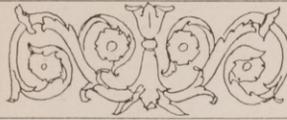


ARCHITECTURE



ENGINEERING

*The  
Southern Architect  
And  
Building News*

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No. 10

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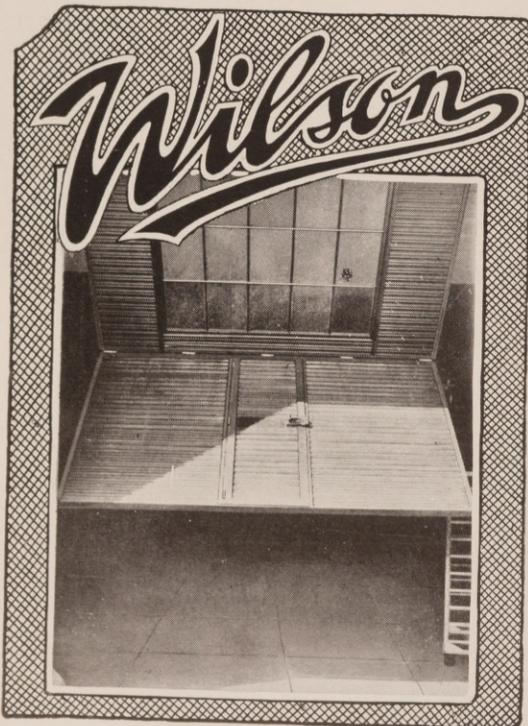
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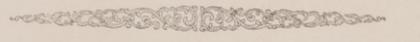
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## THE EDITOR'S PAGE

### Preservation of Our Historic Colonial Houses



Scattered throughout the South from Virginia to Louisiana, seemingly lost in the progress of our centers of civilization, stand a few surviving edifices of the period which is the most important in the history of our country.

These buildings are symbols of a glorious spirit in the past. They owe their very existence to that love of liberty which permeated early Colonial times, and which has always characterized American ideals. Unquestionably, they express a noble and dignified tradition of architecture peculiar to the spirit of American freedom.

Not only because of their historical value, but also for their harmony and proportion of design do these buildings deserve to be preserved and endure. They are a permanent corrective to public taste—a standing rebuke to vulgarity and vain architectural display. And the reason they are as good today as the day they were built is that they were the work of sincere artists who made things beautiful as they made things sound.

Despite the fact that existing examples of early Colonial architecture are few and scattered, there is a growing fondness for this eighteenth century style. It is suited to our climate. Historically it is our appropriate style. Above all, it expresses a simplicity, a restraint, and such exquisite harmony that is so needed in our modern architecture.

One of the finest examples of our early Colonial architecture is found at Fredericksburg, Virginia, in "Kenmore" the house of Colonel Fielding Lewis, built in 1752 and designed by George Washington for his sister, Betty Washington Lewis. The illustrations in this issue of "Kenmore" show the fineness and beauty of this wonderful piece of architecture.

For the preservation of this house as a national memorial an association has been formed by a few patriotic women and men which is known as "The Kenmore Association, Inc.," with headquarters in Fredericksburg, and it will be through the efforts of this loyal body that this

beautiful Colonial mansion will finally be preserved for all times.

Charles Moore, Chairman Commission of Fine Arts, Washington, D. C., has the following to say:

"Fredericksburg is filled with more spots of historic interest than any other town that I know—Colonial, Revolutionary and Civil War. Moreover the town has kept its old-time flavor. The historic places seem at home amid their surroundings. At the same time the decay usually associated with the ancient works of man is absent. The town is well kept. Its monuments are taken care of.

"Kenmore, the home of Fielding Lewis, gentleman and patriot, built for his bride, Betty Washington, has long been to me a place of the greatest interest. Geo. Washington dearly loved his only sister, who looked so like him that she could don his military cloak and hat and pass herself off for her illustrious brother. He so loved her son that he gave to him in marriage his adopted daughter, the favorite of the Mount Vernon household.

"The association of Mary Ball Washington with Kenmore were close, her gardens being connected with the Kenmore gardens. Today her honored grave is nearby.

"Then, again, Kenmore is a fine house—one of the finest of its period; it is in good repair, and it has grounds sufficient for a good degree of isolation. It is an example of what was best of its kind in the formative days of the Republic. I shall gladly do all I can to assist in its preservation as a national monument."

This wonderful undertaking which the Kenmore Association has started deserves the support of every loyal member of the architectural profession and the public in general.

Our fine old historic houses and monuments throughout the South and the nation should be preserved—must be preserved in memory of our loyal and patriotic American ancestors, and for the preservation of our Colonial history.



SALON—KENMORE—1752

HOUSE OF COLONEL FIELDING LEWIS, FREDERICKSBURG, VA.



DETAIL OF CEILING PANEL

## “Kenmore”

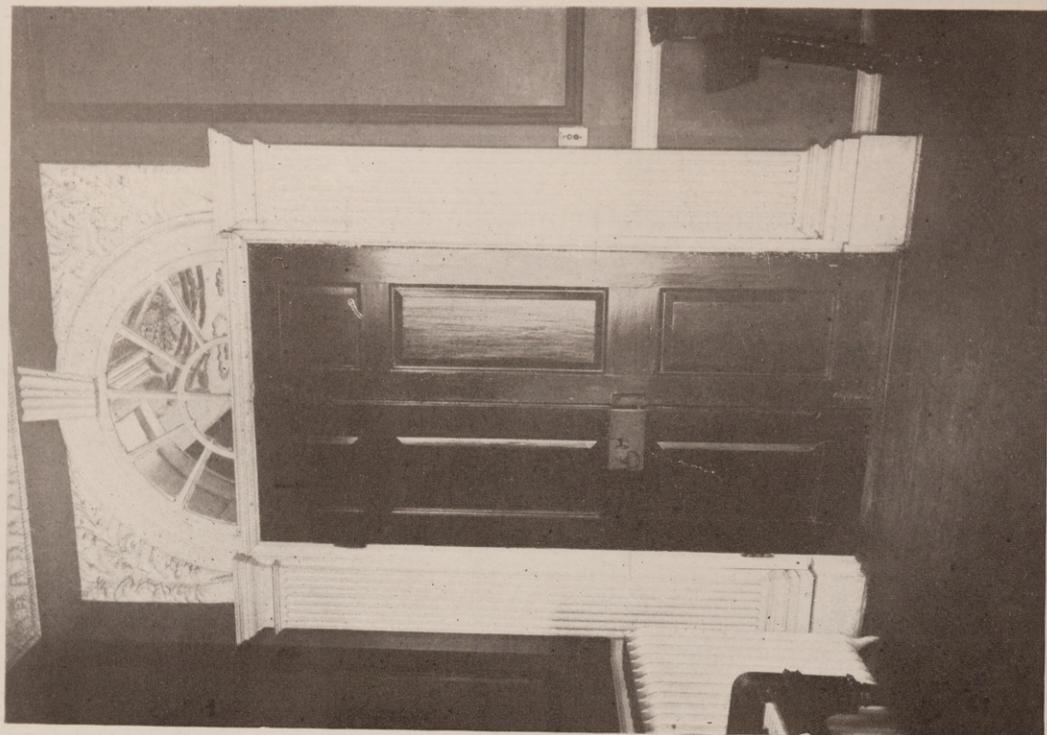
Home of Colonel Fielding Lewis, Fredericksburg, Va., 1752.

WE are greatly disappointed in not having to present our readers with an article on Kenmore by Mr. Frank Conger Baldwin, architect. He had expected to give it to us but unforeseen circumstances prevented. He however gave us permission to quote freely from his article on Kenmore, published in the “Journal of the American Institute of Architects” of March, 1915. Mr. Baldwin was the first to bring the architectural beauties of Kenmore before the public.

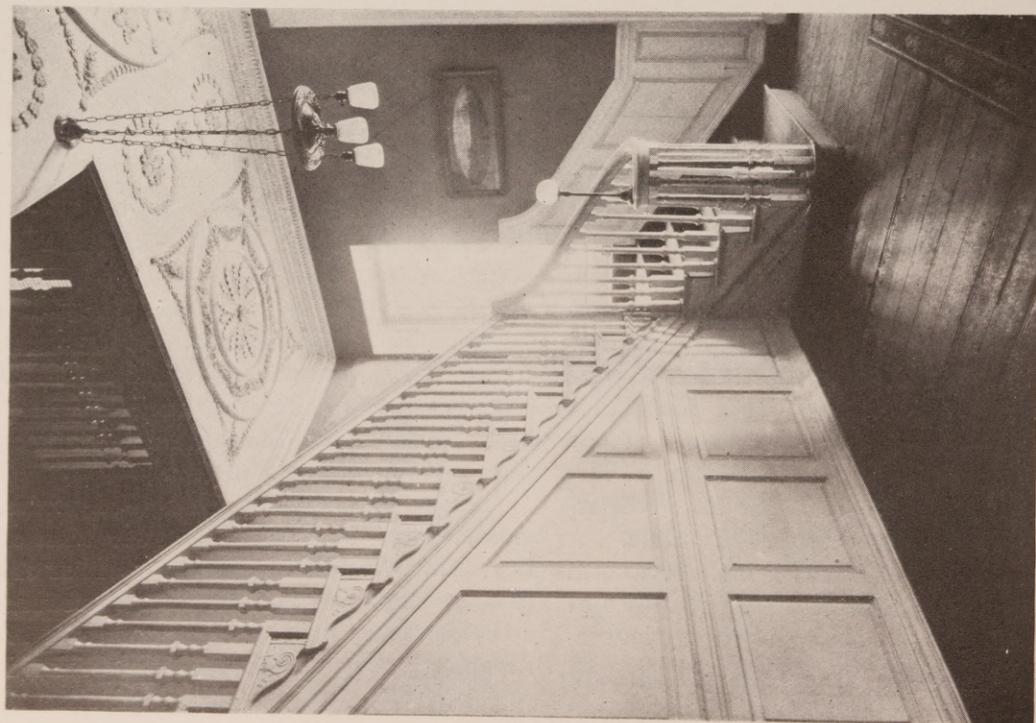
Colonel Fielding Lewis was a man of wealth and prominence, a magistrate, and a member of the House of Burgesses. He was of the Gloucester family who owned Warner Hall. He was born in 1724, son of John Lewis and Frances

Fielding. He came to Fredericksburg with his young wife, Katherine Washington, George Washington’s cousin, in 1746. She died in 1749 and on May 7, 1750, Colonel Lewis married Betty, George Washington’s only sister, seventeen years old. She was only sixteen months younger than her brother whom she adored, and at the wedding he gave her in marriage.

It is said that Betty, being little more than a child, rather flouted the widower with one little boy. But it is hinted that the promise of a stately home did much to soften her objections. However, that might be, it was not until 1752 that Fielding Lewis purchased from Richard Wyatt Royston, “all that parcel of land situated, lying,



DOORWAY BETWEEN HALL AND SALON. THE FANLIGHT IS UNUSUAL IN AN INTERIOR DOORWAY



THE HALL WITH ITS FINE STAIRWAY IS A BEAUTIFUL EXAMPLE OF GEORGIAN ARCHITECTURE



KENMORE—HOUSE OF COL. FIELDING LEWIS, FREDERICKSBURG, VA., 1752.



The doorway is a fine study in design. The hood over the doorway is unusual in Georgian architecture.

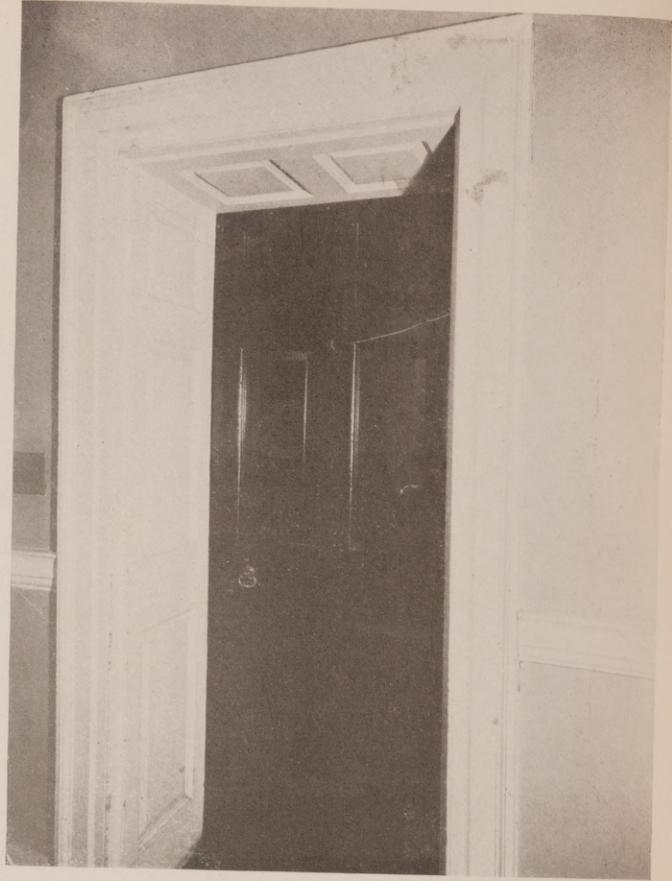
and being, in the county of Spottsylvania and parish of Saint George, joining to the town of Fredericksburg, containing by a survey made the 26th of February, 1752, by George Washington, 861 acres, etc., etc." Kenmore is now within the corporate limits of the town.

Perhaps there is little in the design or detail of the exterior of Kenmore to make an appeal to the imagination, but it can surely be said that it has a certain dignity of simplicity, coupled with a sturdy honesty of purpose. The exterior walls are two feet thick, and, to the eye which is accustomed to the construction drawings of our modern houses, the plan of Kenmore appears, on this account, to be quite out of scale. The interior woodwork of doorways, paneling, stair newel and balustrade, possesses an exquisite refinement of detail, and the only jarring note is found in the pointed plaster arches which are seen on either side of the fireplaces in the drawing-room and salon. It is a pleasure to learn that these arches were not a part of the original design, but were built by a subsequent owner in the latter part of the last century.

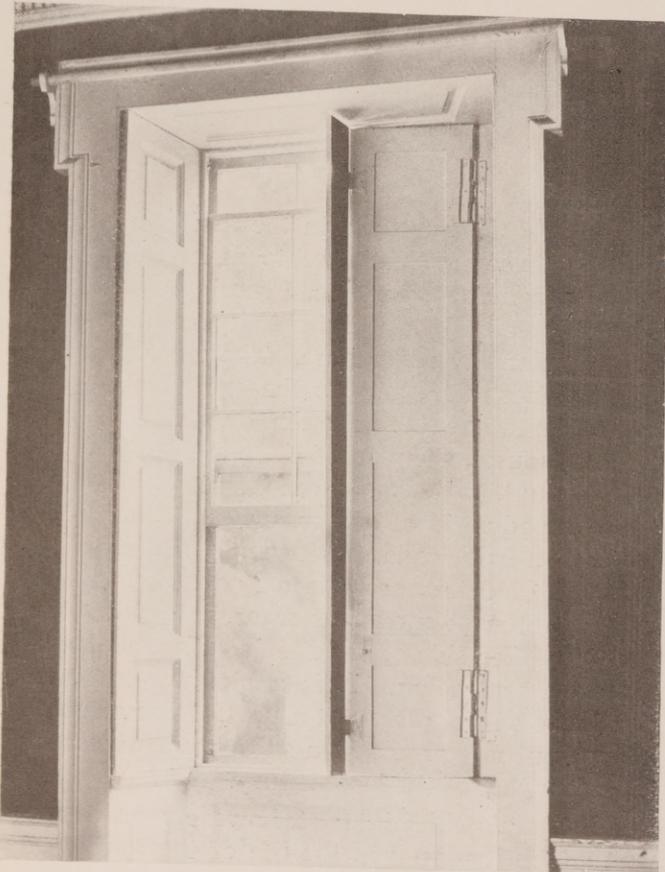
Kenmore's chief interest, however, lies in the part which it played in the life of the family of the father of our country, and the further fact that Washington himself suggested the design



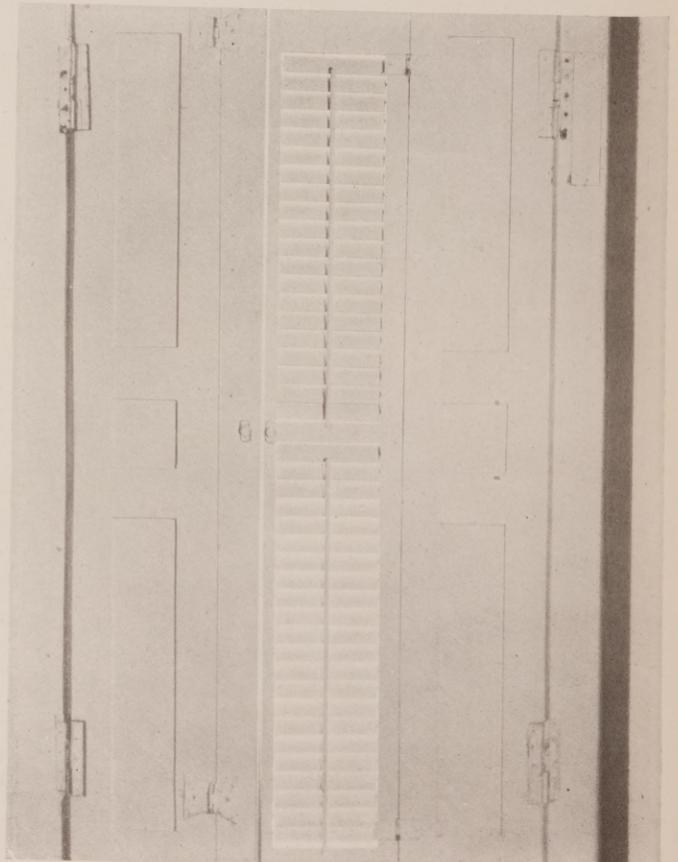
The dining room is paneled on the fireplace side. Note the detail in the mantel and the simple but effective paneling, also the wide pine boards in the floor.



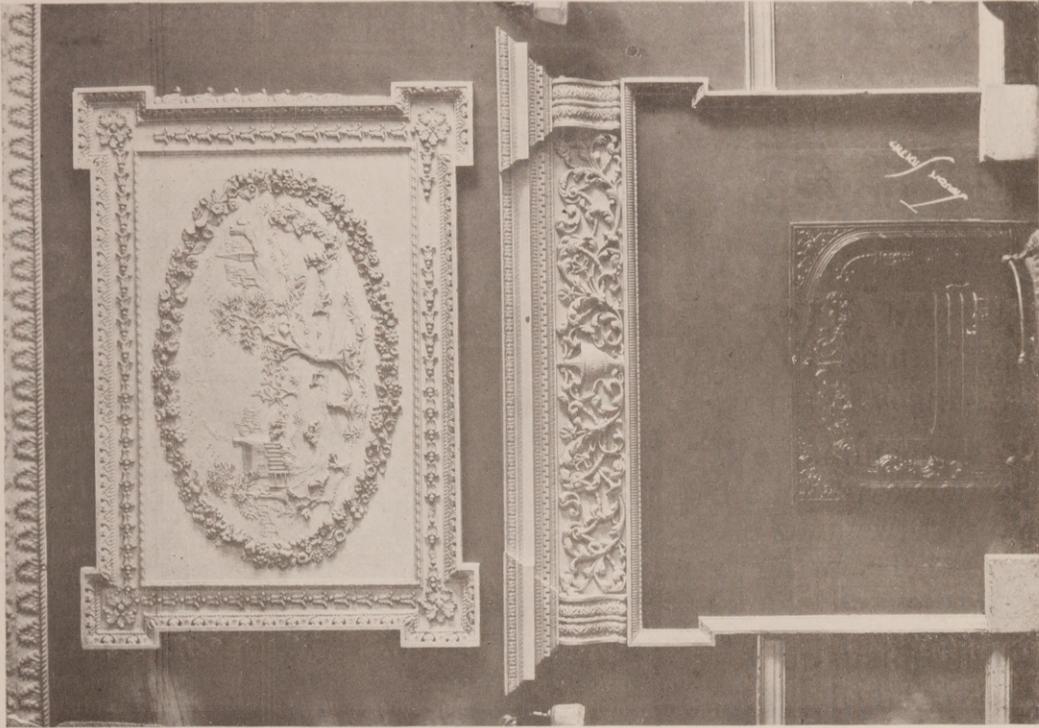
Doorway between the hall and dining room. The deeply recessed doorway gives an idea of the sturdy construction of the house. The interior walls are solid brick walls.



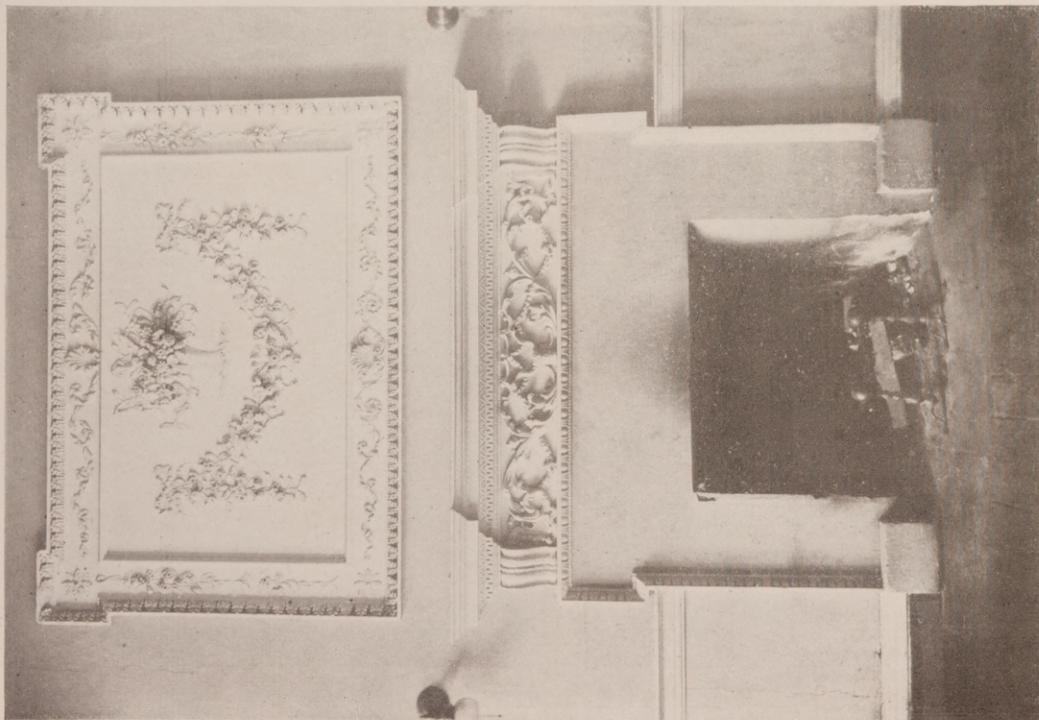
The deep window with its shutter arrangement reflects the colonial spirit of the house. This particular example occurs in all the rooms on the ground floor. Note how the shutters fall back into the walls when open.



Shutter arrangement used in all the rooms on the second floor.



Fireplace in the salon. The stucco work over the mantel represents the fable of the fox, the crow, and the piece of cheese. This is the mantel that George Washington designed to teach his nephews to beware of flatterers.



Fireplace in the drawing room. All of the Kenmore mantels are similar in the major details. Variety being obtained in the detail of the stucco work.

and directed the execution of a portion, if not all, of the very elaborate ornamental ceilings and overmantels which are still carefully preserved. It is known that the panel over the mantel in the salon, illustrating Aesop's Fables, was designed by Washington to teach his nephews to beware of flatterers. The elaborateness of the conception and the delicacy of the detail of this ornamental plasterwork are almost, if not quite, unique in American architecture of that period, and the work compares favorably with that done at the same time in England and on the continent. This work was done by two Hessian soldiers captured at the Battle of Trenton, Dec. 26, 1776, and sent down by Washington. Though Hessian hirelings, they must have been Italians because of the character of their work.

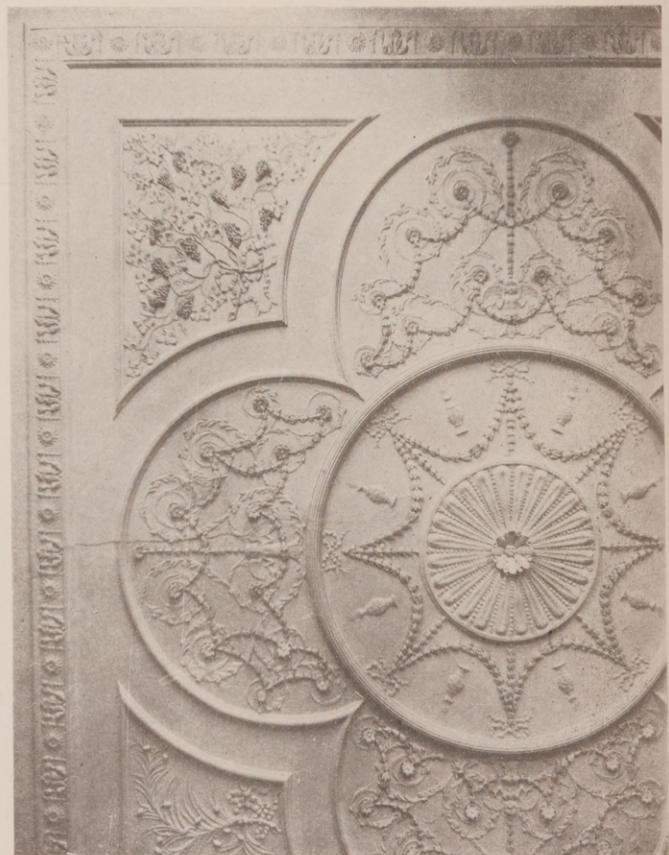
Colonel Fielding Lewis was appointed by the Virginia Assembly, July 1775, Chief Commissioner of a Manufactory of Small Arms, the first in America. He sacrificed his entire fortune in this

work and died while the Battle of Yorktown was being fought with his guns. His estate being deeply involved, the place was sold in 1794. The property changed ownership a number of times after this, but it is interesting to note that when it was purchased, about 1881, by William Key Howard, the plaster enrichments of the ceilings had suffered from age, misuse and neglect, and were sadly in need of repair. A son, William Key Howard, Jr., a lad in his teens, and somewhat of an invalid, devoted himself to the work of restoration. The quality of his work of restoration merits a high tribute to the loving spirit and devotion of the young workman.

A body of women has been formed to save Kenmore for the nation. It is now more than half paid for. President Coolidge who opened their campaign said of Kenmore, "It should be saved for its own sake, it must be saved for the sake of patriotic America."



The rear or the entrance to the garden with its rows of box is a pleasing study in proportion.



Detail of ceiling panel.

# The Lighting of Theaters and Auditoriums

By A. L. Powell.

(General Electric Co.)

(Continued from page 43.)



has advantages over a large number of small units for fewer light sources are in the field of view. On the other hand, due care must be taken that the entire seating area is evenly illuminated.

The desirable intensity of illumination will depend on the uses to which the room will be put. If meetings alone are contemplated, approximately two foot-candles is adequate. Where the room will be used for various other purposes, such as fairs, dancing and exhibitions, provisions should be made to supply at least five foot-candles. In the latter case, it is well to have the lighting on at least two circuits so that either the lower or higher values may be available at will.

Convenience outlets along the baseboard at frequent intervals are necessary for attaching decorative lighting for booths or displays. An outlet of sufficient capacity is necessary at the rear of the hall for stereopticon and motion picture machines, as well as an outlet near the speaker's platform to which a reading lamp can be attached. Provision should be made for music lights at the probable location of the orchestra.

Stage pockets with heavy wiring should be located at various points about the balcony so that projectors can be attached for special effects during dancing. Automatically operated or hand-controlled color wheels are used to throw beams of constantly varying, tinted, light on the dancers. Some most ingenious and striking effects can be produced in this manner.

## Lodge Room.

The possibilities in this field of lighting have never yet been fully realized. All too frequently does one see, in the most costly and elaborate buildings, luminaires of very ornate character, well made, and for many purposes excellent, but not at all adapted to the peculiar requirements of the lodge room.

Many wonderful effects can be obtained with properly applied lighting and the initiatory ceremonies can be made much more beautiful than any but an experienced lighting artist would imagine. Full advantage should be taken of the decorative and psychological effects of colored light. The room should be so wired and lumi-

naires so designed that the working space can be flooded with the three primary colors, red, green and blue. These can be used either pure or mixed in any desired proportions to obtain all the intermediate tints. Thus, as the work progresses, the blue-green of the moonlight can be simulated, the reddish value of the setting sun imitated, or the brilliant white light of midday obtained. Most ceremonies give opportunities for introducing just such effects as these.

The architect who plans the building should be conversant with the work and make due provision for the installation of overhead spot lamps giving touches of light at the various stations. If considered in advance, these can be recessed so that the equipment is flush with the ceiling and the effect of the room is not spoiled, as would be the case where lighting apparatus is an afterthought.

Where especially designed luminaires are not used, one has a choice of a wide variety of standard equipment of the semi-indirect (Fig. 9) and totally indirect types with the Elk's Head and the Mystic Hour of Eleven, or the Square and Compasses, the Three Links of Fellowship, and the like as part of the decoration. The lodge room should be wired with a number of convenience outlets for the attachment of apparatus for special occasions. Provision should be made for a well shaded light at the organ and conveniently located dimming devices are essential.

## Building Exterior.

The exterior of the building should be illuminated to attract the attention of the passing crowd. This may be accomplished by several means.

An extremely high intensity of light is often used adjacent to the entrance. Several high candle-power Mazda lamps equipped with weatherproof fixtures and diffusing globes are suspended from the building, beneath the marquee, or placed on ornamental standards at the front. In other instances, the under portion of the marquee is literally studded with diffusing bulb lamps to produce the desired effect.

A somewhat more spectacular method of bringing the building into prominence is the use of elaborate electric sign equipment and out-

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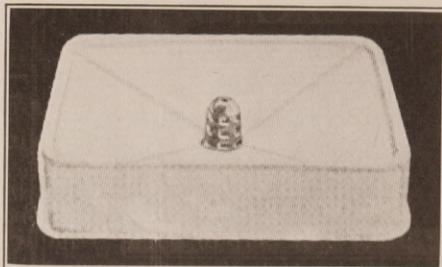
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line lighting. More detailed data on this phase of the question will be found in Bulletin Index 93, *The Lighting of Signs and Billboards*.

Probably the most dignified and artistic means of building front illumination is obtained through floodlighting. For floodlighting to be effective, the surface must be relatively light in color and the surroundings fairly dark. It is necessary to have suitable stations for the location of projecting equipment as pointed out in Bulletin Index 95, *Floodlighting and Its Applications*. Several of the more recently constructed buildings have taken this matter into consideration and the marquee has been so designed that projectors can be located on it.

The exact scheme to employ will depend to a great degree on the character of the building and its location. If of a monumental type, well proportioned and dignified, floodlighting is best suited. If the facade is not particularly attractive, it may be well to partially hide it by an electric sign. If situated somewhat off the regular run of traffic, the high intensity scheme will tend to divert the crowd.

#### Light and Music.

One of the most interesting phases of the application of colored light is in connection with music. It is a fascinating subject to the experimenter, be he scientist, decorator or musician. To all intents and purposes, it offers a virgin field for constructive effort and the Motion Picture Theaters constitute a huge laboratory extending from coast to coast.

To obtain results, one must have apparatus with which to conduct experiments and fortunately we have them, huge symphony orchestras under the direction of capable, sincere, progressive conductors, adequate capacity in electric current to supply the necessary light, flexible control of switching apparatus, electrical men with ingenuity in the handling of light, and audiences, varied in character, as subjects. Surely one could not ask for a better set of conditions.

It is not strange that the coordination or joining of light and music has not been developed to a greater degree. Broadly speaking, appreciation of music itself is comparatively modern and it was only in the last few years that adequate means of controlling and changing or modifying the light have been available. The future looks very bright. Within the last decade, several very creditable attempts have been made to combine light and music and more and more investigators are interesting themselves in the subject. Individually, one can accomplish very little, but as pointed out above, when the Motion Picture Theaters with their trained organizations take up

the matter actively, the art should be advanced by leaps and bounds.

There are several fundamental features which work for the success or failure of the endeavor and these must be borne in mind. It is well, therefore, to stop and study the question before attempting to enter into the details. The first question which comes up is, "How will the light affect our emotions?" Primarily through association. We associate green, for example, with the quiet restful wood or meadow, yellow with the warm sun, red with fire, danger, war and carnage, blue with the calm sea and sky. In addition to these associated attributes or qualities, experience and experiments have proven that color has a direct effect on our nerves and emotions. Reds are exciting, yellows, stimulating and bouyant, greens, quieting and calming, blues and violets often make us depressed and subdued. Bearing these points in mind, it is well to digress slightly.

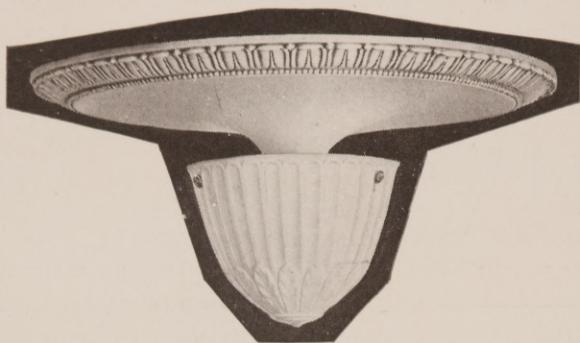
Light is similar to sound (music) in more ways than most of us realize. One is received by the eye, and the other by the ear and then conveyed by nerves to our brain where we get the impression. Both light and sound are produced by vibrations. A deep tone is produced by a slowly moving wave or vibration, a high pitch by a much quicker movement. We have a so-called octave of sound, c, d, e, f, g, a, b, c, and what might be termed an octave of light, red, orange, yellow, green, blue, indigo and violet—the red vibrating much less rapidly than the violet. Due to this similarity, some experimenters have made the mistake, the writer believes, of attempting to assign tonal values to the colors of the spectrum, just as though they were to play a scale in colors, or write a score for color as they would for sound.

As a somewhat exaggerated illustration of the point we are trying to bring out, an experimenter might try to write a color score for "America" (*My Country, 'Tis of Thee*). His music would read c, c, d, b, c, d, e, e, etc., his light score might read, yellow, yellow, green, orange, yellow, green, blue, blue, etc.

It is obvious that attempting to follow any such practice as this would lead us nowhere and that we would have a meaningless, unintelligible result. We must have our tie-in between the two senses—hearing and sight—based on the association element. We must study how both light and sound affect our feelings. Realizing this, it is evident that rather an individual note having a corresponding light to accompany it, a group of notes, that is a mood or theme of the composition, or even a whole section, will have

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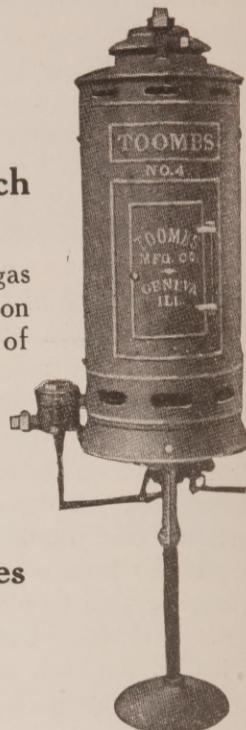
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a much more definitely associated color. For example, one would naturally associate green with a pastoral bit, red with martial music, vivid yellow with the bright, sprightly dance, blue with moonlight, blue-green with the barcarolle and so on.

The next point to be kept in mind is the method of applying color. The first extensive attempt made in America along this was at Carnegie Hall, four or five years ago. The Russian composer Scriabine had prepared the score of a number, with color accompaniment (Poem of Fire, Prometheus). One instrument of his orchestra was what he termed "tastiera per luce" (light keyboard). This was a box about five feet square with a white background on which colored light could be thrown and varied in intensity and tone (color). He wrote a score for this device and introduced it at will, as he would a part for the woodwinds or brass. Sometimes, one color would be visible for quite a period, then there would be a rapid variation of tint. The box which he used was so small that the effect was lost at the rear of the hall. The effect of color was lost in competition with the huge orchestra.

We see by reflected light and to get the maximum impression of color, there must be a relatively large light colored area on which tinted light can be thrown. On way of accomplishing the desired end would be to flood the entire auditorium with tinted light, so that one "feels" the atmosphere. This can be accomplished by the use of concealed lamps in inverted reflectors placed in a cornice for indirect lighting. Again, the curtain and draperies at the front of the house might be of a light neutral tint and colored light from concealed sources thrown on this, or the orchestra itself could be clothed in white suits and beams of colored light projected on this area. Suitable connections of circuits of the three primary colors, red, green and blue, with dimming devices will permit the use of any combination or mixture desired.

Having the means at hand to get color effects on a large scale, it will be up to the musician to co-operate with the man who has observed the effect of color on our emotions (the psychologist or artist) and with the man who knows how to produce the lighting effects (the electrician or engineer). The musician will outline to the psychologist the impression which the music is supposed to create. The latter will determine what color is most likely to be associated with this emotion and the engineer will see that the right color is available at the proper time.

One can visualize the time when sufficient in-

formation has been obtained from experiments to lay down certain definite fundamental rules and then still further to the time when these effects will be appreciated by the general public. This will not be a difficult matter, for most of us are affected by music.

We are stirred at the sound of the military band, the soft soothing strains of the Humoresque or Kamennoi-Ostrow rest us and quiet the nerves, while the modern jazz tune has still another effect. Some of us experience the whole gamut of human emotions, listening to the wonderfully descriptive music of Massenet, Puccini or Wagner. Particular phrases promote sorrow or joy, depress or exuberate us. Light has a similar effect, the colorings of nature as expressed in sunrise or sunset give one a thrill, the cool, restful green of the wood has its effect, while the changing blues and white caps of the sea also produce an impression. Certainly these can be combined.

In many of the larger Motion Picture houses, it is a regular practice to vary the lighting while the orchestra plays the prelude or special numbers. Observations indicate that while some of the effects obtained are excellent, at times there is apparently little connection between the music and the lighting. Even though the lighting is most artistic, it should most certainly be in harmony with the music. Careful forethought along the lines suggested should produce the desired result.

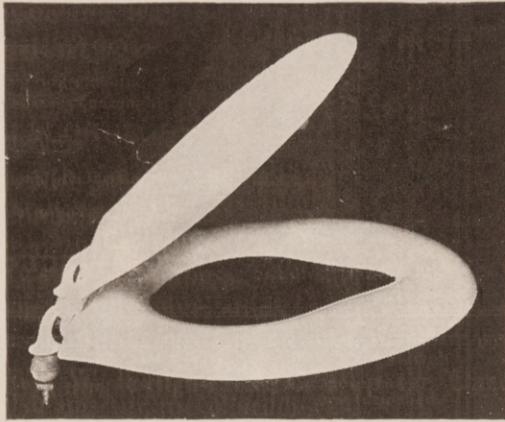
It is going somewhat out of the province of this bulletin to lay down detailed programs for various selections. There are certain descriptive numbers which are particularly susceptible to color treatment, for example, Wagner's "Ride of the Valkyries," "Siegfried's Funeral March," "Good Friday Spell," Tschaikowsky's "Marche Slav," "Overture 1812," Rimsky-Korsakow's "Scheherazade," "Sadko," "Ballet Music from M'lade," Rachmaninoff's "Island of the Dead," Rossini's Overture "William Tell," Von Suppe's Overtures, and so on.

The numerous themes offer great possibilities for changing colors. Flashes of one color can be superimposed on another. A shrill, piercing note can be accentuated by a brilliant, momentarily exposed light. At times, the change from one color to another will take place gradually, at other parts abruptly.

We can all look hopefully to the future for great advances in combining the arts of music and light.

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not celluloid



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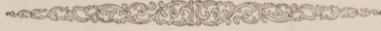
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WORK AND GLASS.

# Civilization and Sanitation

By Lyn E. Sturdevant of the Sturdy Manufacturing Co., Inc.



The world has no place for a dreamer 'tis said and yet, to the dreamers who do not merely dream but work to make their dreams come true we owe the greatest advance, in fact, all advances that have ever been made in the various sciences and arts.

To a visitor at his studio one day, Michael Angelo pointing to a block of para marble said "What do you see?" The visitor replied, "Only a block of marble. What do you see?" Angelo's reply was "I see an angel imprisoned and with my mallet and chisel I shall release him." Only a dreamer, yet the world's greatest sculptor.

A small boy sitting before a tea kettle watching the steam pour from the nozzle, holding a spoon before it until the pressure would drive it away, releasing the steam in clouds, was scolded for playing. This was Watt who has made possible all steam power as he was the originator of the steam engine.

Columbus dreamed of a great western passage to the Indies of untold wealth, and he gave to the world America.

Westinghouse dreamed of using air to operate the longest of our freight trains; the air brake was the result.

Marconi standing on the side of Mount Blanc replied to a companion who spoke of the remarkable purity of the air, "Some day I shall use this air with its electric currents traversing in every direction to send messages to the farthest parts of the world." He gave to the world the wireless.

Edison dreamed and worked and found the air vibrations, captured and placed in lasting wax the human voice and all sound, and as this is true in the greater things of life, which has tended to make civilization what it is today, it is also true of the lesser things, an undisputed fact is that as civilization marches forward, sciences advance.

Modern sanitation must keep pace with it. Our universities and laboratories today are filled with men who are working, yes, and dreaming of the safety of the world who are devoting their lives to the elimination of disease bacteria and its carriers. One of the most prolific sources of

bacteria contaminated in homes as well as public places is the toilet seat.

Our bath room today must be white for white is an emblem of purity and cleanliness. As the result of twelve years of intensive study and experiment one of the greatest steps forward in modern sanitation has been made in the pure white finish. This finish has unique characteristics. It is not along the same old lines of a celluloid base, rather the chemist took a radical departure from this line and has succeeded in combining rubber and zinc in which he has incorporated a permanent bleach so that unlike any other finish known it contains nothing which will oxidize with time. Neither does it contain any element which will liquify and evaporate, leaving the surface like a honey-comb. It is perfectly opaque, pure white and is unaffected by any of the attendant acids or alkalis used in cleaning.

This is not painted or a sprayed finish. The method of application is new in this line of work for this material is moulded over shaped wood or metal under an immense pressure which in the case of wood drives it in the grain so firmly as to prevent it every checking or cracking while the bleach incorporated prevents any oxidation, thus insuring that the white is permanent.

Yesterday is gone forever; we are living in today. If we wish to advance we must use yesterday as the stepping stone for greater things today. In these days of commercialism it is sometimes hard to bring to the realization of the architect and sanitary engineer the fact that they have a plain duty to perform. In a way they are guardians of the health of our nation. While they cling to yesterday and neglect today they utterly fail in this, their duty.

The above described finish, marking as it does a distinct forward advance in the science of sanitation is now being moulded on toilet seats, stools, chairs, drain boards and medicine cabinets by THE STURDY MANUFACTURING CO., INC., of STROUDSBURG, PENNA., who will gladly furnish any further information required and answer all inquiries.

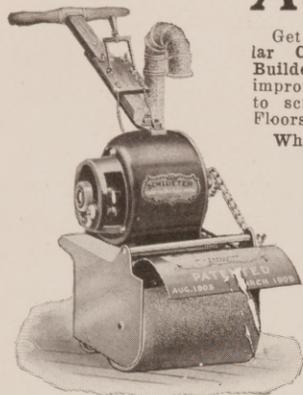
Yes, Civilization and Sanitation march hand in hand.

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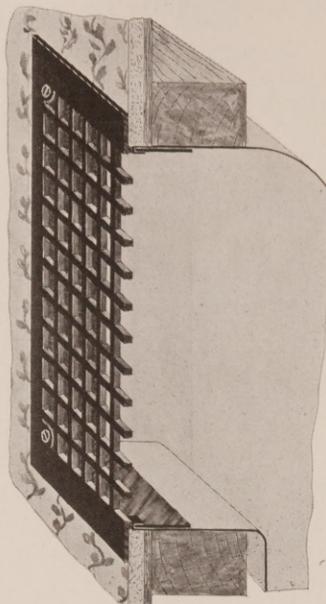
will surface right up to the wall or baseboard without the use of Side Roller. Just the Machine you would want for surfacing all floors whether old or new. Perfect results guaranteed. More than 20,000 of our Machines now in use. Guaranteed against defect in material and workmanship for five years.

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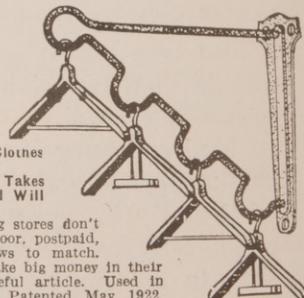
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They Keep the Suits Apart. They Save Time and Space. They Keep Your Clothes in Order.

They Can be Put anywhere Clothes Hangers Can be Used. Put one on Your Closet Door—it Takes the Place of the Ordinary Hook and Will Accommodate Four Hangers.

If your hardware or house furnishing stores don't have them, will send direct to your door, postpaid, nicely finished in nickel with screws to match. Price, 25 cents each. Agents can make big money in their spare time selling this new and useful article. Used in every home. Write for particulars. Patented, May, 1922.

Compact Clothes Hanger Bracket Mfg. Co., 1205 C St., Washington, D. C.



## ROMANCES OF BUSINESS.

### F. E. Bessler of Akron.

F. E. Bessler lived in a little house at Akron, O., and one day had occasion to go into the attic. There was no stairway to this loft; and Bessler had to get a ladder and crawl through a hole in the ceiling. He hadn't been up there for some time, and was rather impressed with the perfectly good space going to waste.

"If only we had a stairway instead of this ladder," regretted Mrs. Bessler. "But if we put one in, there wouldn't be anything left of the room below."

Bessler got to figuring on that possible stairway. He conducted miniature surveys, involving length, breadth and elevation; he hunted up his trigonometry and calculus; he figured nights until the digits and decimals paraded in his brain in vast complex formations. But do his best, he couldn't find a possible way to build a stairway to the attic and still keep the bedroom below. He almost decided to build another house in order to get that stairway in.

Then suddenly an inspiration shot athwart his cerebrum. "Why not disappearing stairs?"

Mrs. Bessler thought it some sort of joke when he told her, but soon she was convinced the thing was possible. Not so easy, however, to turn the dream into cold blooded mechanics. He littered the house with pencil drawings, blue prints, and imaginative sketches. Once more he ran circles on the bedroom floor, and took triangulations to the ceiling. (Pardon lapses in engineering terminology.) He got a saw and cut a big hole in the top of that little bedroom. He measured steep grades from floor to opening above, and extracted the cube root of the remainder.

#### Working It Out.

In his workshop he fabricated wood and metal, and lived among such technicalities as stair horses, spring barrels, equalizing bars, and traveling pulleys. Meanwhile Mrs. Bessler went on a visit.

And then one day the disappearing stairs were completed and installed. Mrs. Bessler came home about that time, and in the ceiling of the little upstairs bedroom saw a panel door with a brass chain suspended from one end.

"I don't see any stairway," she said.

Then Bessler pulled the chain, and to his wife's amazement the door in the ceiling came slowly downward and a full flight of stairs appeared. It descended slowly until the bottom rested gently on the floor.

"Walk right up to the third story," said Bessler.

Amazed, she ascended, and was delighted to find two new rooms in her home. During her absence her husband had converted the inaccessible and unsightly attic into sleeping rooms with large, airy windows.

"My neighbors came in to see the curious stairs I'd built," said Bessler. "Some of them asked me to build movable stairs for them. At first I didn't see any commercial opportunity in it, but presently I began to think that perhaps here was my chance."

Today Bessler has a large factory in Akron producing movable stairways to go into homes, office buildings, and all sorts of structures throughout the world.

## SOUNDPROOF ROOMS.

ONE of the chief social objections to multiple dwellings, even to the high grade apartment house of our large city, has been the lack of privacy due to the transmission of sound from floor to floor and from apartment to apartment, says Housing Betterment. Methods by which these defects can be overcome have, therefore, considerable value for persons interested in the improvement of housing conditions.

Some recent experiments in this field carried on by the Western Electric Company in the Bell Telephone Laboratories in New York in order to develop soundproof telephone booths, are of especial interest. To shut out the vibrations which would be transmitted by the floor, the rooms are built on foundations of three alternating layers of one inch thick special all wool felt and sheet iron. It is said that the results achieved have been highly successful and that when first entering one of these booths a person accustomed to the city noises, has the sensation of almost suffocating stillness such as might be experienced in the depths of the woods on the stillest of nights.

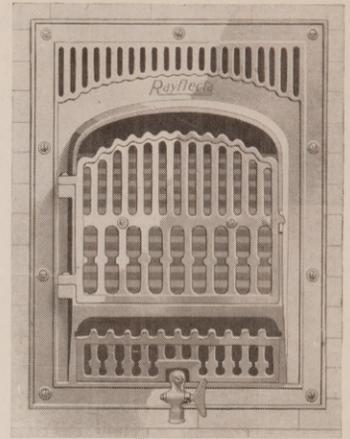
The foregoing evidences the fact that the subject of soundproofness is being studied principally by commercial organizations. The conclusions of many of them are widely variant. This is to be expected, especially those of manufacturers. With the several properly equipped laboratories available in this country, it should be possible to determine the methods of construction best adapted to overcoming sound transference. A great deal of valid data is at hand and more can be secured, the problem is how to evaluate and co-ordinate it and apply it in a practical, workable and economical way to building construction.

This entire matter can only be handled satisfactorily by a committee of persons not interested in manufactured products but which would

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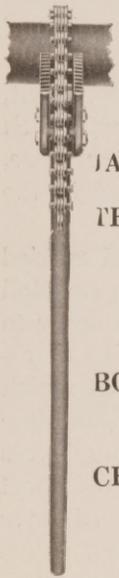
Lay stress upon the Improved Burners which insure maximum heat without fumes or odor. Let them examine the fire-safe construction of the wall-box.

Then you'll sell more Rayflectas than any other heater of this type you might handle. Shall we send you prices and terms?

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CLAIMS CARRY  
CONVICTION



**JAWS:** Drop forged tool steel, hardened and "saw tooth tempered," permitting resharpening with a file.

**TEETH:** Milled at an angle—"UP" and "IN" toward center line of wrench when tool is applied to pipe. This angle tooth gives IMMEDIATE "bite" on pipe even when teeth are dull without "cramping" wrench. The angle teeth force jaws against handle, eliminating "SPREADING" jaws, as in ALL other designs.

The design of teeth on periphery of jaws permit more "grips" for all sizes of pipe within capacity of tool than any other tool of its kind.

**BOLTS:** Made of special alloy steel in standard sizes, insuring greater strength and easier replacement. Two-bolt construction permits use of lower bolt for repair in the field should upper bolt break. BOLT HEADS WILL NOT PULL OFF OR THREADS STRIP.

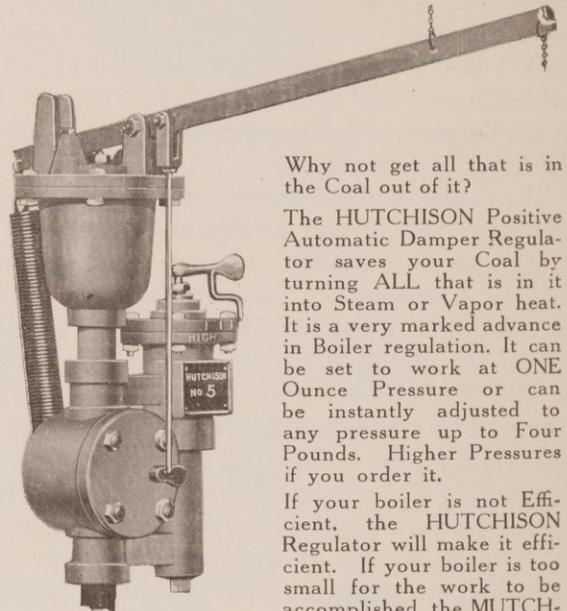
**CHAIN:** Of standard flat link design, made of "SPARTAN" special alloy steel. Guaranteed stronger, therefore more reliable than any other flat link chain made. It is impossible to cramp chain when locking jaws to pipe, as a slight pull toward the operator will lock chain immediately. IMMEDIATE AND POSITIVE "BITTING" OF JAWS WITH INSTANTANEOUS LOCKING OF CHAIN IS THEREFORE INSURED.

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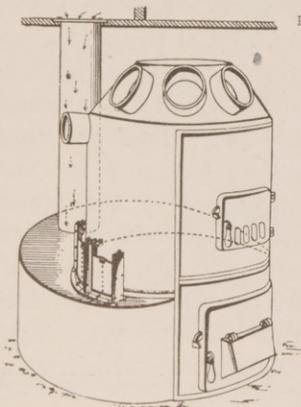
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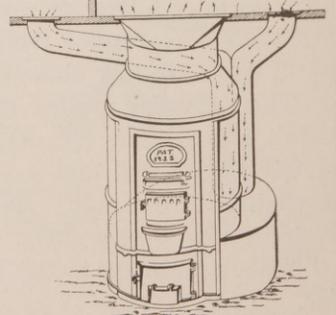
**WM. G. CARRICO**

1235 Wisconsin Ave.

Washington, D. C.



Pat. 1922



Pat. No. 1,418,776

seek and accept the co-operation of those interests. No suggestion is made at this time as to the constitution of such a committee. That such a thing should be done must be apparent. With the tremendous improvements being made in building construction, this matter of sound prevention and control has made the least progress.

### ORNAMENTAL PRODUCTS CATALOGUE.

We have just received the new No. 9 catalogue from the Ornamental Products Company, and after looking it over, would suggest to our readers to send for it.

It is free and a sample will be sent by mail, unwrapped and unprotected, with rigid test suggestions on the back of it, such as—pound with the hammer, cut it on the band saw, drive nails into it, etc.

The manufacturers claim that their carvings are not only practically unbreakable but are positively guaranteed not to chip, check, crack nor shrink. They are a wood product and while equal to the expensive hand carved models, are much stronger and much cheaper.

They are made in oak, mahogany and American walnut.

LIGLINE (WOOD) CARVINGS do not deteriorate with age, can be carried in stock and used any time, be it this year, the next or the next.

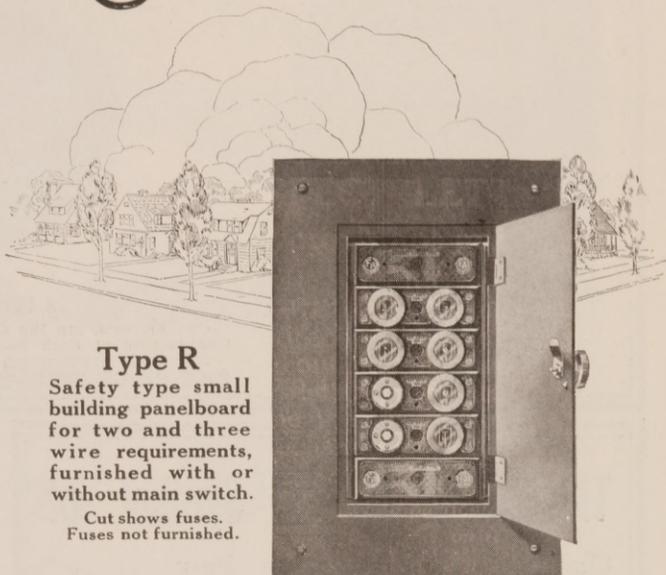
Their catalog shows an extensive line of capitals, plasters, scrolls, rosettes, wreaths, festoons, etc., and carving of the Adam, Hepplewhite, Chipendale, Louis XVI periods, English and Italian Renaissance.

A postal to the Ornamental Products Company of Detroit, Michigan, will bring the catalogue and sample.

### \$365,000 for School Building Program in a West Virginia District.

Welch, W. Va.—The Brown's Creek district board of education of McDowell county has outlined a program of building and improvements over a period of four years calling for an expenditure of \$365,000. New buildings and estimated costs are as follows: New District high school at Welch, \$175,000; consolidated school at Asco, \$40,000; ten room addition to school at Davy, \$75,000; consolidated grade and junior high schools at Hampton Roads, \$75,000. New furniture, plumbing and heating plants will be installed in some of the established schools.

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### Type R

Safety type small building panelboard for two and three wire requirements, furnished with or without main switch.

Cut shows fuses.  
Fuses not furnished.

## For Residences, Apartments, Stores

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Plug fuse type connection, 30A tumbler switch controlled branches; safety, with one door opening.

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Cartridge fuse type connection, 30A tumbler switch controlled branches; safety with door-in-door front.

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Plug fuse type branches. An extremely narrow panelboard safety type. Also made in two row construction and called Type 2P.

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Types T-P, T-C, P and 2P are other members of this better designed line of standardized, unit constructed, safety type panelboards.

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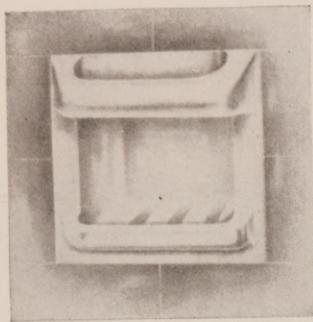
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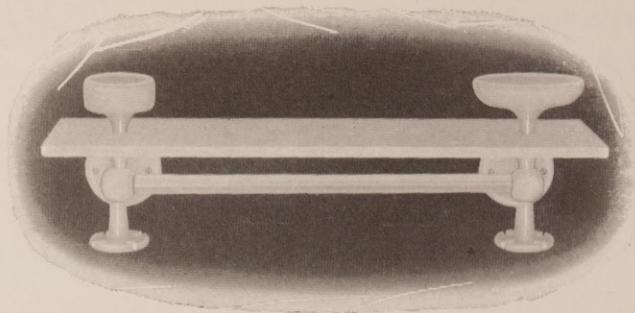
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**RIGHT**  
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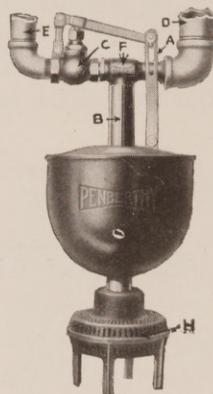
Any of the above items can be shipped in jute or paper bags, except Keene's Cement, which is shipped in jute only.

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