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CONTENTS FOR JULY, 1924

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1924 SCHEDULE FOR ADVERTISERS

For Jan. and Feb.	issue copy and all cuts must reach us by	Dec. 20th
For March	" " " " " " " " "	Jan. 20th
For April	" " " " " " " " "	Feb. 20th
For May	" " " " " " " " "	Mar. 20th
For June	" " " " " " " " "	April 20th
For July	" " " " " " " " "	May 20th
For August	" " " " " " " " "	June 20th
For Sept.	" " " " " " " " "	July 20th
For Oct.	" " " " " " " " "	Aug. 20th
For Nov.	" " " " " " " " "	Sept. 20th
For Dec.	" " " " " " " " "	Oct. 20th

EDITORIAL COMMENT

Hospitality Keynote to Better Hotel Management

ONCE upon a time, hotels had a hard time getting a foothold in Southern towns because many of the citizens thought that it was against the traditions of hospitality to make a stranger on a visit to the town pay for his entertainment. Strange, indeed—but, then, this time was many, many years ago—befo' de wah, in fact.

The story is told of the town of Washington, Ga., that it went for many years without a hotel of any sort, long after it had grown to be quite a good sized community with a number of travelers always on errands of business in its midst. Some of the more progressive young men of the town wanted a public lodgings very badly, but there was one obstacle in their path.

This obstacle was none other than the eminent "Bob" Toombs, the stateman with the giant frame, lion voice and shaggy mane. Toombs occupied a beautiful old colonial mansion very near the heart of the town, a home that was the scene of unbounded entertainment, where new guests arrived before the old ones departed.

A delegation came to call on him one day to get his subscription to a fund to build a hotel. The spokesman of the party had scarcely ceased uttering the first sentence before Toombs' mighty thunder broke in on him:

"No, sir,' he shouted, "this town shall not be dishonored with a public tavern. Any stranger who comes within our gates who conducts himself as a gentleman is always welcome at my home; and if he is not a gentleman, we don't want him to come to Washington!"

Home Entertainment.

A number of years ago, a traveler alighted from a train in a small south Georgia town of some five hundred inhabitants. It was his first visit, and he inquired at the railroad station, upon alighting, for the hotel. He was directed to a house beyond a group of stores but when he got there, he discovered such a beautiful house in well kept grounds that he supposed he had not heard aright. A passing servant, however, assured him that there was no mistake.

What he found, on reaching the door, was an entirely new experience to him. It was, truly, a private home, the residence of the wealthiest and most cultured woman in the town. After several attempts on the part of inexperienced parties to conduct a hotel with very poor results, the lady had thrown open her own home in order to assure visitors of adequate accommodations.

The traveler entered and was graciously received by the lady herself. It was as though she were greeting an expected guest. An old negro servitor was called and instructed to show the gentleman to the front upstairs bedroom, and soon he was ushered into a delightfully furnished apartment, with flowers and other home touches making it even more homelike.

He could not adjust himself to the turn of affairs at first, but finally he accepted the situation, peeled off his coat and sat down to a writing desk to make out a long and detailed report of his day's business. In the midst of this labor, the old negro knocked at the door and called: "Dinner is sarved, suh."

By this time, the traveler had forgotten his surroundings, and with a brief "All right, George, I'll be down in a minute," he kept on at his report. Five minutes passed, and again came the old negro with a knock. "Pardon me, boss, but Missy, she say dat we all eats family style here, and she'd be obleeged to you if you could come down."

Whereupon, the guest hastily donned his coat, made his toilet and went to the dining room, where he found his hostess and several other guests all waiting his coming, dinner having been delayed until he put in an appearance. Muttering a confused apology, he took the place reserved for him. Then the lady of the house asked a blessing and the meal proceeded.

Within two minutes, the incident was forgotten, however, because the hostess presided with such graciousness and charm that she had everyone completely at his ease, and the wealth of good food only added to the sense of well being which the guest finally carried back upstairs with him to the unfinished report.

Hotel Style.

A large hotel cannot, of course, duplicate the feat of this gracious woman. There cannot be that intimate atmosphere nor personal attention which was given in that home. Yet the traveler appreciates just such a touch of hominess, a hint of being well received, even in the most crowded hotels. And this can be achieved, on the part of the manager, by seeing to it that clerks on the desk have a word of welcome for every guest, instead of the worried frown or the brusque "What kind of room?"

No matter how rushing business may be, nor how many people are crowding the desk for attention, no guest should be allowed to register without a cordial greeting from the clerk; a "How do you do, sir," or "We are glad to see you, sir."

And the last word that the guest hears, as he pays his bill and prepares to leave, should be a cheerful word from the cashier: "I hope you have enjoyed your stay with us," or, "I hope we will have you with us again soon."

It is the little things that count.

LA CROSSE TRADE MARK TRANE WISCONSIN

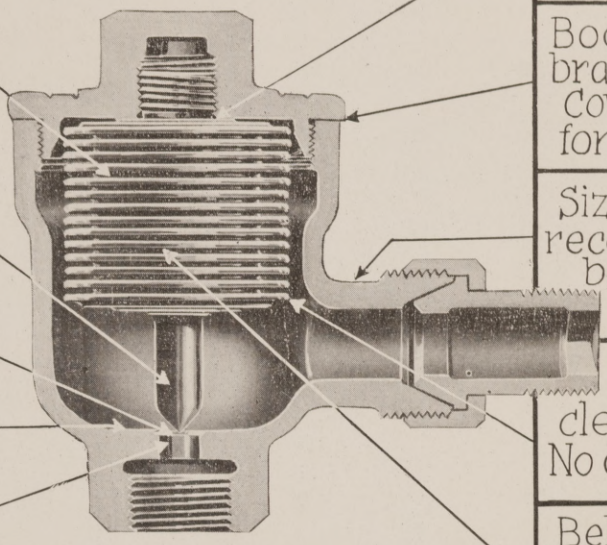
14 Corrugation Bellows 1¾" in diameter. Great Power.

One Piece Plunger. No Adjustments

Seat is right in trap body. Absolute Uniformity.

Floor of Body is perfectly smooth. No tendency to clog.

Oversize outlet— Quick elimination



Bellows screws up tight— Interchangeable.

Body made of brass, nickeled Cover is brass forging—

Sizes are as recommended by H.&P.C.N. Ass'n.

Bellows clears inlet. No obstruction.

Bellows made by TRANE. Special one-piece construction.

TRANE Bellows-Type Radiator Traps are made in all regular sizes and styles at the Trane Factory, La Crosse, Wisconsin. These traps possess every refinement of the modern trap-makers' art, including seamless, jointless bellows, interchangeable self-adjusting elements, and the all-important "power to operate" through a wide range between 15 inches of vacuum and 25 pounds of pressure. Everything that can be done has been done to produce a dependable radiator trap that is sensitive, yet rugged. Guaranteed for five years.

Excerpt from Trane Bulletin G-B. 1924.

THE TRANE COMPANY, 210 Cameron Ave., La Crosse, Wis. Manufacturers of Vapor Heating Specialties and Pumps. Branches and Sales Connections at New York, Boston, Philadelphia, Buffalo, Detroit, Seattle, Albany, Minneapolis, Salt Lake City, Fort Wayne, Portland, Ore., Greensboro, N. C., Atlanta, Ga. In England: 22-23 Clerkenwell Close, London, E. C. 1. In Canada: Grant E. Cole Co., 23 River St., Toronto; Thomas Robertson & Co., 134 Craig St., West, Montreal.

Trane ONE-PIECE RADIATOR BELLOWS TYPE Traps

MAIN ENTRANCE DETAIL

ATLANTA BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS.

THE
SOUTHERN ARCHITECT
AND
BUILDING NEWS

VOLUME L. JULY, 1924 NUMBER 7

The Architecture of the Modern Hotel

By Leonard Schultze,
Schultze & Weaver, Architects, New York.

THE modern hotel from the standpoint of architectural design presents to the architect for solution the same problems that are involved in the design of any other structure of considerable size. The type of hotel having been decided upon, the building must then be so planned that it will adequately provide the necessary guest and public rooms, together with the attendant facilities that are so absolutely necessary to the successful operation of the hotel when erected.

The essential element in the planning is that of the typical guest room floor which must be so arranged, in keeping with the character of the proposed hotel, that the best type of bedroom, bathroom, etc., will be secured. Through skillful planning the bedrooms must be such that the maximum exposures to sunlight and the prevailing winds will be afforded. The location of the elevators, that they may most centrally serve the various rooms, is of importance, as are the locations of stairways, linen closets, slop sink closets and floor clerks' stations, when the latter are to be provided. These and the many other essential elements that make for successful and convenient operation must be carefully considered and provided to insure ultimate success of the operation from all angles.

The arrangement of the offices and the public rooms, such as dining rooms, grill rooms, ball rooms and the other public features, should be such as to harmonize in layout with the plan of the typical bedroom floor and afford to the patrons the utmost in accessibility and convenience. The kitchens and service facilities, as well as the employes' locker rooms, toilets, etc., should be planned and located so as to most easily serve the various rooms they are intended to provide for. Considerable thought and attention must be given to the location of the service and power plants, the delivery entrances and the arrangement of delivery spaces to the various elements of the plan. These are of a smuch importance to the successful operation of a hotel as the arrangement of the guest and public rooms. It may seem that the solution of these problems as enumerated have little if anything to do with the character of the architectural design of the building; however, the successful hotel, insofar as its exterior is concerned, can be nothing more than a true expression of the various elements of the plan and the component parts of the building that go to make up that plan.

The dimensions and proportions of the lot upon which a hotel is to be erected will govern in part the arrangement of the rooms so that the most economical use of it may be obtained. This will affect the character of the outline of the building and determine the general mass of the structure. The climatic conditions also have their bearing on the architectural design. A hotel building for a southern city or a resort calls for an entirely different plan from that of a hotel which is to be built in a congested northern city. A hotel to be constructed in the northern portion of the country where cooler climatic conditions prevail will not require the same amount of court area as one built in a southern city or a resort.

The best designed hotels in this country are those which distinctly express in their exteriors the plans of the buildings behind the outer walls. They are the hotels in which the architect has not endeavored definitely to employ a style of architecture which is not symbolical of the purposes for which the hotel is to be utilized. A hotel of a purely commercial character in a business city with its business surroundings requires that the design should partake of these elements. If, however, the hotel is in a summer or winter resort and it is to be used more or less as a social center, a freedom of treatment is permitted, which is not true of the first mentioned type.

In addition to providing in the planning for the various spaces and necessary facilities to care most adequately for the purposes for which the

building is intended, the architect must always bear in mind the ultimate cost of the structure. If the appointments and decorations are too expensive and the volume of cubic contents too great, it is sure to prove a financial burden to its operators and ultimately be classed among the failures. There are numerous hotels in this country which have cost so much money that they cannot be made to bring an adequate (if any) financial return to those who invested in the ventures. There are others upon which too little money has been spent, which made necessary the omission of many of the essential parts of such a building. In consequence of this the operators are unable to give to their patrons the kind of service they have every right to expect. In the course of time competition will cause the building of other structures of a like, but better, character. These will have all the necessary appointments provided for. The hotels without the adequate facilities will further suffer and be confronted with an extensive and expensive alteration program out of proportion to the original cost of providing the facilities that should have been included when the hotels were built.

The various municipalities and states have adopted zoning, building and hotel laws. It is therefore virtually impossible to determine a universal type of building, either in exterior architecture or in plan, that will fit any two localities. In Boston the limit of height of a building has only recently been raised to 155 feet; in Los Angeles it is limited to 150 feet, while San Francisco places no limit. Chicago allows a maximum height of 260 feet. The zoning law of New York creates a problem entirely different from that in any of the other cities mentioned.

In consequence of various restrictions as to height, some of which have been set forth together with other regulations which vary throughout the country, there is hardly any particular type or style of architecture which blends itself to a general solution of the hotel problem. The architect is governed by the conditions of the city in which the building is to be erected, and must adopt a style or period of architecture that will best fit these conditions, which can be used, however, in no more than a decorative sense to cover the bones of the structure. It is impossible to say that Italian renaissance, Gothic, Louis XVI or any other period of architecture is best adapted for any particular type of hotel. The exterior of any American steel-frame building is vastly different from that of the buildings of the older countries where established styles of architecture prevail that no matter what patricular type of architecture is employed the result will be only one of decoration.

The fenestration of a building should not be determined solely with the idea of securing the most pleasing appearance from the exterior. It should be so arranged that it will afford the best light and most air to the rooms that are to be taken care of. In most of the building laws of the cities of this country at present provision is made for a minimum window surface area which each room must have. This in general depends upon the number of square feet or other unit of measure contained in the room and will at times tie the hands of and restrict the architect in his selection and force him to adopt a type or sizing of window which may not always be to his liking.

It is necessary to subordinate and at times sacrifice what the designer frequently considers his individual tastes and desires in order to provide adequately for the commercial uses and requirements of the building. He has no right to indulge his fancy in over-decoration, or in the use of more expensive materials for decoration than may be deemed essential—necessary to make the building a safe commercial invetment. Hotels are planned and erected, except in a few and rare cases, with the primary idea of making money; in addition they are expected to supply the needs of the public, and at the same time afford the greatest number of conveniences possible.

Although tied down with many restrictions and with the commercial aspect always in mind, there is no reason why in designing buildings of this character great diversity of treatment cannot be obtained. No two structures need be, nor are they likely to be, the same, as seldom if ever are two plots upon which such buildings are to be erected exactly the same in size and contour. Very few hotel operators would require or wish the same type of hostelry everywhere. The problem of the commercial hotel is so different from that of the hotel devoted to social and residential patronage that the two must of necessity be treated in entirely different ways, both as to plan and design.

Roofs which are simply decorative features and serve no purpose occupy area and cost money, which could be utilized to provide additional conveniences or at times better the construction. These are as anomalous on hotel buildings as on other structures. Decoration serving no purpose is as out of place in a hotel as anywhere else. Simplicity of design is the first essential, and frequently the best effects have been obtained by the utilization of good materials and a minimum of ornament.

The designer of a modern hotel is in exactly the same position, and has the same problems to solve, as the designer of any other commercial building. — (Courtesy of the "Architectural Forum.")

VIEW OF MAIN ENTRANCE COLONNADE FROM GARDEN

VIEW OF HOTEL AND APARTMENT ACROSS GARDEN

ATLANTA BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS.

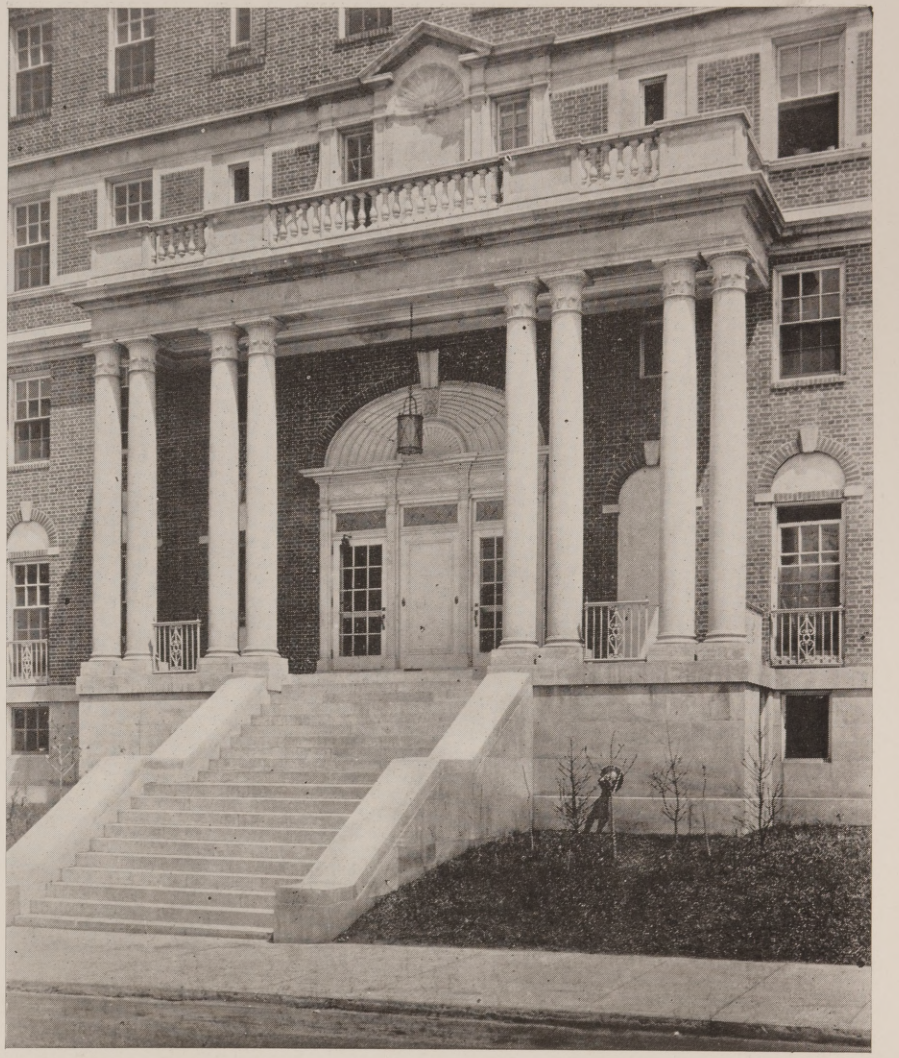
DETAIL OF UPPER STORIES

DETAIL OF MAIN ENTRANCE COLONNADE

ATLANTA BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS.

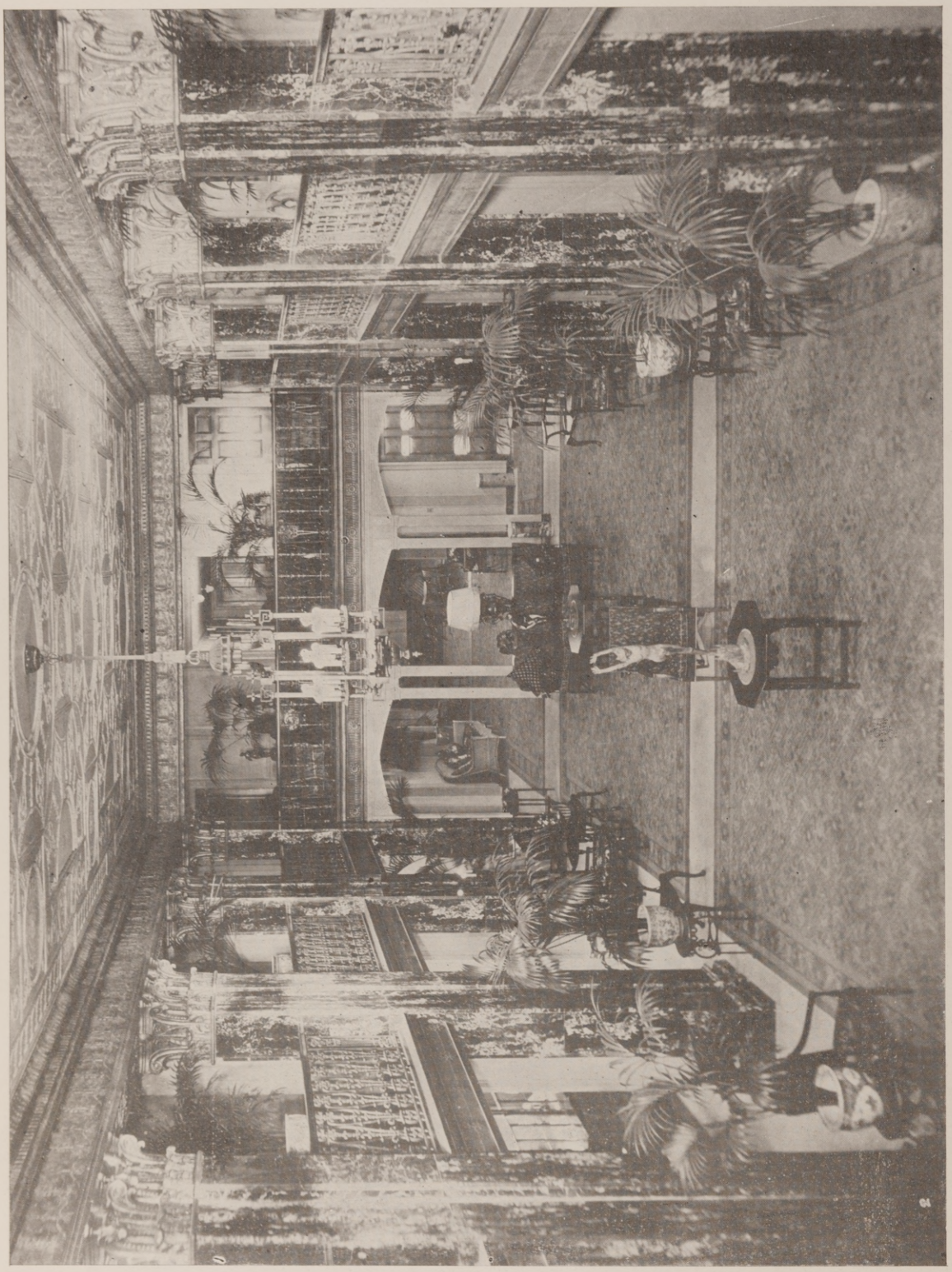
DETAIL OF APARTMENT ENTRANCE FROM COURT



DETAIL OF APARTMENT ENTRANCE FROM FIFTH STREET

ATLANTA BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS.



LOBBY

ATLANTA BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS.

FOYER OFF LOBBY

ATLANTA BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS.

MAIN DINING ROOM

ATLANTA BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS.

BALL ROOM

ATLANTA BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS.

DETAIL OF PROMENADE IN BALL ROOM

ATLANTA BILTMORE HOTEL, ATLANTA, GA.

SCHULTZE & WEAVER, ARCHITECTS.

Record Year in Southern Hotel Construction

The tremendous number of large hotels which have been built in the South during the past year was the subject of a recent article by E. J. Williamson, of the Hotel Gazette. In the course of this article he says:

Southern hotels costing $1,000,000 or more each which have been opened this year include:

Bon Air-Vanderbilt Hotel, opened January 8th, at Augusta, Ga., containing 300 rooms and baths and built at a cost of $1,750,000. Immediately after the opening, plans were prepared for an addition which was opened on December 15. This addition contains 100 rooms and baths and was eretced at a cost of $500,000.

Francis Scott Key Hotel, Frederick, Md., opened January 8, with 250 rooms, baths, built at a cost of $1,250,000; Robert E. Lee Hotel, San Antonio, Tex., opened May 26, with 200 rooms and baths, built at a cost of $1,000,000; Stoneleigh Court Hotel, Dallas, Tex., opened October 18. This is a high-class residential hotel, but with transient accommodations, containing 350 rooms and 200 baths, built at a cost of $1,500,000.

West Virginia Hotel, Bluefield, W. Va., opened November 15, with 350 rooms and baths, was built at a cost of $1,250,000; Mason Hotel, St. Petersburg, Fla., is completed and will be ready for formal opening December 30. It contains 250 rooms and baths and was built at a cost of $1,250,000; Hotel Soreno, St. Petersburg, Fla., with 250 rooms and baths, was built at a cost of $1,400,000. Construction of an $800,000 addition to this new hostelry is scheduled to begin immediately after the close of the present season; Suwanee Hotel, St. Petersburg, Fla., with 118 rooms and baths, was built at a cost of $1,000,000 and opened December 1; Ponce de Leon Hotel, Miami, Fla., opened December 1, was erected at a cost of more than $1,000,000; Parkview Hotel, a residential and transient property at Memphis, Tenn., containing 450 rooms, was built at a cost of $2,500,000 and opened November 15.

Coronado Hotel, St. Louis, with 400 rooms and baths, and opened December 15, was built at a cost of $2,500,000. The Coronado is exclusively "stag," operated on the plan of the Shelton, Claman, Allerton and other hotels in New York.

Sir Walter Raleigh Hotel, Raleigh, N. C., with 250 rooms and baths, opened November 20, built at a cost of $1,250,000; Nautilus, at Miami, Fla., opened December 15, with 250 rooms and baths, built at a cost of $1,250,000; Forest Park Hotel, St. Louis, with 300 rooms and baths, opened December 1, built at a cost of $2,000,000; Francis Marion Hotel, Charleston, S. C., with 292 rooms and baths, built at a cost of more than $1,000,000, and scheduled for formal opening December 31.

In addition to this list, there are a number of $1,000,000 hotels in course of construction in various Southern cities, some of them nearly completed and others still in early stages of construction. One of the most notable, expected to be ready for opening early next spring, is Hotel Biltmore, of Atlanta, a $6,000,000 project. Other properties, construction on which is well under way, include the $2,500,000 Hotel Mayo, at Tulsa, Okla., which is practically completed and will be opened in January or February, according to present prospects; $2,000,000 Tri-State Hotel, to be opened shortly after the first of the year at Memphis, Tenn.; new Hotel Peabody, a $5,500,000 property, construction on which began a few weeks ago; new Arlington Hotel at Hot Springs, Ark., to be built at a cost of $3,000,000, replacing the old Arlington which burned a year or so ago. The new Arlington will be eleven stories high and will contain 600 rooms. Two Texas hotels, each costing well over $1,000,000, are being rushed to completion. One is the Sam Houston, 225 rooms and baths, at Houston, and the other is the Stephen F. Austin Hotel at Austin, at 250-room hostelry.

The new Hotel Washington which E. Kirby Smith, Shreveport, La., and associates are building in that city, is well along and will be opened some time next summer.

In addition to the new Biltmore, Atlanta is to have another large hotel, the Henry Grady. This is to have 500 rooms eventually, but only 250 rooms will be built this year at a cost of approximately $1,300,000.

About $1,500,000 is being expended in construction of the new Battery Park Hotel at Asheville, N. C., and a new million-dollar hotel is in final stages of construction at Jackson, Miss. Citizens of Durham, N. C., have completed financing a million-dollar hotel for that city, construction of which is expected to begin shortly after the first of the year.

Six of the South's $1,000,000 hotels opened in 1923 are in Florida cities, one of the most active states in the union in the matter of new hotel construction. If present plans materialize, Florida in 1924 will surpass her 1923 record, as a number of new hotel projects, several of them in the $1,000,000 class have been announced. It is estimated that the aggregate cost of new hotels built and opened in Florida last year exceeded $18,000,000. A list of those costing less than $1,000,000 includes:

The Pancoast, Miami, 150 rooms, $900,000; Henrietta, Miami, 300 rooms, $800,000; Fort Dallas, Miami, 85 rooms, $300,000; Aroyo Gardens, Daytona, opened February 10, with 150 rooms, $500,000; Fort Pierce, Ft. Pierce, 125 rooms,

$325,000; Pheil, St. Petersburg 118 rooms, $750,000; Coquina, Ormond Beach, 150 rooms, $500,000; Mira-Mar, Sarasota, 150 rooms, $500,000; Alma, West Palm Beach, 106 rooms, $350,000; Haven, Winter Haven, 132 rooms, $525,000; Royal Palm, St. Petersburg, 100 rooms, $500,000; Hotel McAllister, Miami, 100-room addition, $150,000; addition to Hotel Woffard, Miami, $200,000; Millcrest, St. Petersburg, 30 rooms, $50,000; Ponce de Leon, St. Petersburg, 75 rooms, $200,000;Balmoral, West Palm Beach, 40 rooms, $100,000; Tarpon, Ft. Lauderdale, 40 rooms, $75,000; Calida, Callahan; Coral Gables, Miami, 50 rooms, $200,000; New Hotel Wales, Lake Wales, 40 rooms, $90,000; Indian River Hotel, Rockledge; Atlantic Hotel, Ft. Pierce, 25 rooms, $50,000; Nances-o-wee, Sebring, 60 rooms, $100,000; Vereen, Miami, 92 rooms, $300,000; Billows, Palm Beach, 70 rooms, $160,000; Royalton, Miami, 105 rooms, $225,000; Santa Rosa, Sebring, 20 rooms, $30,000; Mount Dora Hotel, Mt. Dora, 30 rooms, $60,000; New Hotel at Keystone Heights, built at a cost of $150,000; El Verano, W. Palm Beach, 160 rooms, $500,000; Hollywood Hotel, Hollywood-by-the-sea, 86 rooms, $200,000; Cherokee, Tallahassee, 91 rooms, $200,000; Pearl, Orlando, 22 rooms, $50,000, and a number of others.

HOTEL TEXAS, FORT WORTH, TEXAS.

SANGUINET, HEDRICH & STAATS, ARCHITECTS.

VIEW OF LOBBY

HOTEL TEXAS, FORT WORTH, TEXAS.

SANGUINET, STAATS & HEDERICK, ARCHITECTS.
MAURAN, RUSSELL & CROWELL, ASSOCIATE ARCHITECTS

HOTEL TEXAS, FORT WORTH

This hotel has 438 guest rooms, each with private bath, and two floors are given over to sample rooms and a number of special suites. The dining facilities include a main dining room seating 100, a cafe on the street frontage, and three private dining rooms on the mezzanine equipped with a service pantry.

The ball room, 4,259 square feet in area, is on the 14th floor, grouped with two dining rooms, all of which can be thrown together, accommodating 3,000 people. This group is served by a complete kitchen. The 15th floor is given over to service and employes' quarters. The total floor area of the building is 271,514 square feet; its contents is 3,165,000 cubic feet, and it cost, including architects' fees, laundry and other equipment, but exclusive of furnishings, $2,566.000.

ENTRANCE DETAIL

GENERAL VIEW

NEW HAMILTON HOTEL, WASHINGTON, D. C.

S. H. DeSIBOUR, ARCHITECT.

HOTEL HAMILTON, WASHINGTON

The Hotel Hamilton has been designed to afford distinctive service in Washington. It contains 350 guest rooms, each with private bath. The main dining room seats 400, and there are in addition three private dining rooms seating 60 each. There is one main kitchen, a service kitchen for each private dining room, and a service pantry on each floor.

Construction is steel frame with reinforced concrete floors; exterior materials, Indiana limestone and terra cotta. The interior is executed in plaster in Adam style. Heating is by low-pressure steam vapor system; power from central station. Mechanical equipment includes 36,000 cubic feet ventilation for kitchen, etc.; 12,000 cubic feet air washing for public rooms, 7½-ton refrigerating plant, and portable vacuum cleaning system. Total contents of building is 1,450,000 cubic feet. Completed December, 1922.

LOBBY

NEW HAMILTON HOTEL, WASHINGTON, D. C.

J. H. DE SIBOUR, ARCHITECT.

NEW CAPITAL HOTEL, FRANKFORT, KY.

This building is arranged to serve local community and social needs as well as to provide accommodations to the traveler. It contains 80 guest rooms, the majority of which are supplied with private baths; the smaller rooms at the front and rear of the main block are equipped only with lavatories, and general toilets are arranged to serve them. A large lobby and dining room, finished in Georgian wood paneling to accord with the exterior, and the ball room on the fourth floor comprise the public portions aside from three conference rooms on the mezzanine. The ball room is served from the main kitchen by elevator. Three shops are incorporated on the ground floor below the guest rooms on the mezzanine floor.

NEW CAPITAL HOTEL, FRANKFORT, KY.

FRANK L. PECKARD AND LEO, L. OBERWORTH, ASSOCIATED ARCHITECTS.

VIEW OF LOBBY

MAIN DINING ROOM

NEW CAPITAL HOTEL, FRANKFORT, KY.

FRANK L. PECKARD AND LEO. L. OBERWORTH, ASSOCIATED ARCHITECTS.

The Hotel for the Typical American City

By W. L. Stoddart, Architect, New York.

THE backbone of the hotel industry in the United States is formed by the commercial hotel, represented by hundreds of buildings of varying degrees of merit and ranging from 50 to 300 rooms in capacity. The importance of the small hotel in the aggregate may be seen from a recent survey of hotels in this county; of a total of 22,196 hotels, 16,522 are of 50 rooms or less, and 5,046 are of between 50 and 200 rooms.

Today the great majority of smaller hotels are community enterprises. The need for a hotel is felt by the business interests of the city, and through a committee of prominent merchants, manufacturers, etc., backed up by the local chamber of comerce, the problem is undertaken. In the natural course of events, these men are without experience in the hotel owning or operating field, and the most important consideration at the outset is to secure intelligent advice. The most effective and logical thing to do is to bring in at this point the lessee or operator of the hotel. Since it will be largely due to his management whether the hotel is a success or not, it is important to be assured that in its arrangement and equipment his ideas are complied with.

The first point that comes up for decision is the size of the hotel. In this the hotel lessee should be the most capable judge. Supplementing his opinions, it is well to secure the ideas of the outstanding local retail merchants, because they have a direct knowledge of the community's buying power. The business men will also be able to indicate fairly closely the amount of patronage to be expected from commercial travelers. The character of the city will, of course, determine this largely. In an industrial section there will be less patronage of this type than when the community is a trading center. The patronage from the townspeople themselves and the stimulus that a new hotel will provide the city's commercial and social activities should not be overlooked.

The relation of the surrounding country to the city is also an item of importance. If the city is on a main line railroad or if a popular automobile highway passes through it, the hotel can be larger than if the city is not so favorably situated. Given these advantages of location and, with a modern hotel, a city become sa logical convention center.

It is not wise to draw comparisons between cities of similar populations in determining the capacities of hotels because of the varying local characteristics even in cities of the same size. The existing hotel accommodations in a city should, of course, receive serious consideration. The size of the new hotel should not be affected in any degree by existing hotels unless at least one of them is entirely modern. It is the experience in most cities that a new hotel not only creates business for itself but creates business for all the hotel in town, and it is also generally true that a new hotel is an element of importance in increasing the population of the city.

In determining the size of the hotel, I would make three recommendations. First, it is not a sound financial proposition to build a modern fireproof hotel of less than 150 rooms, since because of the public space required in a hotel of any size it takes this minimum number of rooms to produce sufficient revenue to insure the interest on the investment. Second, it is a safer business proposition to build conservatively and allow for future expansion. It is in the province of the architect to make this provision in his original plans, but he must, of course, be given definite indication from the owner as to the probable future needs. Third, the possibility of store rentals as additional revenue to the hotel owner should be definitely considered and will largely affect the selection of site. This revenue should be equal to the interest on at least 25 per cent of the cost of the building or, in other words, should equal the taxes and interest charges on the property or, if the property is leased the annual rental charge.

Selecting a site for any hotel is a matter of serious concern, but it is of the greatest importance in the case of a small commercial hotel. There are in general four classes of people whose opinion in regard to the site should be carefully weighed. These are the prospective lessee, the architect with experience in the building of hotels, the city's leading retail merchants, and officials of the chamber of commerce. The particular points that should determine a site are its accessibility to railroad stations, street car lines, automobile highways, the city's business district, and the residential section. If the hotel site is selected with reference to these factors, the question of revenue from sub-rentals will automatically take care of itself.

If the indicated return from store rents can definitely be assured, the cost of the site selected is of secondary importance. The best site should be selected, regardless of cost, and the income from sub-rentals adjusted to carry the cost of the property. The best location for a new hotel is one that is conveniently close to or even directly in the line of growth of the city's retail business and at the same time on the main street leading out toward the residential center. The re-

tail center of a city follows the trend in residential building, and it is better to choose a site with which the business district will catch up than to locate a hotel in the immediate business center with the possibility of its being left behind in the course of a few years' rapid growth.

Adapting the hotel plan to a city's requirements can be done only after a careful study of the type of hotel service that will be demanded. While it is frequently said that a hotel cannot be called modern unless every room is provided with a private bath, it is obvious that all of the traveling public has not arrived at a point where this is demanded, and the successful commercial hotel should be in a position to meet the demands of a varying patronage. The provision for guest rooms should therefore be sufficiently elastic, so that the commercial traveler who wishes to keep down expenses, the tourist and the attendant at conventions can all be accommodated.

Every room in a hotel should have toilet facilities and a lavatory. The bath can be omitted, but there is no necessity for providing public baths on the typical floors to serve patrons of these rooms. As a matter of actual space utilized there is no gain in providing public baths and toilet rooms for men and women to serve the few rooms on a floor that would not be equipped with private baths. An actual instance of this is seen in the case of remodeling a hotel in a southern city which originally had from 50 to 60 rooms without baths. One hundred thousand dollars was spent in equipping these rooms with private baths, and even with the added space required for bathrooms 14 additional guest rooms were gained. The new arrangement, of course, provided rooms slightly smaller than those originally built, but entirely suitable for modern conditions. Every room in a hotel should also be provided with a closet if possible.

From the standpoint of economy in construction, as many of the floors as possible should be alike. It is, therefore, necessary to plan the typical bedroom floor so that a proper proportion of each of these kinds of rooms will be incorporated. The larger rooms that tourists will require can be located at the corners. The smaller rooms, with possibly lavatories and toilets only, can be located on the courts, and the tiers of typical rooms and baths occupy the street frontages of each floor.

For the typical hotel in a city of 20,000 to 50,000 population, in which the patronage will be chiefly commercial in character, I would recommend these sizes for bedrooms:

Court rooms, 9½ to 11 feet wide by 14 to 15 feet deep.

Rooms on street frontages, 10½ to 12½ feet wide by 16 feet deep.

Corner rooms, 13 to 14 feet wide by 16 feet deep.

A practical ceiling height for a hotel of this character is one that measures 10 feet from floor to floor.

There is an advantage in arranging some of the corner rooms en suite. Tourists frequently demand larger accommodations than do traveling men, and in developing the business of a new hotel such a combination of rooms offers opportunity of securing desirable patronage in the way of winter leases from residents of the city. This business offers the management a steady income until such a time as transient business develops, when these rooms can be used for single occupancy, since a larger percentage of profit is in that type of patronage. The proportion of single and double bedrooms can generally be determined satisfactorily by furnishing all the street front and corner rooms with twin beds and the court rooms with single beds.

A proportion should also be worked out between tub baths and shower baths. There is, unfortunately, an impression among the traveling public that the shower bath represents less expense to the hotel, and there is consequently a demand for shower baths on the part of those persons who economize. As a matter of fact, if the shower bath is properly installed it equals and often exceeds in cost the tub bath, and from the point of operation it is frequently more expensive. To meet this demand 10 to 15 per cent of the court rooms should be equipped with shower baths.

In cities where trade is an important element there will be need for sample rooms to accommodate commercial travelers. It is difficult to gauge the number of these to provide because they will be unoccupied during certain seasons of the year, and they consequently represent a drain on hotel profits. A compromise should therefore be reached by planning them with a view to utilizing them as bedrooms. The type of disappearing bed that folds into a closet is satisfactory equipment for the traveling man, and at the time of conventions and other peak loads the rooms can be furnished as regular guest bedrooms, or else cots can be used. In the small hotel it is probably better to arrange these sample rooms near the service elevator on each floor rather than to provide an entire floor of sample rooms, because of the greater elasticity that the former scheme provides.

Convenience of service should not be overlooked on the typical floor. It is esential to incorporate a slop sink closet, a linen closet for the daily floor requirements and whenever possible storage for cots. Laundry and rubbish chutes

THE FRANCIS MARION HOTEL, CHARLESTON, S. C.

W. L. STODDART, ARCHITECT.

WRITING ROOM AND SUN PARLOR

VIEW OF LOBBY LOOKING TOWARDS CAFE

THE FRANCIS MARION HOTEL, CHARLESTON, S. C.

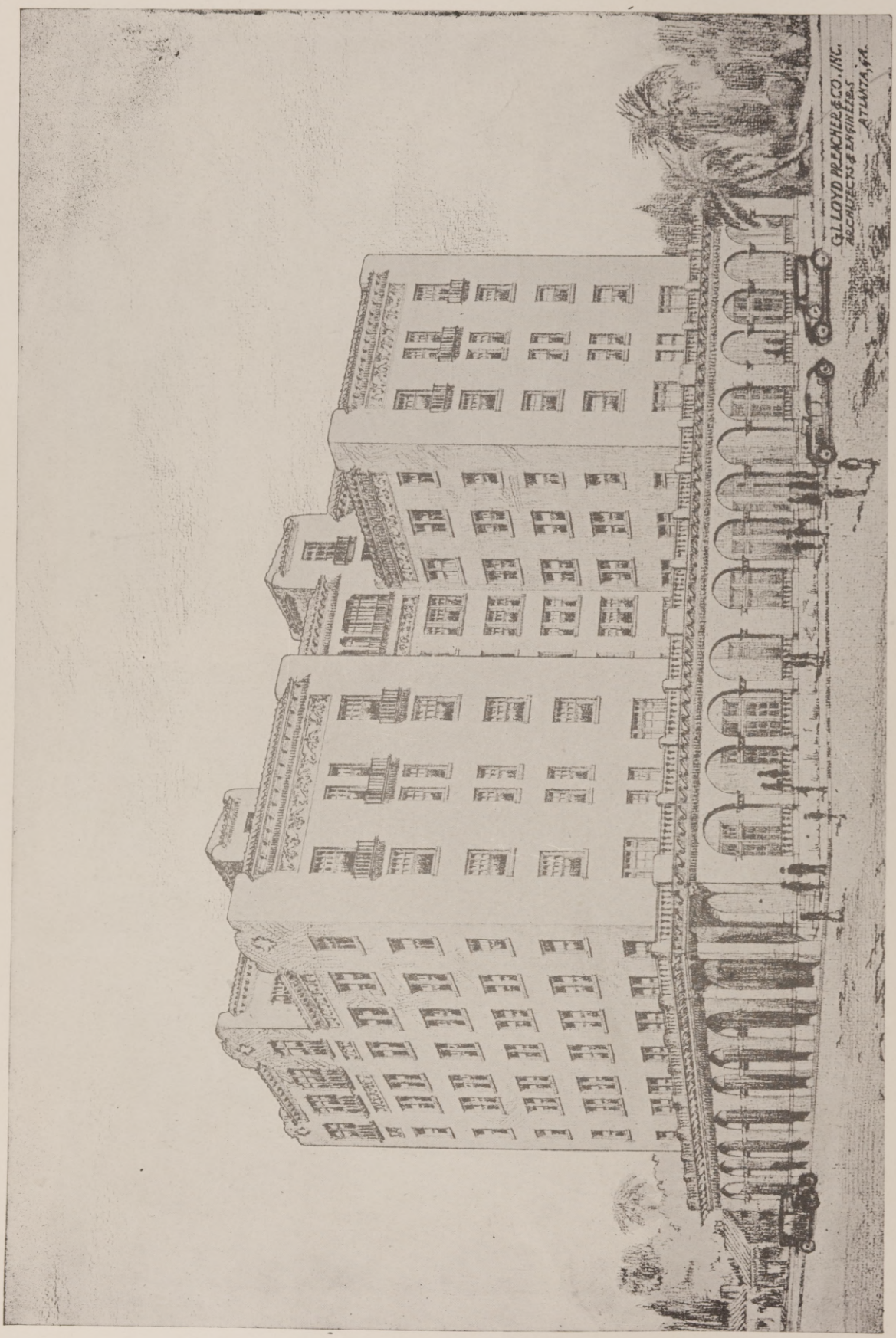
W. L. STODDART, ARCHITECT.

MAIN CAFE

BED ROOM OF CORNER SUITE

THE FRANCIS MARION HOTEL, CHARLESTON, S. C.

W. L. STODDART, ARCHITECT.



EL NEUVO HOTEL, LAKE WORTH, FLA.

G. LLOYD PREACHER & CO., ARCHITECTS

HOTEL CHASE, ST. LOUIS, MO.

PRESTON J. BRADSHAW, ARCHITECT.

VIEW OF LOUNGE FROM LOBBY

VIEW OF PALM ROOM

HOTEL CHASE, ST. LOUIS, MO.

PRESTON J. BRADSHAW, ARCHITECT.

HOTEL LAFAYETTE, LEXINGTON, KY.
C. P. & E. J. WEBER, ARCHITECTS.

will contribute to better service, reduce the number of maids and relieve the elevator.

In planning the public portions of the small hotel every effort should be made to conserve space. The various dining rooms that the type of patronage indicates as necessary should, whenever possible, be so located that they can be served from the main kitchen. The kitchen and main dining room should be placed on the lobby floor level or slightly above it. An important feature of this type of hotel is the lunch room or coffee shop. This should be given the best street front location on the ground floor that is accessible to the kitchen service, and the connection can generally be accomplished by means of a ramp.

The simplest and most logical scheme for meeting the small hotel's need for public space is a large room planned in conjunction with the lobby that can be so screened off as to serve different purposes. When a lot is of such dimensions that a frontage of 100 to 125 feet can be had, a lounge pace covering this area, raised a half-story above the lobby and located directly over the street front shops, meets the conditions admirably. One end can be used as a dining room and the other end for a general lounge, and there should be separate staircases from the lobby to each section so that they can be used independently. If the restaurant service increases it is a simple matter to extend the temporary screens to gain the required space. Similarly, the dining space can be contracted so that there will not be an empty appearance as happens when a large separate room is provided and the expected patronage does not develop. With this arrangement, the lobby is in the center of the building and serves simply the commercial end of the hotel, the lounge space providing the social end.

In small hotels, where conventions are not a regular part of the business and the demand for space for them is irregular, this same lobby-lounge can be devoted to entertainment purposes. In this event, a large storeroom on the same floor level is necessary in order to store the furniture that has to be removed from the lounge. In planning the working lobby of the small hotel, certain provision should be made for small concessions, such as cigar stand, newsstand, flower shop, etc., but the rental returns from these spaces are not sufficiently great to require any special attntion being given to securing advantageous locations for them.

A determination of space for private dining rooms and a ball room will depend entirely on the business and social activity of the city. At best, the question of installing a ball or assembly room, particularly in the typical hotel of 100 to 200 rooms, is a difficult one. If conventions are to be sought, a room of this character is always necessary, and if local activities, such as Rotary and Kiwanis Clubs and social functions can be depended on, the space will show a fairly regular use. In any case, the ball room should not be located in valuable space that can better be used for other revenue-producing purposes. If a guarantee of patronage for the private dining rooms can be secured in advance, this will be valuable in determining their number. It is well in any case to have them grouped together, so that they can be turned into one room for larger functions. They should be placed in the building also with careful relation to the kitchen service. Except in special cases, I believe it is a mistake for a hotel that is primarily commercial in character to provide a roof garden.

Passenger elevators should be grouped together, but in the small hotel it is not necessary that the service elevator be in the same bank. One passenger elevator should be installed for every 100 guest rooms. The service elevator should be placed in such a location that it will serve with equal facility the kitchen and the rear entrance for the handling of trunks, etc. It is generally planned in conjunction with the service stairs and, provided a corridor or passageway is arranged for access to it from the lobby, it is not necessary to have it adjoining the lobby. One service elevator in the average small hotel is sufficient.

There is very little room food service required in a hotel of this type, and the service elevator will take care of any calls. There is therefore no need for providing dumbwaiters. If the kitchen is properly located with respect to the various dining rooms there is also no need of dumbwaiters or dish conveyors common in the large hotels.

The kitchen should be as large as the main dining room and on the same level with it. If it serves a banquet room on a floor above it, it is only necessary to have a good staircase with a pantry at the head of it. The food is taken up in bulk from the kitchen on the service elevator to the pantry for serving.

Incorporating the laundry in the hotel of from 100 to 300 rooms is a matter on which lessees have divided opinions. In general, however, it is preferable to have the flat work done in the hotel if the finances will permit. For a 200-room hotel the cost of a satisfactory installation would be in the neighborhood of $12,000. A hotel of this size would of course not undertake any laundry service for guests.

Mechanical equipment should be reduced to the minimum because of the cost of operating and maintenance. It is necessary to have forced ventilation in the kitchen, and this would be pro-

vided by ducts for the inlet of fresh air and exhaust ventilation from the hoods over the ranges. The rooms in the basement, such as barber shop, billard room, grill room, etc., are generally so closed in that artificial ventilation here is necessary. To provide fresh air is sufficient; the exhaust will take care of itself. The only additional rooms requiring exhaust ventilation are the bathrooms, and this is accomplished by means of exhausting the shafts which are connected up with a large exhaust fan at the top of the building. The modern method of installing bathrooms in a hotel of any size is to group them along the corridor walls with a pipe and air shaft between each two rooms. This makes it possible that the ventilation be simply worked out.

Very few hotels of 300 rooms or under are equipped with their own power plants. It requires the employment of skilled men, and the cost of the service proves too expensive. In most cities satisfactory arrangements can be made with the local service companies to provide electric current at reasonable cost for elevators, motors, illumination and other needs.

A certain amount of steam is needed in the kitchen, and this is provided for by putting in high-pressure boilers tested to 100 to 125 pounds and equipped with reducing valves to bring the steam down to the pressure required for the various uses. In this way there are no problems of handling exhaust steam, and the heating of the building is accomplished by installing an auxiliary low-pressure boiler. Water is heated in a boiler equipped with copper coils and fed with steam from the high-pressure boiler. About 40 pounds steam presure is required for the kitchen, and from 40 to 50 pounds for the laundry.

Refrigeration is provided by the installaton of automatc plants where boxes are set to a certain temperature; when this temperature is reached the plant automatically shuts down and does not need any attention. The plant is operated by an eletcric motor, and the ammonia system is that generally selected. This plant can also be equipped to make from one to two tons of ice daily, which will meet the requirements of the average hotel. Similarly, it can be enlarged sufficiently to take care of running ice water in the guest rooms. An important point in refrigeration is the insulation of the pipes, particularly those supplying ice water. They should of course be kept away from steam risers, but with asbestos, composition or cork covering of sufficient thickness they can be accomodated in the bathroom pipe shafts without any great waste of cold.

The planning of a successful modern hotel, whether in a large city or a fairly good-sized town, is work to which the architect must bring his best skill, together with all the vision and experience which he and his organization can command.

HON. RICHARD H. EDMONDS—A VITAL HELPER IN SOUTHERN DEVELOPMENT.

By H. E. Harman

HON. RICHARD H. EDMONDS

When I was a freshman at Pennsylvania College in 1882, being one of three boys in that institution from the South, The Manufacturers Record was launched in the City of Baltimore. Three years later, for lack of funds, I was compelled to leave that institution before graduation but fortunately for me the college afterwards gave me my full degree and later bestowed a higher honor for literary work.

Mr. Richard H. Edmonds had been a pioneer in trade paper publishing and by chance copies of The Manufacturers Record fell into my hands. The trade paper business was a new industry at that time and Mr. Edmonds blazed the way for others who entered the business. At any rate by watching the growth of his paper I was influenced to enter the same field with The Southern Tobacco Journal some years later as soon as I had a few thousand dollars ahead with which to enter the business in a small way.

Since that time I have remained in the business and during all these years the work done by Mr. Edmonds has been a constant inspiration for me.

That The Manufacturers Record has been a great factor in Southern Development and Building goes without saying. No one can estimate the vast influence which that paper has wielded in encouraging the investment of capital in Southern business of every description. Opportunities for new enterprises have been pointed out—new business of every kind encouraged and millions of dollars have been invested in the South as a direct result of Mr. Edmonds untiring efforts to help our section.

This is a high tribute to one man but I write it without fear of contradiction that Mr. Richard H. Edmonds has done more to help Southern Industrial Development than any other one individual. The entire South owes him a debt of gratitude which it will never be able to repay.

Furthermore Mr. Edmonds' judgment upon vital question has always been so sound that his editorials in The Record have been widely quoted by the leading newspapers of the entire South, and in a great many cases by northern papers as well, which has added wonderfully to his influence on public sentiment in a general way.

The writer, therefore, feels that flowers belong to the living, even more than to the dead and for one I am glad to give expression to these facts and to add this tribute to the sterling character and worth and influence of the Hon. Richard H. Edmonds—the man who has done so much to help us build upon the ruins of the old South, the New Empire, which is now coming into its own along the lines of industrial prosperity.

Items for Specifications of Concrete Grandstands

By H. Colin Campbell.

Reinforced concrete grandstands are structures which necessarily have a large exposed area in proportion to the volume of concrete. For this reason there is need for a method of control during construction that will assure a good quality of concrete. The inspector must not permit an excess of water to be used, he must see that the ingredients of the concrete are not allowed to become segregated, and he must insist that the concrete be kept moist for at least 1 week after it is deposited.

Concrete mixed with an excess of water has low strength, low resistance to abrasion and high absorption; yet the same materials, if mixed with the proper quantity of water, will produce a concrete that is entirely satisfactory in strength and durability. Only enough water should be used to produce a workable mixture. The so-called sloppy mixture must be avoided.

In chuting concrete, the chute should be sloped not less than 35 deg. with the horizontal so that the concrete will slide along the trough without the use of too much water. The concrete should not be deposited directly from the chute into the forms unless the operation is continuous. When the operation is intermittent, the chute should discharge into a hopper. In either case the concrete should be deposited in its final position within 30 minutes after it is mixed.

The concrete must be kept moist during the first week after it is deposited. Experiments made at the Structural Materials Research Laboratory of the Lewis Institute, Chicago, show that concrete protected from loss of water by evaporation during the first 10 days after being placed will develop a strength and resistance to abrasion at least 50% higher than if the concrete were permitted to dry prematurely. In the construction of a reinforced concrete grandstand at Huron, S. D., in 1918, the forms were left in place while the concrete was hardening and were sprinkled repeatedly for 1 week.

Engineers have commonly considered that a 1:2:4 mixture of concrete will develop a strength of 2000 lbs. per sq. in. in 28 days, and this strength can easily be reached if the work is subjected to intelligent inspection and supervision. The cost of such inspection and supervision is a very small price to pay for the additional strength and durability obtained.

Water of a proper quality must be used. Strongly alkaline water should be avoided, and owing to the possibility that marsh waters may contain sufficient humus matter to affect seriously the strength of concrete, they should be looked upon with suspicion until tested in concrete and found satisfactory. A safe specification is to require that the mixing water shall be potable.

The substance of the foregoing should be incorporated in specifications governing the construction of grandstands and stadia.

Cost data on grandstands and stadia necessarily show a wide divergence in cost per seat, because of the varying conditions and the great variation in the facilities to be provided. While a small grandstand, built for several hundred people, might consist of very little besides the actual structure, the great concrete stadium in Seattle, built for the University of Washington, includes a number of special features, such as dressing rooms, shower baths, lockers, toilet rooms, four public comfort stations, office space, six ticket offices, an information booth, a covered entrance with six ticket stalls, six exit gates and an iron fence around the stadium. In large cities, if the space is limited, construction work has to be carried out under difficulties and the unit cost is sure to be higher than in locations where there is sufficient "elbow room." On the other hand, in instances where advantage can be taken of the natural contour of the ground, as in a ravine or narrow valley, excavation is greatly reduced and the cost will be considerably below the average.

Before the war, structures of this kind cost around $4 to $7 per seat. The Seattle stadium, previously mentioned, was built in 1920 at the peak of construction costs at a unit cost of $10.56 per seat. On that work cement workers were paid $9 per day and common laborers were paid $5. Note also that the cost per seat of the University of Pennsylvania stadium, built in 1922, was only 37% higher than the unit cost of Harvard stadium, built in 1903, even though general construction costs had increased far more than that amount. This is due entirely to the improved organization and construction methods now being applied to reinforced concrete construction.

Following are some cost data on a variety of structures built at various times:

1. Harvard stadium, the pioneer among concrete structures of its kind, was built in 1903, with a few special features added in 1909. Capacity is 40,000. Cost, including features added in 1909, was $425,000 or $10.60 per seat.

2. Reinforced concrete stadium for University of Pennsylvania, Philadelphia, capacity 50,000. The contract price of $725,000 ($14.50 per seat) was based on an alternate design in rein-

forced concrete, and was $30,000 lower than the lowest bid for a fireproofed structural steel frame.

3. Grant Park Municipal stadium, Chicago, Ill., capacity 100,000. Under construction in 1923. Contract price about $2,500,000 or $25 per seat. Reinforced construction throughout. Concrete cast stone used for exterior face and exterior trimstone.

4. Illinois University stadium, Urbana, Ill., capacity 60,000. Under construction in 1923. Cost $1,603,500, or $26.75 per seat. Partly reinforced concrete and party of structural steel.

5. Reinforced concrete tennis stadium on the grounds of the West Side Tennis Club, Forest Hills, Long Island, N. Y. Construction was started April 9, 1923. Stadium shaped like a horseshoe, inclosing three courts. Seating capacity 13,000; cost $150,000, or about $11.50 per seat.

6. Reinforced concrete grandstand at Tampa, Fla. Capacity 4000. Contract awarded in February, 1923, at $30,000, or $7.50 per seat.

7. Stadium for Ohio State University, Columbus, O. Capacity 63,000. Partly of reinforced concrete and party of structural steel. Contract let at $1,341,000, or $21.30 per seat. Completed in 1922.

8. Reinforced concrete grandstand in Christopher Gibson playground, Boston, Mass. Designed and built in 1922 by the Boston Park Department. Seating capacity 2100. Length 276 ft., width 10 rows of seats. Quantity of concrete, 658 cu. yds. Cost $19,841, equal to $9.45 per seat or $30.15 per cu. yd. of concrete. Expansion joints every 40 ft., filled with an asphalt preparation.

9. Reinforced concrete stadium for the University of Kansas, Lawrence, Kan. Seating capacity when fully completed will be 32,000. Seating capacity of part now completed is 15,500. Cost of completed portion and of improvements to entire playing field $235,000 or $15.15 per seat.

10. Reinforced concrete grandstand for Franklin and Marshall College, capacity 1015, built in 1922. See drawing and cost data elsewhere in this article.

11. Concrete stadium for the University of Washington at Seattle. Built in 1920; seating capacity 40,000. Contract price complete was $423,000 or $10.58 per seat. This stadium was built at the peak of construction costs, cement workers having been paid $9 a day and common laborers $5. Excavation was accomplished by sluicing, embankments were made by hydraulic fillling, and molds for concrete steps were formed by the shear-board method.

12. Reinforced concrete grandstand at Huron, S. D., built in 1918. Capacity 5500. Cost $55,000. See drawing and description of construction methods elsewhere in this article.

13. Reinforced concrete grandstand for Lucas County Agricultural Society, Toledo, O. Built in 1918. Capacity 3000. Cost $45,000 or $15 per seat.

14. Reinforced concrete grandstand, State Normal School, Whitewater, Wis. Built in 1915. Seating capacity 800. Contract price was $4248 or $5.31 per seat.

15. Stadium at Balboa Park, San Diego, Cal. Built in 1915; seating capacity 30,000. Contract price was slightly under the municipal bond issue of $150,000. Cost $5 per seat.

16. Reinforced concrete stadium, Cornell University, Ithaca, N. Y. Completed in 1915. Capacity 8640. Dimensions, 600 ft. long and 75 ft. wide. Contract price $64,251, or $7.44 per seat, or $1.43 per sq. ft. of area.

17. Concrete stadium for University of Michigan, Ann Harbor, Mich. Built in 1914. Seating capacity 13,200. Built entirely of reinforced concrete; 429 ft. long and 121 ft. wide. Concrete columns are set in rows 16 by 22 ft. apart, cross-braced with concrete struts. There are 55 rows of seats with aisles every 30 ft. The reinforced concrete deck is stepped for seats. The structure has no roof. Cost 55,000 or $4.17 per seat.

18. Palmer Memorial stadium, Princeton University. Built in 1914. Seating capacity 41,000. Contract price was $300,000 or $7.32 per seat.

19. Yale "Bowl," New Haven Conn. Built in 1913. Seating capacity 61,000. Cost $400,000 or $4.92 per seat.

21. Concrete stadium for Syracuse University, Syracuse, N. Y. Normal seating capacity 20,000. Can be increased to 40,000. 475 ft. wide and 670 ft. long, oval in shape. Built entirely of reinforced concrete, largely on earth slopes.

22. Reinforced concrete amphitheater, University of California, Berkeley, Cal., seating capacity 8000. Greek style, circular form. Seats of reinforced concrete built on earth slope in natural depression in hillside. Cost $42,000 or $5.25 per seat.

The following data pertain to the reinforced concrete grandstand shown in the second design. The drawing is based on the grandstand for Franklin and Marshall College, designed by John H. Wickersham of Lancaster, Pa., and built in 1922. This is a deck type, without a roof. The unit cost and material quantity figures determined below should consequently be applied only to stands of a similar type. The unit figures will give designing engineers and city or school officials a sufficiently close approximation for preliminary cost and quantity estimates for larger

or smaller stands of the deck type.

Ground area of structure, sq. ft.		4,743
Concrete mixtures: 1:2½:5 in footings, 1:2:4 in seat deck, walls, floor, parapets and partitions and 1:1½:3 in columns.		
Concrete, classified:		
1:2½:5 concrete in footings, cu yds.		22
1:2:4 concrete, cu. yds.:		
In floor	35	
In partitions (may be of block)	12	
All other 1:2:4	333	380
1:1½:3 concrete in columns, cu. yds.		23
Total concrete, cu. yds.		425
Reinforcing steel, lbs.		26,200
Approximate cement quantity, bbls.		670
Estimate, based on cost of similar structure built in Boston in 1922		$12,000
Capacity, based on 18 ins. per person		1,015
Unit costs and quantities:		
Concrete per sq. ft. of ground area		0,0895 cu. yd. or 2.42 cu. ft.
Steel reinforcement per sq. ft. of ground area, lbs.		5.5
Concrete per seat, cu. yd.		0.42
Reinforcing steel per seat, lbs.		26
Area per seat, sq. ft.		4.67
Estimated cost per seat		$11.90
Estimated cost per cu. yd. of concrete		$28.50
Estimated cost per barrel of cement		$18.10

Another drawing shows the South Dakota State Fair Association's reinforced concrete grandstand at Huron, S. Dak., completed in 1918 to replace an old wooden structure. It has a seating capacity of 5500 and cost $55,000, or $10 per seat.

The grandstand has a concrete roof slab supported by a structural steel frame anchored to the reinforced concrete frame of the main structure. All the concrete beams and columns and the deck were cast together. Additional units or sections may be added. Expansion joints spaced 50 ft. apart extend completely through the structure, each section comprising a separate unit, free to expand or contract. Rollers set in the expansion joints provide ease of movement. The concrete was deposited on Hy-Rib reinforcing, acting both as forms and reinforcing. The under side of the seat deck was plastered with cement mortar and washed with white cement. This sets off the grandstand in an excellent manner and makes the rooms underneath very light. Rest rooms and booths are provided under the stand on both sides of the entrance and in time all this space will be paved with concrete and used for exhibits.

The seats are made of 2 by 10-in. planks, attached to metal inserts set in the freshly placed concrete. All steps and the side and back walls are built of concrete.

A special portable chute was used for distributing the concrete along the deck of the grandstand. Concrete was mixed at a central plant and elevated in a tower just back of the center of the stand. On the top a runway was built for carts to carry the concrete from the tower to the portable chute. This chute was made of 1-in. boards and extended from the top and rear of the stand to the bottom and front, making a continuous trough about 80 ft. long. Small gates on the side of the chute, when opened, automatically closed the chute at that point and diverted the concrete into the forms. The portable chute was on two tracks about 25 ft. apart. This made it possible for the workmen to move the chute from one end of the stand to the other and deposit concrete wherever it was needed. The overhanging ends of the chute were held up by means of wires running over the top of an arch 5 ft. deep above the chute and over the tracks. This gave the entire device the appearance of a suspension bridge. This portable chute was devised by the contractor and proved very satisfactory, besides being inexpensive to construct.

The forms were sprinkled just before the concrete was placed, after which the forms were left in place and sprinkled frequently for 1 week. The maximum strength of the concrete was developed in this manner.—(Engineering World.)

Standardizing the Nation to Death

Architects, and home builders, and the makers of furniture should all be called to task by the Department of Commerce in Washington for the wild extravagance of not standardizing the shape and construction and furnishing of every home. Why should there be any such waste of time and money in a man planning his home a little different from anybody else and buying perhaps a different kind of furniture, or a different pattern of rugs, when if everybody would adopt the same general style and standardize the plans of the houses great economic saving would be made? And when we come to think of the matter, this standardizing to the very large profit of the country could be carried on still further. Women's dresses and hats should be standardized, as well as men's clothes, for why waste money in having a variety and diversity of clothes after we have agreed to standardize the shapes and forms of construction, and the materials used in the furnishing of all of our homes.

Absurd, did someone say? Perhaps the suggestion appears so; but it is scarcely more absurd than some of the plans that are being put out by the Department of Commerce as to standardization. It is standardizing lumber, it is standardizing bricks, it is standardizing metal barrels, and various and sundry other things; and now according to Washington dispatches it hopes to standardize the size and the shape and the paper used by the newspapers and magazines of America! What a brilliant conception! But it is being put forth on the basis that it would produce economy.

It is exactly the same kind of economy that would be produced by standardizing every home in the land, and having standardized the newspapers in form and paper, Secretary Hoover should then go a step further and standardize all of the editorial and news stuff, for men often display almost as much initiative and ingenuity and good sense in the style of a publication as in the matter contained in it. And our suggestion would be that all of this standardizing be done on a mediocre basis to meet the mob spirit of the country, which as a whole does not want anything serious, but does want the wildly sensational and cheap-john, mediocre stuff. So let us while standardizing, standardize on the mediocre basis all the brain work that is supposed to be put into newspaper and magazine publications. Let us standardize the character of the editorials, and thus produce a larger degree of economy.

Indeed, why should we not carry it a step further and organize a bureau in Washington which would write all the editorials, one bureau furnishing editorials for democratic papers, one furnishing editorials for republican papers; and the news of the country could be supplied in the same way. The saving would be simply enormous. All of the editors and reporters of the land could be easily got rid of, and merely a few makeup men could take the stuff as it comes from Washington and grind out these standardized publications.

Seriously, the standardizing of everything is being run into the ground. It is a fad which finds its fruition in the suggestion recently made from the Department of Commerce as to standardizing the size of the publications. What a deadly monotonous, uninteresting publication business we would have in this country under such standardized methods. It is simply a case of standardization run to seed—and the seed are not worth gathering.

Verily it seems that some of these departments and bureaus at Washington are obsessed with the idea that it is their divine commission to run and rule every business interest in the country. If their plans should be adopted, all enterprise, all self-reliance and iniative work would be destroyed. Men are not mere machines, although some automatic machinery almost makes them into machines; and instead of encouraging these machine made men and men made into a machine, this country should encourage initiative and energy and self-reliance.

Standardization in some things is desirable, but in a very large majority of things it is not desirable. Diversity of thought and act can find expression in diversity of production. If we want to grind out houses by the thousands, every house looking exactly like every other house, an enormous amount could be saved. But what a deadly monotonous outlook this would present, and how deadening would be its effect upon the dwellers in such houses.

If we want to carry economy of standardization to the limit we might plan that all furniture should be designed along exactly similar lines, and every corner of every house have exactly the same kind of furniture; for why should we fail to economize on things of this kind when the order of the day is to standardize and economize?

We are reaching a point where nothing is to be left apparently to individual judgment and initiative; where one bureau in Washington is to take charge of all of the births in the country, and prospective mothers are to be required to make reports as to their condition to Washington head-

quarters, or to some bureau established by states in co-operation with the Washington bureau. And now theorists are undertaking a scheme to create a Department of Education with $100,000,000 for annual expenditure, to be increased from time to time like all other bureaus are constantly demanding, for the purpose of standardizing education. If put into effect this organization would practically dictate the sort of books that are to be used in all the schools of the land, the methods to be taught, and thus standardize down to the greatest degree of mediocrity the teachers, some of whom might have energy and iniative of their own; and to standardize education down to the level of the lowest mentality.

On with the merry dance! Let us standardize everything! Standardize the babies that are to be born; standardize the methods that every mother must use in feeding and training the babies; standardize the education of the schools and the teachers, and the scholars; standardize the mentality and the physical development of the boys and girls, on up to manhood and womanhood; standardize them on a basis that the lowest mentality shall be the standard by which men and women are to be measured; and then having standardized them to this degree, they are to be fed standardized newspapers with standardized mentality in the editorial and news department, and in the ingenuity and initiative work and design down to the mediocre level of the lowest.

Oh, what a nation we will have! What billions of dollars will be saved! How the standardized child and student will live in a standardized house, furnished with standardized carpets and rugs and furniture, sleep in a standardized bed, eat at a standardized table of standardized food, study in standardized books, and read in his daily or weekly papers and magazines the standardized mediocrity of the day, instead of having the blessing of the diversity of thought, diversity of mind, diversity of physical activity, and what competition of brain and brawn with which the Almighty endowed mankind for creative work.

Surely Nature made a great mistake when it failed to create all trees of the same size so that standardized lumber might be cut from standardized trees; when it failed to make every flower of its kind like every other flower of its kind; when it failed to make all mountains look exactly alike, and every valley a counterpart of every other valley. How vast would have been the saving economically if Nature had filled our land with trees of exactly the same size and same character, so that they could be cut by the same saws and made into exactly the same kind of lumber! Surely it must have been a gigantic blunder on the part of Nature, or shall we lift this creative work of Nature to the Creator Himself and express wonder that all things were not created exactly alike and standardized in order that some of the so-called economists of the day might have been saved the brain work necessary in scheming to standardize everything on the face of the earth.

To men who do not think seriously or deeply, or look far ahead, some of these standardizing schemes strongly appeal, because of the apparent increased profits that may be made at the present. But this profit, if made, will be at the expense of originality, of diversity of mind, of creative thought, and the following along the line set by the Almighty Himself when in creative work He made every mountain to differ from every other mountain, and every tree to differ from every other tree, and every human form and face to differ from every other human form and face, when some valleys were made shut in by many mountain ranges, while others stretched over vast areas, one fertile and the other infertile, one producing one kind of food stuffs and another some other kind.

Variety, variety; diversity, diversity, is the order of God's creative work. In mankind, in the animals which roam the earth, in vegetation of all kinds, and alike in climates.

Some standardization here and there may be desirable, even though it tended to destroy originality; and originality and initiative should be two of the dominant traits of human character. But when this standardization scheme goes to the point of planning for the standardization in paper and size of the newspapers and magazines of the land, it displays an utterly incomprehensible mediocrity of thought.

In antebellum days there was a great political fight in Maine, and Maine was looked upon as the deciding point in a presidential contest. The defeated party sent broadcast the word, "Maine has gone hellbent for Governor Kent." This country as a whole would be headed exactly the same way if all schemes for standardization of education and maternity and publication work should continue along the same line of progressive activity as during the last ten or twelve years when republicans and democrats alike have vied in putting everything on the face of the earth under the domination of some bureaucratic power in Washington. May heaven save us from any further progress in that direction!—Editorial in April 3d "Manufacturers Record."

FURNISHINGS FOR THE HOME SHOULD BE CHOSEN IN HARMONY WITH HABITS OF THOSE WHO LIVE IN THEM.

A well-planned room means more to the mental comfort and happiness of the family than an illusion of wealth produced by the over "decorated" room, or a forced effect of rural coziness. A room, of itself, is of little importance. It is only a stage setting for the interesting adventure of living, a background, nothing more, for the people who are to occupy it. Even the most commonplace-seeming existence is an absorbing drama to the players of it. Plan your room, then, to fit your actors and your story, because you cannot in the nature of things make them over to fit your room.

The dining room suffers most from the particular form of decorating hysteria which tries to paint pictures when it should be building backgrounds. A single high-back, rich-carved chair may be pelasantly suggestive of the fine manners of an earlier age, but range six such chairs about the table of an average family dining room, and you create the absurd impression of trying to make a baronial banqueting hall out of a little 12 by 16 box. Even though there are no lords and ladies in silks and damasks to resent the impertinence, the very chairs themselves will feel and will look crowded and out of place.

Avoid Too Decided Types.

Avoid the use of period furniture of too decided type for your dining room if your house is of the American, or no-period style. The period house, of course, of whatever dimensions or pretentions, dictates its own terms in the matter of dining room as well as other furniture. But even here there is a degree of elasticity, so do not be forced into believing that you must have Windsor chairs, and Windsor only, just because you have a Colonial doorway. The ingenuity of American architects is producing a style which we may claim as our own, and furniture makers and designers have not been far behind in adapting their productions to suit the popular trend. You may find, ready for your choosing, many patterns which have no real claim whatsoever to the period names we apply so freely, and which may nevertheless be excellent in design and admirably suited to your purpose. If you are not in a position to judge for yourself, do not be misled by mere period nomenclature. A cabriole leg does not make a Queen Anne chair any more than does a bit of lacquer finish make a Chinese cabinet. If the piece you are considering is pleasing in proportion, good in line and finish, and has the right feeling for your room, you may be sure you are not wrong.

Dining Room too Stereotyped.

The dining room is not so fortunate as the living room in its emancipation from the period idea. We no longer think of ordering a complete set of living room furniture of identical pattern and color. Why do we do so for our dining room? Why do we not realize the charm and individuality to be gained by a happy combination of pieces not matched, and a freer use of fabrics and color to set off and harmonize the wood tones?

A pair of serving tables, for example, would prove a delightful variation from the universal sideboard; it might solve your vexing problem of how to distribute your furniture on the scanty wall space. They would fit well on the short walls either side of the kitchen door, leaving the large wall for the cabinet, and they would look attractive through the open door from the living room. They serve all the useful purposes of the large sideboad, and creating a sense of balance, they are decorative as well. To add to their interest they might be painted. A certain dull shade of green is lovely in combination with walnut pieces; an

antiquated red, simulating old lacquer, works admirably into almost any color scheme.

Use Sample to Match Color.

If you prefer to have the cabinet in color, charming ones may be purchased which are appropriate for either dining or living room, but if expense is an item, you may always resort to the paint can, remembering, however, that an experienced workman on the job is never an extravagance. Be sure, then, to have a sample of the exact shade desired, for you cannot describe a color.

For an oak paneled room, if you have chosen oak furniture of early English tendencies, the chairs will probably be upholstered back and seats, or seats only, in tapestry. Tapestry covering is rich and elegant, but in these days of sundry imitations, a different and cheaper material is vastly to be preferred to inferior tapestry. Crewel embroidered linen is ideal for chair seats of this character, and if loose pads are made to tie on the chairs, they have an edging of colored wool fringe to match the pattern. Handblocked linens are always charming, and even in these small areas will bring color and interest to your room.

In the lighter mahogany or walnut chairs with slip seats, you have your own color scheme in the covering of these seats, which, by the way, you can do yourself. It is an opportunity not to be neglected, so do not allow yourself to be persuaded to use taupe mohair just because 'it will go with everything," and "it will wear a lifetime." Put something on your chairs that will go with your curtains, your walls and your carpet. If it does not last forever it can be replaced.

An Attractive Apartment.

In a tasteful little apartment recently fitted up by a clever young decorator for her own use, inexpensive materials had to be relied upon, as economy was an important consideration. The dining room opens from the living room with a wide French door, so the color scheme is chosen for the two rooms, rose and green, with walls and carpeting of various warm tones of tan. The dining room curtains are cretonne, that interesting new quality of uneven texture like old hand-woven linen. It has a soft green ground with much foliage in fawn color, and fruits and flowers in many colors with rose and mulberry predominating. As the windows are low, the curtains hang from dull green painted poles and rings, the glass curtains are plain of the same fine ecru scrim used throughout the apartment.

The slip seats of the two-tone walnut chairs are covered with a broad striped rep of a sunfast quality, the same rose, green and tan as the curtains. As these are the colors of the living room, also, the chairs are excellent for extra service as desk or hall chairs.

Draw Table for Compactness.

The room is too small for much furniture, so a draw-top table is chosen for its compactness, and a Welsh cabinet, because it will serve both as a cabinet and serving table. Drop-leaf ends afford additional space when required. On the cabinet she keeps a small percolator and a grill convenient for early morning coffee and toast, as it is within easy reach of the table and may be used as it stands.

On either side of the cabinet hangs a flower print in green enamel frame. There is no space in the little room for balanced candlesticks before the mirror, the old standby of "decoration," but there are candlesticks, four of them, on the table. And because she knows the value of lighting in any good stage effect, this clever little lady invariably serves her dinner by candle light. The candle sticks are of loosely molded creamy Italian pottery, to match the low bowl. which holds a few

fresh flowers, or fruit, in the center of the table. She does not spoil her effect with a damask napery, but chooses always a color, usually linen with only a hemstitch edge. She has all the lovely and various colors in her cretonne to play with, from deep cream and mauvre, to mulberry and even black, and she tries them all, sometimes alone, sometimes in combination, but always with most satisfying results.

THE MODERN BATHROOM.

Well appointed Bathrooms are essential equipment for the modern home. Well appointed Bathrooms are a positive necessity for the Hotel, the Apartment House and the Club. The Bathroom with a wet, clammy floor has little attraction for a guest at a Hotel or at one's home. The Shower Bath that floods the floor of the main Bathroom is not complete. The modern, well-appointed Shower is enclosed behind a C & S Door.

The Shower Stall that is enclosed behind a C & S Door will keep the Bathroom neat and dry by confining the spray and splash within the Stall.

Furthermore, the C & S Shower Doors are Sanitary and Ornamental. The entire fixtures are made of Heavy Nickel Silver or Nickelplated Brass, with Polished Plate Glass Panels ¼" thick, imbedded in rubber. They have a Cut Glass Knob on the outside and a Nickel Silver Pull on the inside. There is a Metal Apron and a Metal bound Rubber Strip on the bottom rail of Door that prevents drippings from getting out underneath the Door. A special Spring Catch is mortised in rail of Door to keep it properly closed. While in use this arrangement allows the Door to be opened instantly without gripping the Pull, by pushing outward against any part of Door. All C & S Shower Doors are furnished complete with Heavy Angle Frames having Metal bound Rubber attached to Rabbet for Door strike.

The various styles and specifications of C & S Showers Doors are shown in our catalogue. See advertisement in this issue.

WHERE THE BUILDER'S MONEY WENT IN 1923.

(From the T Square, Chas. Scribner's Sons, N. Y.)

Listed below are the amounts placed in different building materials anl equipment over the country during 1923. These estimates are necessarily approximate, but they give you an amount by which the expenditures for materials can be reasonably judged. The estimate includes the cost of the material and the cost of putting it into place.

In business buildings was placed approximately:

$73,721,100 masonry.
$83,066,100 steel material.
$6,749,000 steel erection.
$34,264,800 foundations.
$41,013,900 elevators.
$36,898,900 carpentry.
$38,418,000 ornamental iron work.
$32,707,300 heating and ventilating.
$20,766,500 fireproofing.
$21,804,800 engines and generators.
$15,574,900 plumbing and drainage.
$19,728,200 electric wiring.
$16,613,200 terra cotta.
$53,473,800 glazing, hardware, roofing, painting, lighting, etc.
$25,958,000 architects, and engineers fees.

In residential buildings, including hotels, was placed approximately:

$34,642,600 electric lighting fixtures.
$173,213,000 the entire plumbing equipment.
$17,322,000 finished hardware.