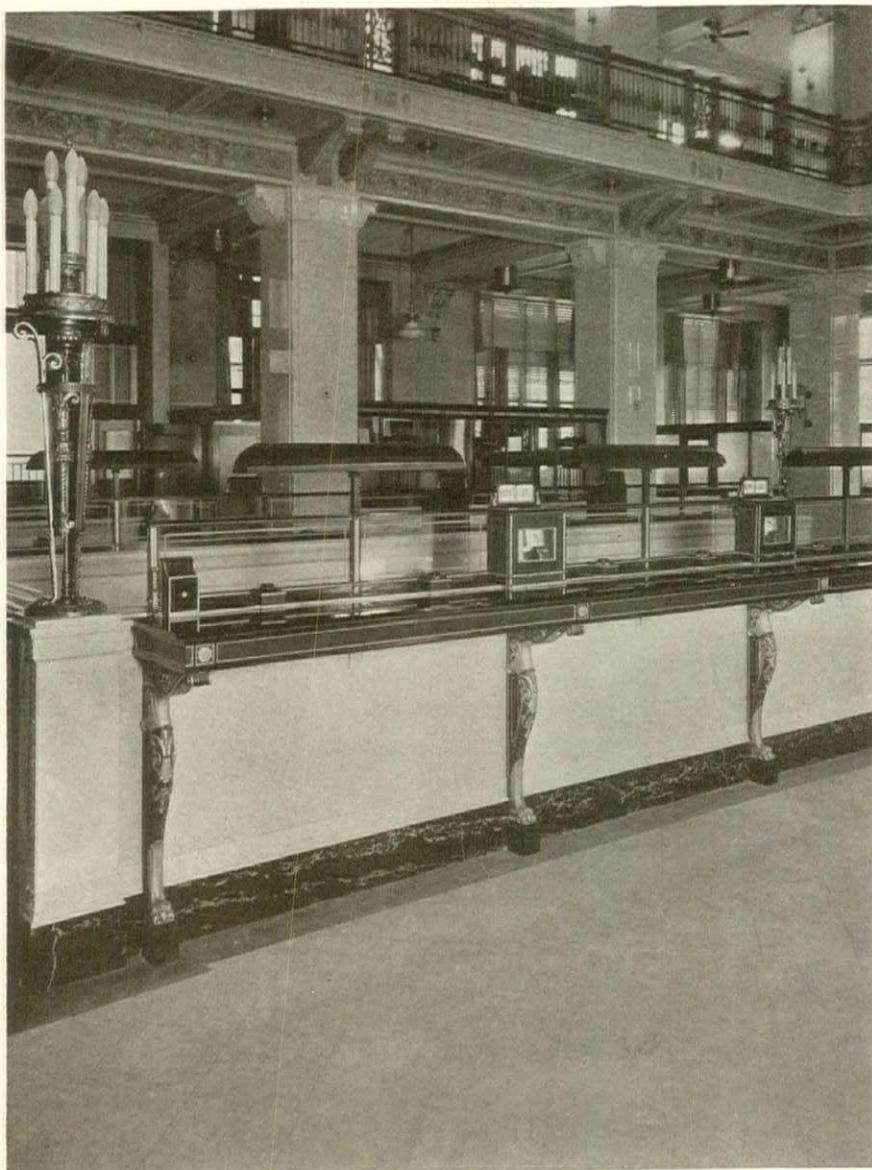
Past President, Texas Branch, A. G. C. of A.

PART II

IN the extension of a plant—if one may use that term in connection with one of the finest hotels in the South—the value of the endurance of marble is again displayed in the ease with which the new work was joined to the old. The Adolphus Hotel has built two large additions in a 10-year period; it has just completed an elaborate arcade entrance, designed by Bryan and

Sharp. Mr. Ralph Bryan comments as follows on the marble work:

“When the original unit of the Adolphus Hotel was conceived and planned by Thomas P. Barnett, he chose as his flooring material for the main lobby a field of Vermont Corona marble with border and base of Vermont Verde Antique. The richness of the floor was in thorough keeping with the



Check desks and marble railing surrounding the basement stairway in the Republic National Bank. C. D. Hill & Co. (now Coburn, Smith & Evans), architects.

spirit of his French Renaissance design and the service given by these materials under the severe demands of hotel usage has proved their practical value.

"The most recent addition to the Adolphus is the arcade entrance from Main Street, just now completed. This serves the hotel as an additional entrance from a third thoroughfare, giving access to the main and the junior lobbies. It was the problem of the architects to recall in this structure the spirit

of the main building, so that in both the exterior and interior design the materials used were similar to those in the original. The floor of the arcade is of Vermont Corona in 10-inch by 20-inch tile laid herringbone, while the border and base are of Verde Antique. The circular stairway leading to the main lobby level has treads and risers of Corona, and the arcade floor pattern is continued through the "Peacock Alley" connection to the junior lobby. Though the arcade building is a separate wing, the use of these flooring materials, together with the walnut paneled wall treatment, has successfully resulted in identifying it as an integral part of the hotel plant."

A pleasing use of marble has been made by John Eberson, architect, of Chicago, in the

recently completed Majestic Theater, where a floor of gray Georgia tiles and small black Vermont tiles was combined with a graceful staircase of Texas marble.

Just a few weeks ago the McFarlin Auditorium, the work of R. H. Hunt & Company, was completed at Southern Methodist University. The three Grecian doorways lead directly into the foyer or "Memorial Hall" of the building. At one end is located a niche in which is placed a most beautiful

marble pedestal and bronze memorial tablet. The pedestal is fashioned from Imperial Vermont white marble. The floor of this hall and the stair platforms leading out of it are laid with Tennessee Gray marble tile; the base of the hall and the stairs halls leading from it are laid with McMillan Gray marble. Set off by Van Dyke brown and apple green decorations touched with gold leaf, and by handsome bronze light fixtures, the Tennessee floor treatment is most pleasing.

One of the most remarkable residential installations of marble known in the Southwest is that of the S. W. King home, for

which J. Allen Boyle was architect. Mr. Boyle spent several months in Europe, particularly in Spain, studying exclusively for the design of this home, and he has produced some remarkable effects. His main staircase, as shown by the accompanying illustration, is extremely interesting.

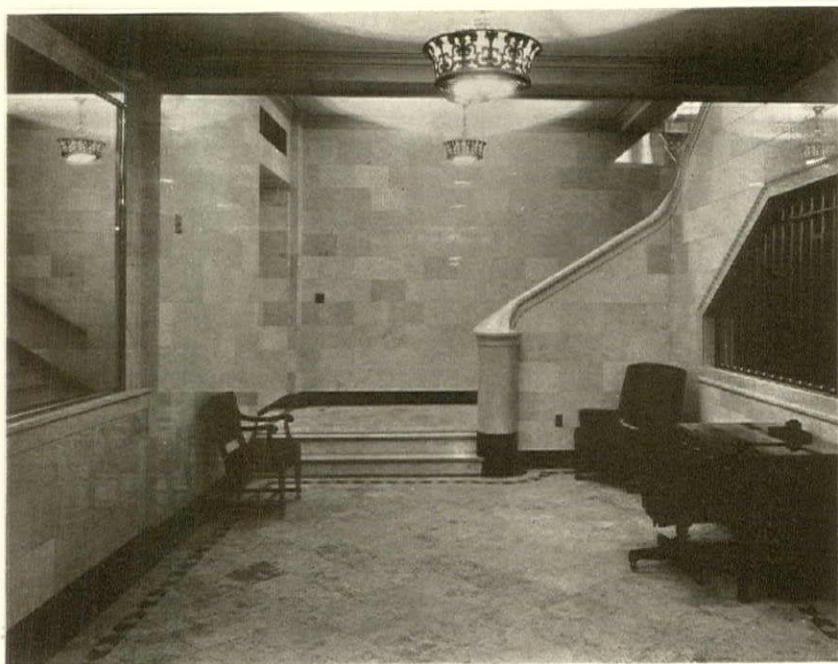
Though Dewitt & Lemmon, architects for the recently awarded East Dallas High School, used marble very extensively in that structure, which is probably the finest and largest of its kind in Texas, their use of it in another case is perhaps more significant, in that it demonstrates another phase of the commercial merit of marble as distinguished



Main banking room, Republic National Bank. The floor is Travertine; the walls, counters and columns are Tavernelle, with Black and Gold base and trim.



Detail of fixture and wainscot treatment on the bank room floor, Republic National Bank.



Public lobby of Safe Deposit Department, Republic National Bank. The stairs are Tennessee, the walls Tavemelle, the floor Travertine.



Memorial Hall, McFarlin Auditorium. R. H. Hunt & Co., architects.

from its aesthetic merit and its enduring quality. Mr. Dewitt says that:

"When the wholesale jewelry firm of Shuttles Brothers & Lewis moved their offices from the first to the second floor of their office building, they were anxious to decorate the space both in a manner befitting the dignity of the concern and also in a way which would preclude the suggestion that the move was an economic one, for the latter was not the case. The space on this particular floor being devoted primarily to the bookkeeping and diamond departments, it was felt that improved ventilation and relative freedom from noise would make the move advantageous. How then to handle the matter so that the customer would applaud rather than question the move?

"Naturally a great deal of importance was attached to the elevator lobby and entrance, for here the first and doubtless the most lasting impression was to be made. The entrance, too, had some advertising value as it was directly opposite the elevator grilles. Therefore, it was decided to install a very rich doorway and to lay the best possible floor. Cost not being an all important item, all

available floor materials were examined; it was finally the opinion of both the architects and the owners that a black and white marble tile floor would meet every requirement. The work was thus carried out and the result has been all that was desired. Customers continue to express their approval and satisfaction to the owners, and the public is much intrigued by fleeting glimpses of the fine Italian doorway and the polished marble tiles. Sales have steadily mounted—and this, after all, is the proof of the pudding."

The 21-story Republic National Bank Building, finished last spring by the same architectural organization that designed the Municipal Building, is very interesting.

The exterior is of Renaissance design and the same style was naturally adopted for the banking spaces. The huge main bank room has a floor of imported Travertine laid in diagonal squares each 16 by 16 inches; an inner border of eight different colored kinds of imported marbles laid in a diagonal pattern parallels an outer border of Black and Gold. The entire floor is fully sanded and smooth.

Black and Gold marble wall base and trim forms an effective and colorful contrast to the Tavernelle marble used in the walls, columns and caps. All of this Tavernelle is highly polished, except that the bracket caps under the mezzanine floor are ornamentally carved with a tooled surface left plain and a flat surface of carving polished, giving a variation of color tone.

A Gray Tennessee marble stairway descends from the middle of the main room to the Safe Deposit Department lobby, which has a floor of Travertine squares 12 by 12 inches, and a border treatment similar to the banking room. The walls are Tavernelle laid up in ashlar form with variation in coloring, insuring both light and a pleasing irregularity.

The office entrance lobby of the building has a treatment that corresponds somewhat with the banking quarters, with Travertine

floor and vari-colored borders. The base and trim around the elevators and the doorway, as well as the entire head trim over the Tavernelle wainscot, is of very select Black and Gold marble. The wall Tavernelle is laid in as large slabs as it was practically possible to procure; it is of selected stock and highly polished.

It is fair to state that no important figure in the construction industry of North Texas evinces any inclination to be reactionary; most of them are somewhat conservative. Consequently, it is logical to assume that the present very high standards which have been set and are followed in larger work, and in the smaller work of domestic ornament and garden embellishment, will not only be well supported, but be raised higher and higher, as taste grows more discriminating and the sense of economic values and proportions keener.



Main stairway in home of S. W. King, Dallas.
J. Allen Boyle, architect.



Louis XIV fireplace in the Salon de Diane, in the
Palace of Versailles.

THE RENAISSANCE IN FRANCE

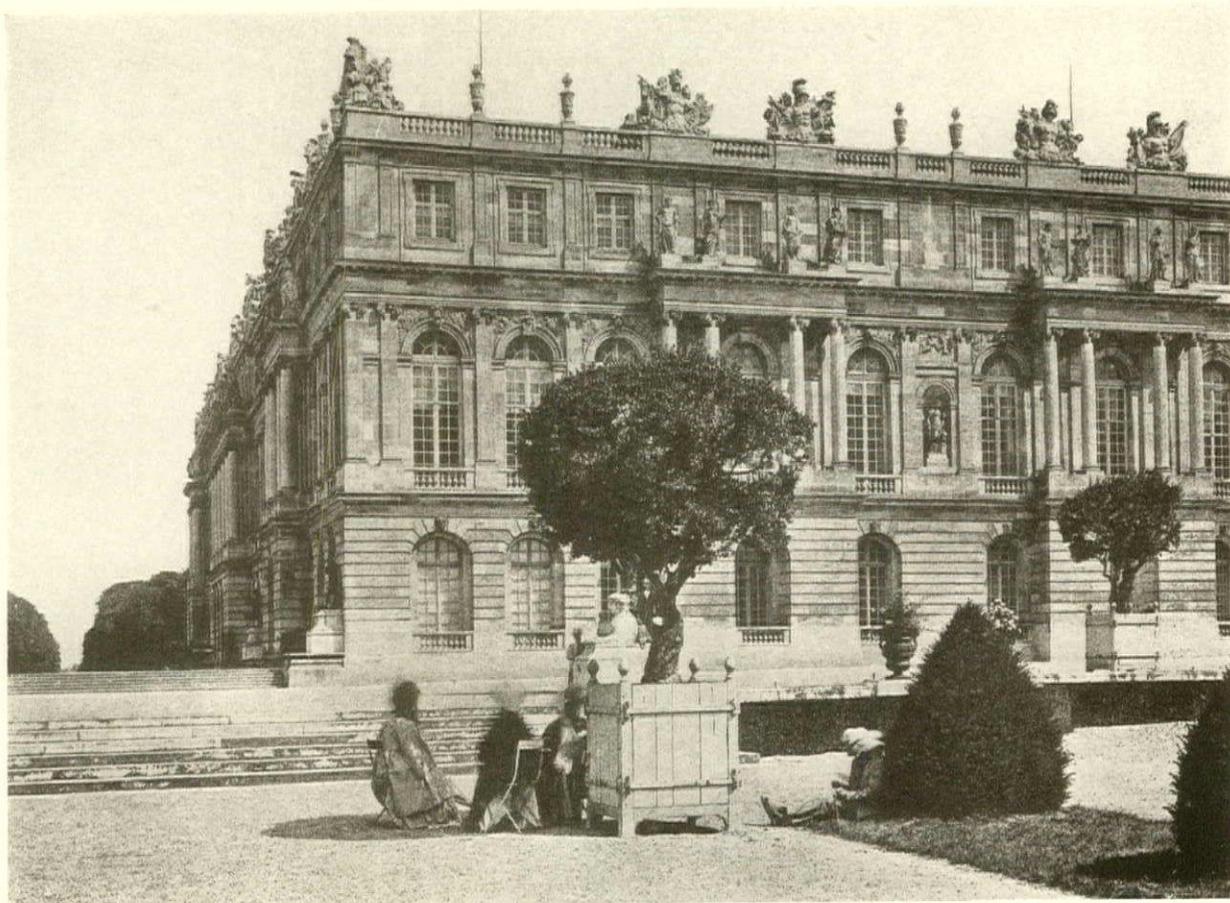
The Style of Louis XIV

PART II

BUILDING operations at the Tuileries, which had ceased after the death of Henry IV, began again in 1659 under the supervision of Le Vau. His chief problem was to bring the existing portions into uniformity, and his first step towards achieving this ambition was the construction of the Pavillon de Marson, and the Galerie des Machines, on the north, to match the Pavillon de Flore and the Galerie de Diane respectively. Later (in 1664–1670) the eleva-

tions were changed, to avoid the unsatisfactory effect of two long ranges of buildings running down step by step to a central tower; instead, the intermediate buildings between the tower and the end pavilions were given the same height. The central building was made of greater importance, as it deserved, by having it take in five bays instead of three, and by giving it a third order, a square dome and a stairway at the side, the latter replacing de l'Orme's central

Illustrations courtesy Mr. Thomas Machen, architect, Baltimore.



A corner of the main block of the Palace of Versailles, as seen from the southwest. This is the garden front. Note the effect of the arched windows, as designed by J. H. Mansart about 1680.

square. In this remodeling, the enriched attics and delicate ornaments disappeared, but the Tuileries became a palace that deserved to rank with the other structures erected to the glory of Louis le Grand.

In the meantime, the king himself took but scant interest in the Louvre or Tuileries, and his enforced absences from Paris focused his attention upon various country seats. Chief among these were the old Castle of Vincennes and the former hunting-box of his father, Versailles. The former was enlarged by Le Vau and the latter became the government seat and the site of the most characteristic splendors of court life. It was also the scene of the most elaborate type of garden design ever known, built on a scale

hitherto unparalleled in size or intricacy.

The palace itself underwent so many changes during the reign of Louis XIV that it is difficult to follow them intelligently, but it is generally the habit to consider them in two stages: the first as planned by Le Vau, from about 1668 until after his death in 1670 and as carried on by d'Orbay until 1680; and the second, as accomplished by the decorator Le Brun, and the architect, J. H. Mansart.

Le Vau enclosed the old brick chateau on three sides in a larger stone one, and extended the brick buildings on the fourth side. "The moat and screen disappeared, the forecourt was remodelled, the eastern angle pavilions were connected up by arched vestibules with the service wings, which

were prolonged and made to end in pavilions with lanterns and columned porticoes. The main block, as altered, presented a rectangular mass to the gardens with thirteen windows to the north and south, and twenty-three to the west. The central portion of the new west front, with nine windows, *i.e.*, that corresponding to the space between the projecting pavilions of the old chateau, was recessed so as to form a covered loggia below and open terrace above. Between the old and new wings on the north and south were internal courts. The scheme of the external stone elevations consisted in a rusticated lower story with arched openings, a lofty upper story with an Ionic order, and tall square-headed windows surmounted by sculptured panels, an attic with square windows and an attic order, and finally a balustrade with vases and trophies. The system is enlivened by a rhythmical grouping of features.

The windows occur singly or in threes, and, where single, are flanked by pairs of coupled columns in front of the pilasters, the entablature breaking forward over them and supporting statues. At intervals, too, where broader wall spaces occur, niches and statues are introduced." (W. H. Ward.)

The gardens consisted of a wide terrace carried around the sides of the palace, with a *parterre d'eau* under the windows on the west side. From the foot of the terrace broad strips of wood garden stretched to the grand canal, and between these strips were wide open gardens. The canal formed a cross, with the Trianon at the end of one arm and the Ménagerie at the end of the other. Standing on the terrace, and looking southward one could see over the Orangery to the Pièce d'Eau des Suisses; to the north were visible the Allée d'Eau and Bassin de Neptune. Sculptured marble was in abund-

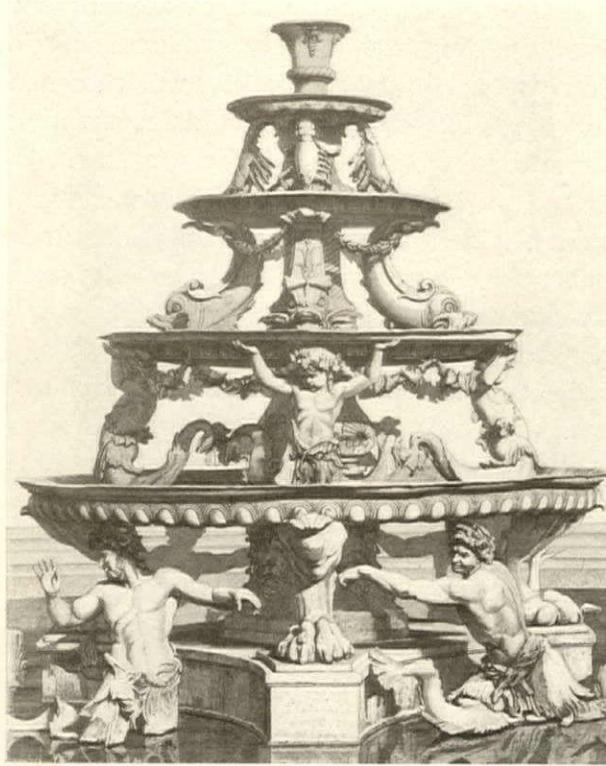


Marble vase in the Bassin de Neptune to the north of the Palace of Versailles.



© Underwood & Underwood, N.Y.

The Hall of Mirrors in the historic Palace of Versailles. This \$100,000,000 palace became the cradle of French liberty in 1789, when the articles of the French Revolution were adopted there.



Marble fountain at Versailles.

ance and every portion of the gardens had its marble benches, its balustrades and walks.

The alterations by Mansart more than doubled the extent of the chateau. The king's apartments were transferred to the first floor in the center of the main entrance front; the window heads were arched as were those of the garden fronts. He built the Galerie des Glaces over the western loggia and a long wing to the south. Le Brun decorated this enormous hall—it measures about 240 feet by 34 feet with a height of 43 feet to the crown of the vault—with walls of white marble panelled in soft colors, and an order of slender Corinthian pilasters of green marble. Seventeen arched openings appear on each side forming windows on one side and being filled with mirrors on the other.

Mansart also built the two stable blocks, the Grand Commun, the present chapel, the

Orangery and the monuments in the garden known as the "Domes" and the "Colonnade." This latter consists of a circular arcade with arches that spring from Ionic columns, alternately of red and gray marble, each buttressed by a square pilaster. Under each arch is a fountain with a raised marble basin. "If," says Ward, "the creations exhibit Mansart in a mood of playful fancy, and the Orangery in one of almost rugged severity, the housing of the various services of the palace, the stables, the kitchens, and so forth, afforded him an opportunity of showing how such utilitarian buildings could be invested with dignity by a monumental grouping of masses with the judicious addition of good sculpture at some crucial point."

The magnificence of the royal palace became at times oppressive to the king, and he spent some of his leisure at smaller houses in the vicinity, specially built for him.

Among these may be mentioned the Trianon, a one-story flat-roofed building of two separate blocks connected by a peristyle, with elevations treated with pink marble shafts of the Ionic order and a balustrade with urns and sculpture. The Marly, destroyed in the Revolution, was another royal retreat and its conception—a central pavilion surrounded by twelve isolated small pavilions for the courtiers and three blocks for servants—was unique, even to the arrangement of the gardens.

Throughout France there were many

pompous monuments erected by Louis XIV. The Porte St. Martin, built in 1674 at Montpellier, was designed by Pierre Bullet. It is about 60 feet wide and as many high, and while not as barocco in spirit as its neighboring Porte St. Denis, is much more logical in its proportions and conforms closer to the Roman prototypes. In the same locality is the Arc du Peyrou, built in 1691 to 1710, designed by d'Orbay and carried out by d'Aviler. Both of these monuments are heavily rusticated and are good examples of gate treatments of the period.



The Arc du Peyrou, at Montpellier, designed by F. d'Orbay (1691-1710).

THE ILLINOIS WAR MEMORIAL

A White Marble Temple of Peace in the
Vicksburg National Military Park

PERHAPS no single event in the great struggle of the Civil War was fraught with greater importance than the campaign and siege of Vicksburg. This has been regarded by tacticians as General Grant's greatest achievement; it marked his adoption of entirely new methods in strategy and the discarding of old maxims of war, and it destroyed a Confederate Army of 40,000 men, and crippled the resources of the South by the immense loss of war munitions. The series of events in and about this section of Mississippi placed the name of Vicksburg in the foremost rank for the future student of war problems.

In 1865, the Government of the United States located a National Cemetery near the city. The remains of Union soldiers who were killed or died of disease in the vicinity were reinterred in the plot selected, and the cemetery was connected with Vicksburg by a beautiful drive along the Mississippi River front.

From the main entrance terraced roads ascend to the summit and magnificent shrubs and trees of luxuriant foliage make the spot one of the most beautiful of the National burying grounds. It contains about forty acres of land, and upon the highest eminence was placed, on July 4, 1864, a marble shaft to mark the spot occupied by Generals Grant and Pemberton during the negotiations for the surrender. Later, this column was moved to prevent its injury by vandals and relic hunters.

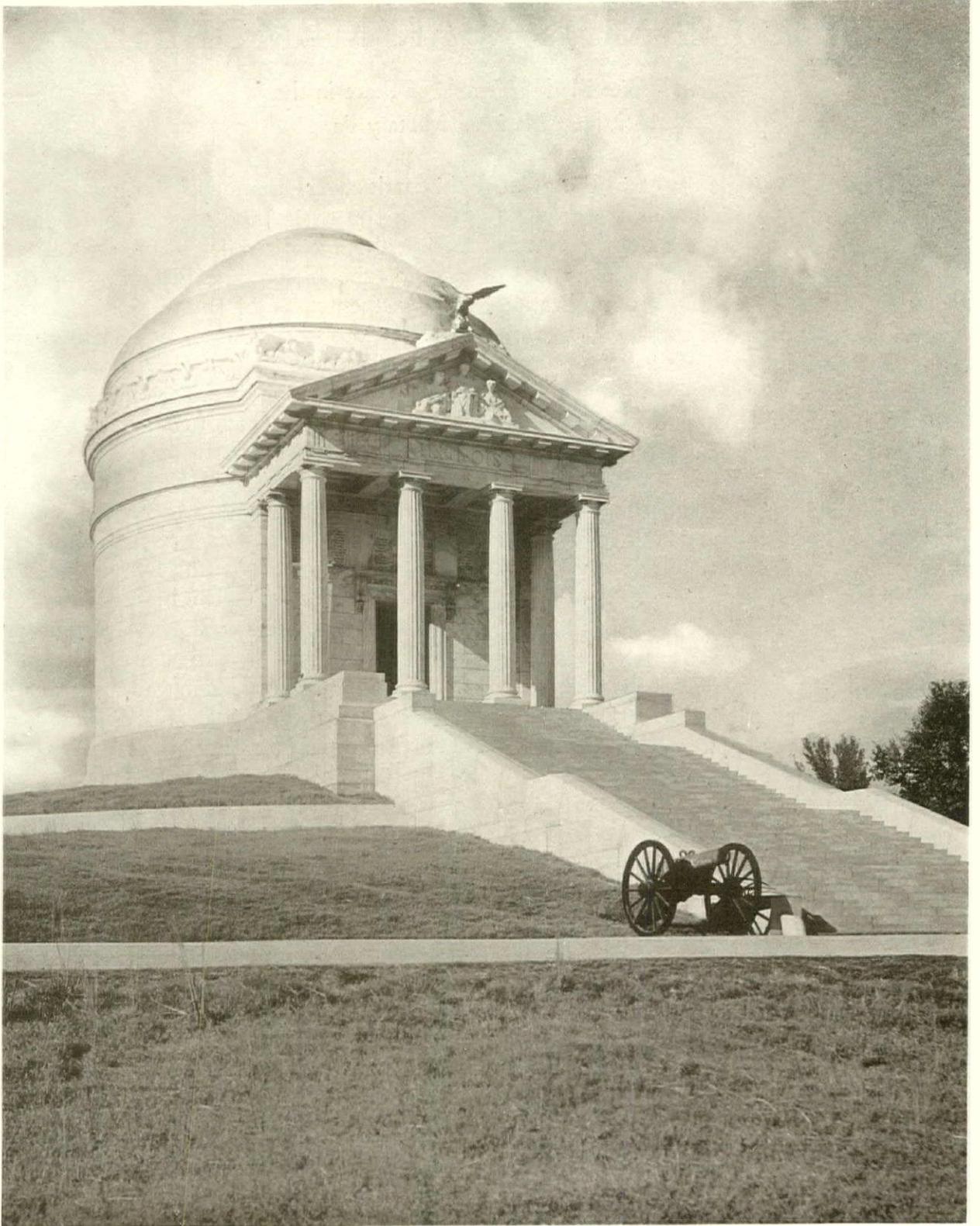
In 1899, Congress established the National Military Park, "to commemorate the campaign, siege and defense of Vicksburg."

This park covers an area of 1,283 acres, embracing the entire line of the Confederate works, about eight miles in all, as well as most of the Union line beginning at the northeast entrance of the National Cemetery. Various state monuments and markers are scattered throughout the park; among them is the Illinois State Monument and Memorial Temple, one of the most striking structures in the South.

This building, designed by Jenney, Mundie and Jensen, of Chicago, was begun in December, 1904, and was completed about April 1, 1906, at a total cost of about \$260,000. It occupies the highest point of land from Cairo to New Orleans—a site that was the center of the position of the 17th Army Corps and of Logan's Division, and not far from the historic Shirley House, a famous landmark for both armies and called at the time the "White House."

The Illinois Memorial is circular in form on the exterior and dodecagonal on the interior. It is of the Roman Doric order of architecture, the entire exterior above the base being of white Georgia marble. The approach steps are 24 feet wide and 47 in number, leading to a projecting portico 32 feet wide. Six monolith columns 2 feet 6 inches in diameter and 20 feet in height support the pediment and entablature of this portico.

Not the least interesting of the exterior treatment is the carving upon the pediment of the portico, a group of three female figures fashioned out of snow-white marble. The central one of these figures represents History; she is shown recording the deeds of



The Illinois War Memorial, in the Vicksburg National Military Park. It was designed by Jenney, Mundie and Jensen, of Chicago, and was built a score of years ago, out of white Georgia marble.

the reclining figures to each side, which symbolize respectively the North and South reunited in peace. Above the group, upon the apex, with widespread wings, is a bronze eagle, typifying the protection of the Great Nation.

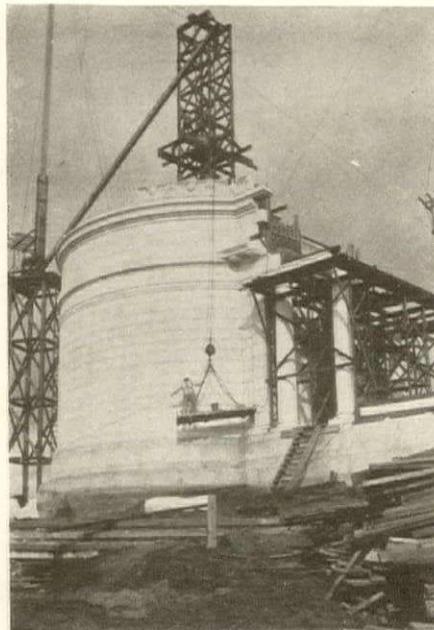
High up around the exterior of the Temple runs a frieze band bearing the inscriptions, in large sunken letters: WITH CHARITY FOR ALL AND WITH MALICE TOWARD NONE, and LET US HAVE PEACE. These were taken from the utterances of Lincoln and Grant respectively.

The entrance to this Memorial Temple is 11 feet high, with a width of 7 feet, and above the doorway are large marble panels, each 4 feet high and 7 feet long, containing bas-reliefs of Lincoln, Grant and Yates.

The interior is about 50 feet in diameter, and the height from the floor to the eye of the dome is somewhat greater than this. An opening about 11 feet in diameter in the eye of the dome allows the light unrestricted entrance, and affords a unique illumination. The floor is a mosaic, composed of imported

marbles of several colors, the central portion forming the great seal of the State of Illinois, 6 feet in diameter. The interior walls, to where the curve of the dome begins, are of Gray Tennessee marble, with white Georgia marble panels, while the interior of the dome is entirely of white Georgia marble. Around ten of the twelve sides of the wall are set in handsome bronze frames, with laurel designs upon them, sixty bronze tablets, bearing the names of the Illinois soldiers who served on the staff or who composed the regiments, detachments, etc., that participated in the siege from March 29 to July 4, 1863. Cut in the marble above these tablets are the names of generals and colonels engaged in the action.

The white canopied dome of the Illinois Memorial, fashioned not unlike the Pantheon at Rome, was tendered by the State as a Temple of Fame and Peace. It stands sparkling in the sunlight in all dignity and grandeur, silhouetted against the warm blue southern sky, one of the most striking war memorials in the world.



At work on the Vicksburg Memorial
in 1905.



AUSTRALIA HOUSE

The Offices in Great Britain of the Government of the
Commonwealth of Australia

IN 1913, His Majesty the King of England laid the foundation stone of the building in London known as Australia House and in the course of his speech he said: "I am well assured that, as in the past, in any national emergency Australia will play her part for the common cause, and that the loyalty of her sons will never be appealed to in vain."

The "national emergency" was then undreamed of, but it was near at hand and the prophecy was tested and fulfilled to the utmost during the four years of strife that shortly ensued. The opening of the Australia

House in August, 1918, marked therefore not only the end of the long and interesting period of its design and development as a building, but a pride in the deeds and sacrifices of the sons of the Commonwealth of Australia.

When, in 1901, the Federation of Australia united the component states in a common nationhood, the need for a worthy memorial in the metropolis of the Empire was obvious. In 1909 the London County Council offered as a location the present site, then empty land in the heart of the city, left vacant by that improvement scheme

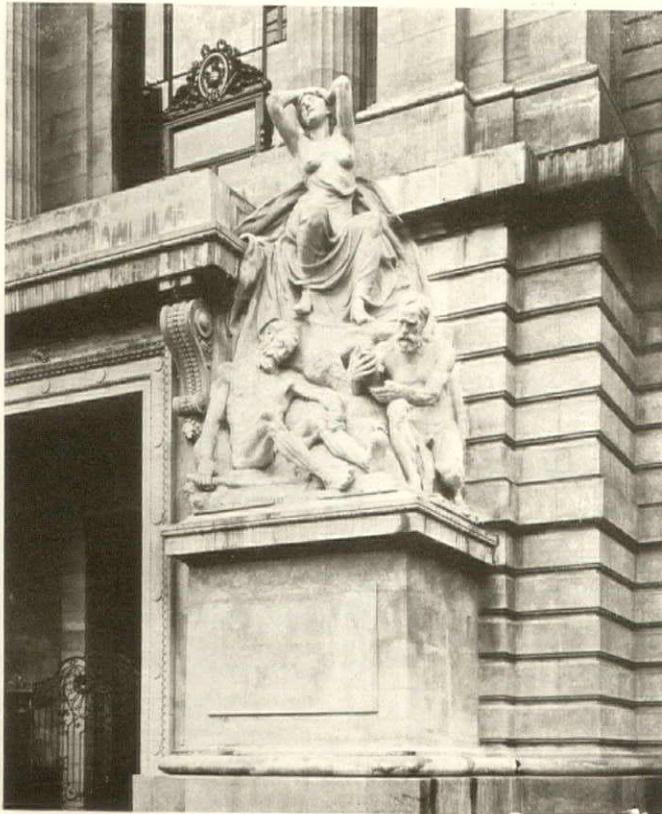
of some years before whereby main streets were swept away and room made for the great thoroughfare of Kingsway. The freehold of the whole of the area was bought in 1911; it was a triangular tract bounded on the south and east by the Strand, on the northeast by Aldwych and on the west by Melbourne Place. The cost of the purchase, including an arrangement as to the freehold of the site of the already existent Victoria Building, amounted to £379,756. The contracts for the building itself, including the estimated cost of materials and furniture brought from Australia, were estimated in 1917 to involve an expenditure of upwards of £450,000.

Messrs. A. Marshall MacKenzie and A.G. R. MacKenzie were selected in 1912 as the architects of the scheme and they entered wholeheartedly upon their task of creating

a structure that would be a "monumental witness to the desire of Australia to be shown forth in terms of dignity and beauty, to be displayed not meanly but finely, to be so commandingly established in London, that whenever the sight of Australia House shall call up remembrance of Australia it will be thought of as a land worthy of eminent memorial even in the wealthiest of lands and the greatest of cities."

Following the laying of the cornerstone in 1913, the construction proceeded rapidly at first and the proportions of the building were soon effective within the perspectives of the Strand. But within a year war had disordered the world and within two years progress was affected by the universal dislocation of the normal work of the country.

The closure imposed by His Majesty's Government upon all building operations



Sculptural group, "Awakening," by Harold Parker, at east of doorway.
(Courtesy High Commissioner, Commonwealth of Australia.)

other than those directly concerned with the war was waived in this case, however, but transport difficulties hindered the supply of certain materials from Australia which were to have important places in the design, while unavoidable labor troubles also made for delay. It was late in 1916, therefore, before any portion could be made ready for occupancy, and nearly two years later before the undertaking was definitely completed.

The limitations imposed upon the architects, other than the inclusion of an exhibition hall and certain rooms suitable for fixed purposes, were merely these: that the London building regulations should be met and that the design should harmonize, in respect of balance and weight, with the Aldwych Improvement Scheme, of which the Gaiety Theater was the western and Australia House would be the eastern horn. The beautiful Wren and Gibbs churches, too—St. Mary-le-Strand and St. Clement Danes—which are a distinctive feature of its architectural surroundings, gave a note to the design; but with these exceptions and apart from the necessity for some slight modifications of the Victoria Building, the treatment to be observed was entirely one for the architects' creative talent, taste and skill. The result was an exterior not only of noble mass and solidity, but of grace and charm. The design is frankly modern, though it is described by the architects themselves as having a foundation in the Roman architectural style modified by such of the qualities of the French work of the eighteenth century as were regarded as suitable. The effect in the mass as the building is approached; the magnificent colonnade on the Aldwych and Strand sides; the curving sweep of the northeastern façade, in which the configuration of the site on its Aldwych side has been admirably used; the unstinted solidity allowed to the walls, and the matter of the

light and shade of the composition—these are its more obvious successful features. The eastern entrance is surmounted by a statuary group by Bertram Mackennal, M.V.O., representing Phoebus driving the horses of the sun. At the entrance, flanking the doorway, are sculpture groups by Harold Parker, denoting the Awakening and the Prosperity of Australia. The illustration shown is that of the Awakening, on the right of the doorway; it depicts a half-draped female figure and, below, an explorer and his comrade.

The interior is aptly described by an extract from *The Builder*, an English publication: "We believe the verdict as to the interior will be as favorable as that of the exterior, if not more so, for the skillful disposition of the entrance hall and staircases has provided opportunities for admirable effects of dignity and spaciousness, with a display of rich detail which in many cases carries a quite unusual distinction. The way in which the eastern entrance leads through the inner vestibule to the great hall is a noticeable architectural achievement, and there is an agreeable harmony of materials such as we too seldom find. We can call to mind few modern buildings of importance which have occupied their sites with such good results, both in themselves and to their surroundings."

On the exterior façades Australian trachyte proves its value as a suitable base for the masses of Portland stone that compose the main structure. At the entrance, in the hall and vestibule, this trachyte has an important place in the foundation of a design that the marbles of the Australian quarries at Buchan, and Caleula and Augustan expand and adorn. Marble, bronze and stone are the chief and almost the only elements of the richly decorative threshold of the interior, in which the patterned marble of the floor lifts into walls of marble, while the



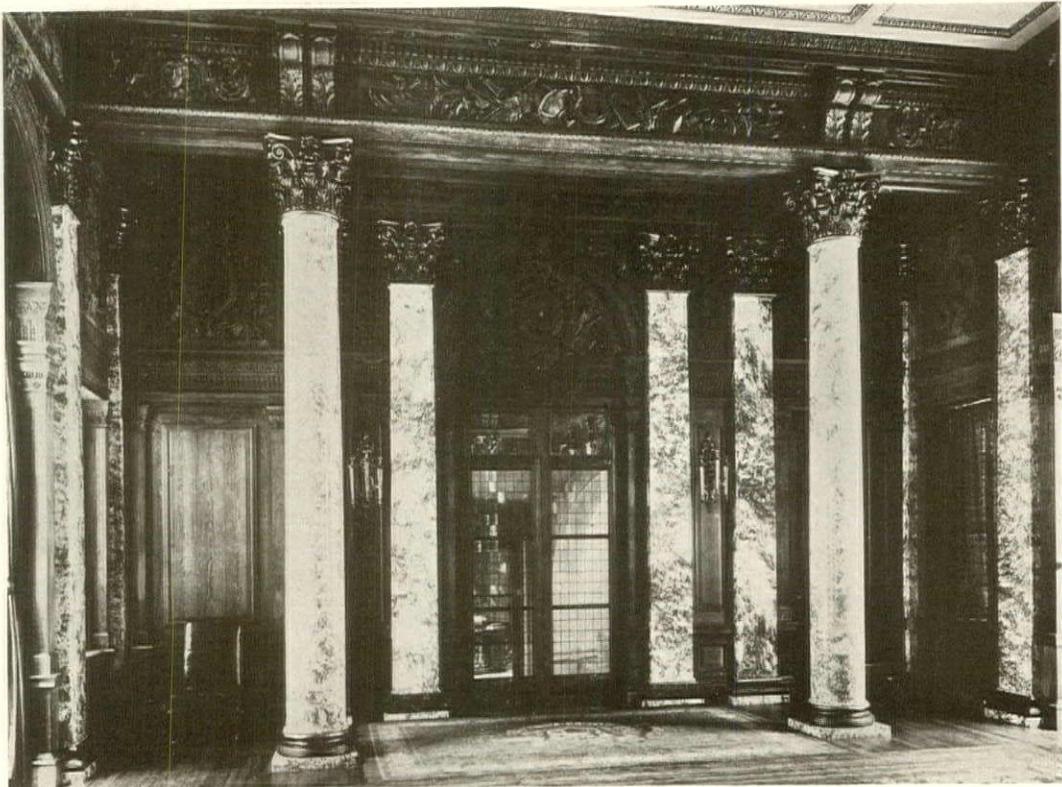
The vestibule of Australia House, in Buchan (Victoria) marble, is one of the most impressive portions of this magnificent interior.
A. M. & A. G. R. MacKenzie, architects.

burnished bronze of the ornamental device upon the open balcony of the floor above, the alabaster of the electric light fittings and the sweep of the balustrade of the lower staircase, combine toward an effect inherently beautiful and designed to be enhanced in beauty by mural paintings that are essential additions to the decoration.

The library or conference room on the main floor is graceful in its proportions. It is a large chamber 60 by 30 feet, with a ceiling height of 20 feet. The sides are in a series of arched French casements and Caleula marble pilasters. Pillars of the same material are placed at the entrance way, as shown in our illustration. The exhibition hall, on the other hand, is in Buchan marble and bronze, whereas Augustan marble is used for the floors on the first floor in the long hall that extends from the vestibule, past the staircases, to the exhibition hall.

The marble was shipped in eight or ten-ton blocks and sawn and worked in England. The Buchan marble, which comes from Victoria, is a brownish-purple color; the Caleula marble comes from New South Wales, and is very similar to the Italian Fleur de Peche; the Augustan marble used in the staircases and corridors is from South Australia and is pure white and very hard. A small quantity of Greenstone from New Zealand has also been used.

The skill of the architects has contributed to the building of a London headquarters for the Commonwealth Government of which Australians have reason to be proud; throughout, the use of Australian material has a continuous effect of beauty, and the dignity, grace and charm of the structure bring it to the attention of millions of British people, and remind them constantly of this portion of their Empire Dominions.



Caleula marble pillars and pilasters at entrance to library in Australia House, London, England.

A LIST OF THE WORLD'S MARBLES

By J. J. McClymont

Note—In a past issue, Mr. McClymont proposed, for the sake of convenience, to divide the different marbles into four groups. These arbitrary groupings were as follows:

GROUP A—Any marble or stone sold to the trade in fair-sized slabs or blocks of commercial size, rectangular shape and guaranteed by the seller to be sound, free from natural defects, that can be finished at a minimum cost, and sold to the consumer as sound marble.

GROUP B—Any marble or stone sold to the trade in slabs or blocks of fair or medium size, generally rectangular shape, guaranteed to be sound and free from natural defects, the finishing of which, because of texture, the size of slabs, the shape and size of blocks, is somewhat more expensive than those in Group A.

GROUP C—Any marble or stone that cannot be sold as sound but contains a minimum amount of natural defects, such as dry seams, old fractures, partially or completely healed surface voids, etc., to be treated by the manufacturer in the most approved manner, reinforced where necessary by liners on back or metal inlays and sold to the consumer as semi-sound marble.

GROUP D—All marble, stone and so called serpentine marbles, and Onyx, which, by their peculiar formation are known to be fragile, such as Breccias and nearly all highly colored marbles and serpentines, and that are sold to the trade in irregular shaped blocks or slabs without a guarantee as to their soundness, treated by the manufacturer in the most approved manner, reinforced where necessary by liners on back or metal inlays and sold to the consumer as unsound marble.

Shen Si Province

See Shan Si Province.

Shepton Mallet Marbles

The marbles quarried at Shepton Mallet, Somersetshire, England, are mostly dark gray, dark brown, almost black and grayish-brown light and dark; some have faint gray spots and marks. (Blagrove.)

Sherburn

See Huddleston.

Sherwoods Glen Black

See Glen Falls Black.

Shetland Isles Serpentine

See Fetlar and Unst.

Shrewsbury Green

See Fuchsite Schist.

Siamese Marbles

See Gray Siam.

Quarried near Bangkok, Siam, according to Watson.

Light gray, white and gray with white veined marbles are quarried on a rather extensive scale.

Large quantities of the white variety are used in Calcutta, where it is known as Chinese White.

Siberian Granite

See Granito Grafico.

Sicilian Jasper

Quarried in Sicily.

Red with zigzag bands of white, red, and sometimes green. (Blagrove.)

Sicilian Marble

For some unknown reason (excepting the possible explanation "that originally Italian for export was consigned to some seaport in Sicily and reshipped to destination") all White Italian marbles with the possible exceptions of Statuary were at one time known as Sicilian marbles. The white marbles, not including Statuary, are still known in various parts of the world as Sicilian marble. In America and some

other countries any White Italian marble not Statuary, Blanco P, or Veined Italian, is known as White Italian, of which there are four standard grades.

Blanco Rosado, Chercos Beteado, Cobdar Blanco, and other similar Spanish marbles because of their resemblance to the above marbles are sometimes known as Spanish Sicilian marble.

Sidi Brahim and *Sidi Hamza* are both non-producing Algerian quarries. At *Sidi Brahim*, ten kilometers south and four degrees west of Nemours, an Onyx of yellow gray and vermilion tint is produced.

Sidi Yaga

Sidi Yaga quarries near Bougie in Algiers. Black with white veins.

Takes good polish. (Blagrove.)

Siena Dark Montarenti

Same as *Siena Old Convent Yellow*.

Siena

Quarried near Siena, Tuscany, Italy.

Siena marbles not produced from the *Montarenti* quarries are generally known as *Siena Galena*, while those from the *Montarenti* quarries are known as *Siena Old Convent*, *Old Montarenti*, *New Montarenti*, or *Brocatello*.

Siena Alabaster—See *Albastre de Siena* (*Onyx*).

Siena Brocatello—Deep yellow to brownish yellow with an abundance of purple veins and markings. Group D.

Siena Galena Gray—Gray to light yellow. Group C.

Siena Galena Yellow—Light brownish yellow variegated. Group C.

Siena New Montarenti—Same as *Siena Old Convent Yellow*, but has no veins. Group D.

Siena Old Convent Gray or *Silver Gray*. Group D.

Light gray mottled and marked with faint bluish-purple veins.

Siena Old Convent Gray Mixed. Group D.

Light gray mottled running to yellow mottling all marked with faint purple veins.

Siena Old Convent Montarenti, or *Siena Old Montarenti*, are indefinite names for either *Old Convent Gray*, *Gray Mixed*, *Siena Old Convent*, *Brocatello* or *Siena Old Convent Yellow*. Group D.

Siena Old Convent Yellow. Group D. Rich yellow and brownish-yellow mottlings with a few purple and almost dark black veins.

ALL OF THE ABOVE TAKE A GOOD POLISH.

Siena Pavonazzo Yellow

Quarried at Colle d'Elsa, Italy.

Plain yellow with *Pavonazzo* markings. (Taber.)

Takes high polish.

Siena Plain Yellow

Quarried at Colle d'Elsa, Italy.

Light and dark yellow. (Taber.)

Takes high polish.

Sierra de las Filabres

See *Chercos Beteado*

Chercos Blanco

Cobdar Blanco

Macael Blanco

Macael Gres

Sierra Tufa Stone

Quarried at Bishop, Inyo County, California.

Sierra Tufa Stone A—Brownish red, slightly pitted and speckled with small grains of light yellow, dark red, and quartz-like crystals.

Takes no polish.

Sierra Tufa Stone B—Is salmon color, otherwise same as "A."

Sierra Tufa Stone C—Is dark drab in color, otherwise same as "A."

Signa Breche

Signa quarries, Upper Pyrenees, France. Mingled shades of brown and green with red spots. (Blagrove.)

Signalstaff Hill

One of the quarries producing Cornish Serpentine.

Silesia Marbles

See Gray Kunzendorfer marbles.
Lindewiese.

Silesian Serpentine

See Hrubshitz
Moravian
Reichenstein

Silicate

A salt or ester of any of the silicic acids.

Silverdale—Group A.

Quarried at Silverdale, State of Kansas, United States.
Buff colored limestone.
Takes low polish.

Silver Gray—Group A.

Quarried at Tate, Pickens County, Georgia.
Uniform gray of a silvery cast.
Takes good polish.

Silver Gray—Group A.

Victoria quarries near Knoxville, Tennessee.

Dove colored gray, slightly mottled; contains a few veins or crow feet.

Silver Gray

Quarried near Plymouth, Devonshire, England.

Delicate Gray.

Silver Gray Siena

See Siena Old Convent Gray.

Silver Gray Siena Mixed

See Old Convent Gray Mixed.

Silverleigh

Quarried near Buckfastleigh, Devonshire, England.

Very dark gray, nearly black, intersected with numerous white veins. (Watson.)

Simittu Colonia

Ancient name for the modern Chemtou, in the Medjerda Valley, Tunis, North Africa.

Giallo Antico or Numidian Yellow is quarried at this place.

Sireuil

Quarried at Charie, France.

Soft grayish stone strewn with small spots of rose.

Another limestone with the same name, probably from the same quarry, is very soft, is whitish gray, and has fine grain.

Still another stone is light yellow.

Skjerstadt Fjord

"White Salten Marble" is quarried near Fauski, a small town on the north bank of Skjerstadt Fjord.

Skye Marbles

Quarried in Strath Parish, Isle of Skye, Inverness-shire, Scotland.

The following list and descriptions are from Watson:

Skye Dove or Blue—No. 3 Investigation quarry. Blue gray, traversed by numerous slender back markings.

Skye Gray—No. 4 quarry. Light gray with faint suggestion of violet. Snow-white veins traverse the mass. There are occasional deep purple markings.

Skye Pink—No. 1 Investigation quarry. Faint suggestion of delicate pink pervades the nearly white ground mass; a few white and pale green veins and occasional thread-like black markings. Another variety from the same quarry is the same except that the pink shading occasionally assumes a violet tint.

Skye Veined—No. 3 quarry. Dull white with sinuous veins and patches of pale green.

No. 4 quarry. Although this marble comes from the same quarry as the gray it does not resemble it in general appearance. It has a white ground with light gray clouded veinings and occasional black markings.

Skyros

General name for marbles quarried on the Island of Skyros in the Ægean Sea west of Greece.

Skyros A or Alpha—White and opaque with a network of irregular deep red orange colored veins.

Skyros 12—Variegated cream with a double network of fine veins of pale yellow and violet.

Skyros 14—The veins are much like those in Skyros 12. There are also black irregular markings and parallel yellow bands.

Skyros 14 A—Variegated cream and faint blue gray with rich orange markings.

Skyros 14 C—Brecciated with deep reddish-brown filler and cream colored to light yellow fragments.

Skyros 14 D—Brilliantly colored veinings of orange and rich deep brown with small specks of blood red.

Skyros E—Highly variegated marble in which the crystals are tinted various shades from red to brown.

Slatoust

See Gray Ural
White Ural

Sligo Serpentine

See Rock Wood Glen.

Smaragdus Cyprius

See Plasmi de Smeraldo.

Snowy River

Same as Orbost.

Soapstone, Steatite, Talc and French Chalk

See Steatite.

Soapstone (American)

Also known as Alberine Stone.
Quarried at Lynch Station, Virginia.
Bluish gray.

Sobre

Pacagne quarries, at Sobre-St.-Gery, near Beaumont, Hainaut, Belgium.
Ashy gray tinged with blue, containing spots and veins of white and rich yellow. (Blagrove.)



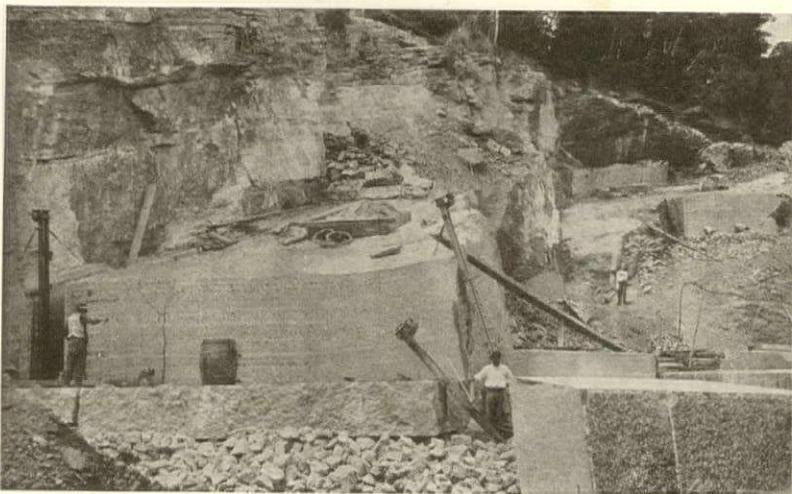
PENINSULAR STATE
BANK BRANCH
Warren and Harding Avenues,
Detroit, Mich.



This installation by us illustrates the use of Veined Carthage Marble for wall wainscoting and counter screen.

GEORGE V. POTTLE, *Architect.*

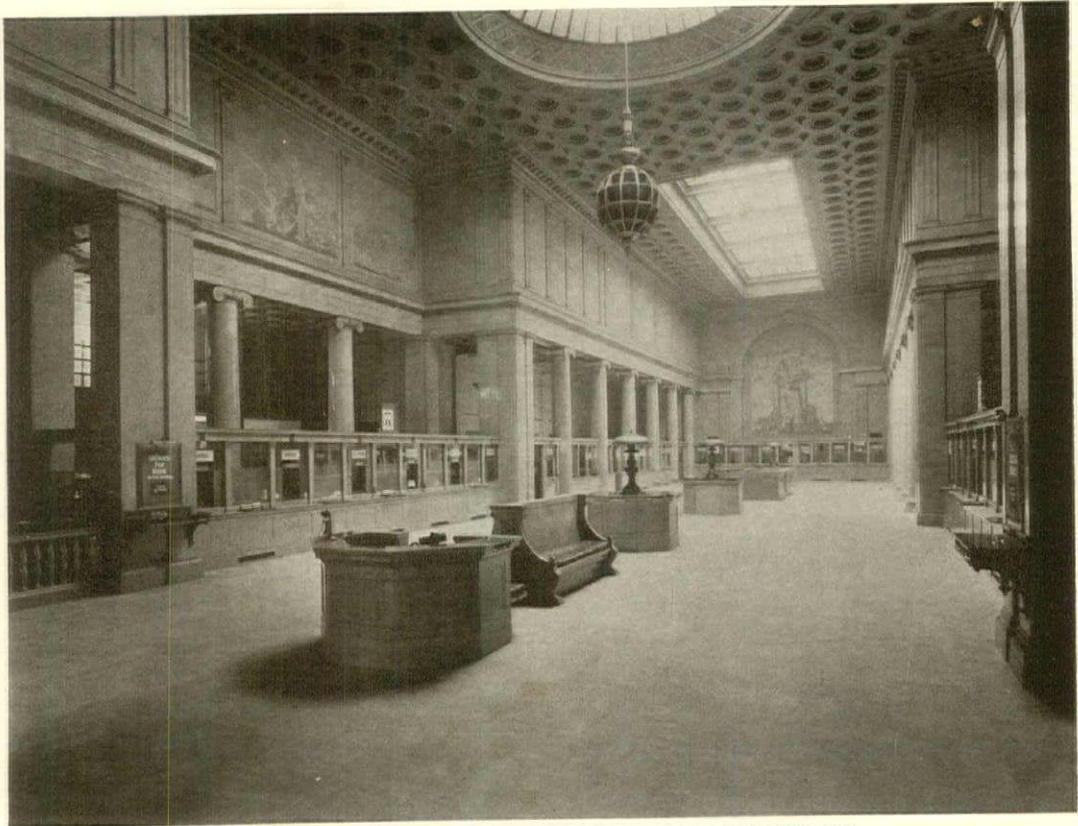
CHRISTA-BATCHELDER
MARBLE COMPANY
DETROIT MICHIGAN



VIEW OF ANTONIO BIGGI'S BLACK AND GOLD PRODUCTION A29B

From this quarry we have supplied blocks of Black and Gold to make monolithic columns of 16'x 2'8" for the American Marble & Mosaic Co. of San Francisco. We believe that this type, A29B, of Black and Gold, is the soundest and most practical of all types.

ANTONIO BIGGI
Foreign Marble & Stone
YARD AND OFFICE
SANFORD ST. AND VERNON AVE.
LONG ISLAND CITY NEW YORK CITY



ADDITION TO THE COLORADO NATIONAL BANK, DENVER, COL.

A noble interior of rare distinction rendered doubly effective by the use of Hauteville marble for standing columns, bank screen, seats and officers' island, and Gray Tennessee for the floor.

All of this marble was fabricated by us and installed by Salomone-O'Brien Marble Co.

Architects of Original Building: W. E. FISHER and A. A. FISHER, Denver, Col.
 Architects of Addition: M. H. HOYT and B. HOYT, Denver, Col.
 Contractors: ALEXANDER SIMPSON, JR., Co., Denver, Col.

GRAY KNOX MARBLE COMPANY

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