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THE TOWER ENTRANCE.

THE COUNTRY RESIDENCE OF THOMAS HUNT, ESQ., BERNARDSVILLE, N. J.—See page 41.

MESSRS. LORD & HEWLETT, ARCHITECTS.

SCIENTIFIC AMERICAN BUILDING MONTHLY

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** The engravings presented in this issue are made from photographs taken specially for the SCIENTIFIC AMERICAN BUILDING MONTHLY.

MONTHLY COMMENT.

AN exhibition of dwelling houses was opened in Paris last fall, and included, as its chief exhibits, six full-sized houses built of different materials. The house of the Societe d'Epargne des Retraites "l'Etoile du Foyer," a philanthropic and provident institution, contained—in the basement, a washhouse and cellar; on the ground floor a kitchen 10 feet 10 inches by 10 feet 3 inches, dining-room 15 feet by 9 feet 10 inches, and water closet; and on the first floor two bedrooms 11 feet 11 inches by 10 feet 3 inches, and 15 feet 6 inches by 14 feet 5 inches, with a dressing-room. Cost, \$1,500. A workman's dwelling (\$700) contained (on the ground floor) a vestibule, a common room 10 feet 8 inches by 9 feet 10 inches, with (outside these dimensions, and screened off if desired) a kitchen, scullery, and baker's oven, besides two bedrooms 7 feet 8 inches wide, one being 11 feet 5 inches and the other 10 feet 11 inches long. A maison de famille was put up by the workmen's societies connected with the Chambre Consultative des Associations Ouvrieres de France. It contains—on the ground floor a vestibule, kitchen, and toilet with separate entrance; and on the first floor an antechamber and dressing-room, with three bedrooms, one 8 feet 11 inches by 12 feet 1 inch, one 7 feet 6 inches by 7 feet 11 inches, and one 12 feet 3 inches by 8 feet 11 inches. A maison d'habitation was constructed with double walls, the space between them being utilized as cupboards. It consisted of kitchen and common room on the ground floor, two bedrooms and bathroom on the first floor, and also three attics and a small loft. The price of each house, built in series of six, is \$2,000. A shooting-box was built in the style of M. Guimard, who designed the entrances to the stations of the Paris Metropolitan

Railway. A modern house, occupying a site of nine square yards, was built entirely of asbestos bricks, and contained—on the ground floor a large common room, with kitchen and conveniences; and on the first floor three bedrooms, with bathroom. The price (including bath and heater, with pipes) was \$3,600. All the houses were fully furnished, ready for occupation.

THE Art Nouveau continues to excite interest among designers of all classes. As yet it is perhaps best known in America as a decorative art—in furniture, in wall decorations, in ornaments, in fixtures. Of houses and buildings in this style we have, happily enough, few examples as it is understood and practised abroad. Foreign architects, and more particularly French and German, have been quick to apply these new ideas to buildings with results that can seldom be deemed successful, and which certainly are not always happy. And this, perhaps, is not so much because the new forms are unadaptable to building, but because their very adaptability has not been understood or appreciated. If architectural history makes clear one fact more than another, it is that architectural evolution has proceeded slowly; there has never been such a thing as spontaneous architectural development. The exponents of the Art Nouveau have tried to apply new ideas to buildings and to the lesser arts at one and the same time, without entirely comprehending the limits each has.

THAT very useful architectural member, the column, has degenerated in modern practise from a structural element to a decorative device pure and simple. Columns are, of course, still employed in modern design: witness the modern steel cage building which is entirely carried on steel columns—very carefully covered up and hidden from the eye. But the column as a structural member, as an element that has something to do and which does it, has almost gone from architectural methods of the day. If the Greeks did not invent the column—and it was, of course, invented by the first builder who stood a post upright—they certainly made the noblest use of it, and when they used it they used it. The Greek column had work to do and it did it. The Greeks made a useful member most beautiful, but even in its most beautiful form they only employed it as something useful. The Romans went further—or beyond—and transformed the useful column into an ornamental appendage quite unnecessary to the stability of their structures.

HOUSE EDUCATION.

IT is a good sign of the times that educational circles are awakening to the importance of instruction in the schools of matters connected with the house. It is a good sign because it indicates that household matters will not longer be left to instinct but will become objects of trained consideration. It is a bad sign, since we have had to wait so long for this advance.

There has obviously long been need for a wholesale change of public opinion with regard to matters connected with the house. The specialized training of architects has now been a matter of fifty years or more. Whether these gentlemen are still sufficiently trained—whether all architects bring to their profession that breadth of view, that catholicity of taste, that immensity of knowledge, that familiarity with many things they should bring—is still open to question. It is quite probable they do not, although the architect has yet to be found who will refuse a job because it deals with matters he is unfamiliar with. It is more pertinent to point out that our architects have been trained for their profession and that, as a whole, they practise it with considerable skill.

This fact established, and it is established both by the quality of modern buildings and the crowded state of our architectural schools, it is next in order to inquire how far the public as a whole values this training and appreciates it. The evidence on this point is of the most various quality. Building without architects is still commended by some venturesome spirits who have undertaken such work and produced results satisfactory to themselves. Building with architects is commended by those who have had agreeable experiences with them or who have undertaken problems too complicated to be worked out by amateurs. But whether the public at large appreciates architects and their training, it is certain that many efforts have been made in this direction. The architectural organization, the architectural books and periodicals illustrate the pains being taken, spontaneously and disconnectedly, at the present day to further the influence of the trained architect.

But an architect can not practise his profession, can not put his training to practical results, unless he secures clients. He must have his opportunity, and his opportunity must come from without. Some one must give him work to do or he can do nothing at all. And here is where the value of public appreciation of

architecture and of architects arises. Movements tending in this direction, even so low down in the educational scale as the primary school, help in establishing the architect's vogue and in broadening the appreciation of architecture.

It is one of the strange features of our civilization that it should be necessary to put forth a claim for architectural appreciation. Most human beings are concerned with buildings, and buildings are essential to most of the necessities and luxuries of modern life. Perhaps the fact that we have always—practically—lived in houses is one reason we are not interested in them. But it is at least certain that, up to the present time, it has been found impossible to create the same interest in building, in houses, in architecture, as can be aroused any day by a six days' bicycle race, a game of football, or the gentlemanly meeting of two gentlemen within a roped enclosure.

Evidently something must be done, and as all great movements begin in a small way, it is possible that the household instruction now beginning in our public schools will develop and expand in such a way that people as a whole will take a more intelligible interest in things pertaining to building than they now do.

And that is all that can be asked. Intelligent interest in building is one of the crying needs of the hour. It matters very little how this interest is excited, whether it be through the kitchen or through artistic embellishment, whether it be through aids to house-keeping or the science of political economy; whether it be through learning to keep clean or through the application of practical philanthropy; whether it be through the study of the tenement or from the contemplation of the palaces of the rich. The great point is not how we get it, but to get it and get it quickly.

Indifferent as we may be to architecture, we can not escape its influence. It is an ever present factor in civilization. The tendency of the day is for greater comforts and conveniences in the dwelling houses. These are being added to and developed not only because of the popular demand, but because our architects are better equipped to give them than the architects of any previous period. Grant that the architects throw in their increased skill and taste in design—that is their own personal contribution to the modern advance of architecture.

The dwelling house is the basis of all architectural progress. It is the common meeting ground of the architect and the people. Here the skill of the one and the desires of the other meet in sympathy and in unison, and it is here that the client first learns the real value of the real architect—the helpful man of affairs, at once practical and artistic, useful and suggestive, helpful and inventive. The architect may aspire to build more pretentious structures, he may look with envious eyes upon those more important architectural periods in which great monuments were erected, vast churches built, sumptuous palaces reared. He may be jealous of his modern contemporary who may catch some of the great similar prizes which still come to the fortunate architect of the present day. But if he builds a good, clean, good looking house, if he fits it out with all the resources of modern art and science, if he properly and suitably adorns it, he will have done something to advance architecture in his own time, and perhaps further it in the time to come.

But it is not given to every one to come in personal contact with the architect or to know of him as an element in civilization. Most of us take our houses as we get them from the builder or owner. We like them or dislike them as our training tells us and our wants are answered or unfulfilled. We are satisfied or dissatisfied as our wants are gratified or not. But those who take the architectural problem seriously know there is more than this. It is not sufficient that a house should gratify physical comfort only; it should satisfy some esthetic ideal; and if we do not have this ideal naturally, we must acquire it by study, by training, by education.

The secondary schools provide only the elementals of knowledge; they lay the foundations; the superstructure must be built up afterward. We can not hope or look for architectural training in the schools, nor should we do so; but we should look for such basic studies as will serve as the foundation for after effort. Household training can very well serve as the basis for architectural training in a restricted sense of the word, since if people can be brought to realize the value of the house as a house in culture, in life, in health, in happiness, in betterment, a real advance in architectural appreciation will be made, which will be helpful to ourselves and to those who come after us.

And we need to unlearn just as much as we need to learn. We need to know that architecture is not necessarily the erection of costly buildings and great monuments, but that it is a real and living art, embracing most of the practical sciences, concerned with the great problems of human life, serving them, helping them, stimulating them. Architecture recognized as the most human of the arts means the establishment of a great truth.

TALKS ON ARCHITECTURE

BY BARR FERREE.

MR. H. W. DESMOND ON THE STately HOME IN AMERICA.

MR. H. W. DESMOND, the editor of the *Architectural Record*, has just published, through D. Appleton & Co., in connection with Mr. Herbert Croly, the well-known writer, a book on *Stately Homes in America*, which is not only sumptuously illustrated, but, which is very much more to the point, is adorned with a text of a peculiarly illuminating quality, in which the great American house—both city and country—is discussed from the standpoint of the causes which produced it. The subject is one of such general interest, and the point of attack is so new, that I lost no time in questioning Mr. Desmond on some of the problems he has treated in his very remarkable book.

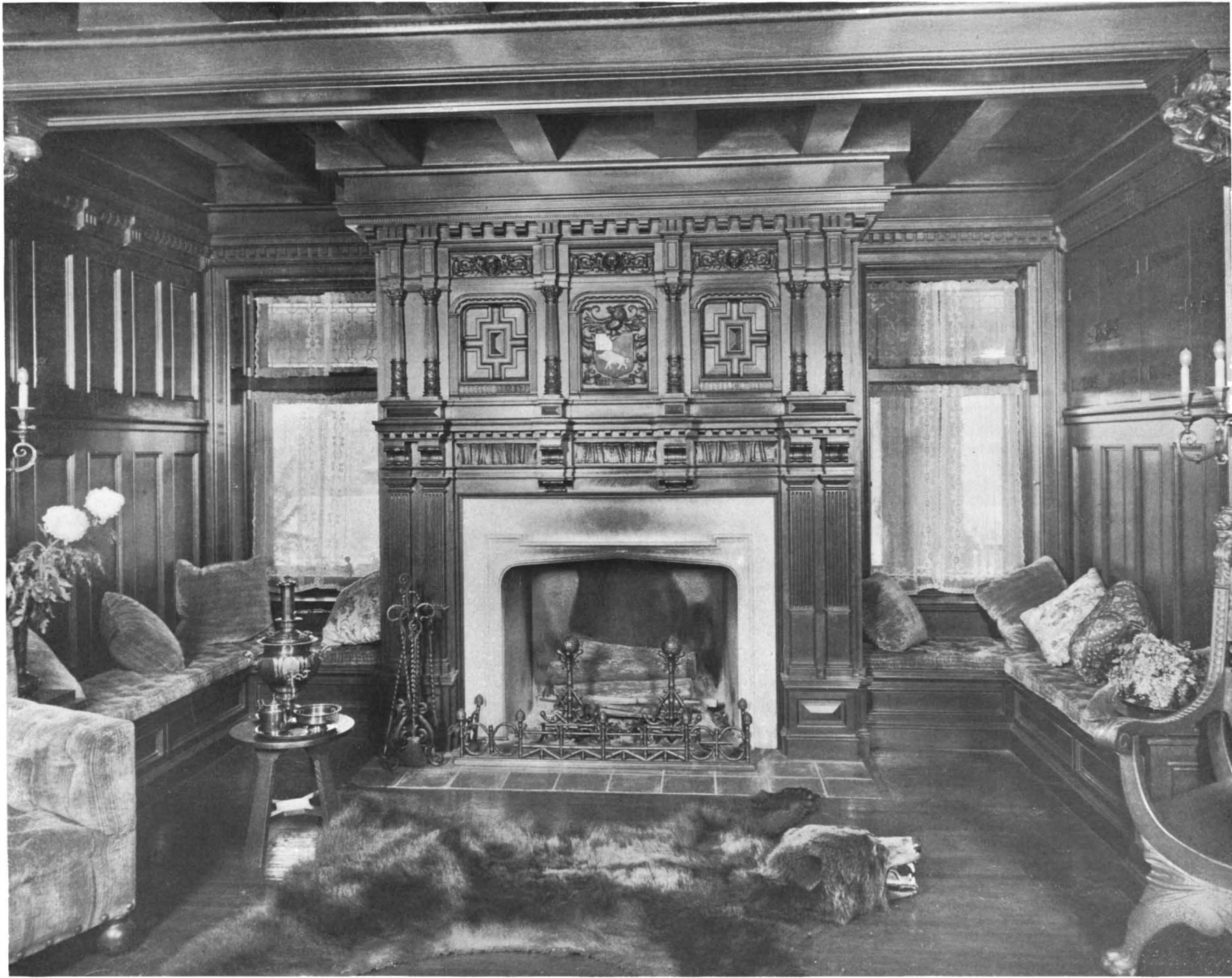
Mr. Desmond has enjoyed very unusual advantages in the studies he has made in contemporary American architecture. He has edited his magazine from its foundation, some twelve years since, and the attention

“Yet even the anarchy of meaningless architectural imitation which so long existed can be shown, on closer examination, to contain certain dominant motives and a certain orderly development. No one, I think, can review the history of American domestic architecture as a whole, and even in the most casual manner, without seeing that, in all the varied imitation, the inclination has been to imitate the best available architectural forms. True, we now know much of it to be bad, and very bad, but that is chiefly because we know better; but there is something behind all this badness that is not visible in the actual forms. The endless experimentation was a search after the best in the particular period in which the effort was made, and it failed of good results, partly from a lack of good models and partly from a lack of the broad knowledge which would have prevented many errors unconsciously made.

“It is apparent, moreover, I think, that the wish to be independent reacted on the habit of imitation and resulted in a crude sort of architectural selection. And then the selective motive has operated with so much

admirable qualities of a house consist, but he, fortunately, has the good sense to depend on his architect, and his architect, if he is a well trained man, as many living architects are, can generally be depended on to do the best he can. We have not always achieved high results in the building of our great houses, but it must be at least apparent that, as a whole, the movement is upward and onward. A hundred years hence the rich client will have a much more intelligent idea of architecture, its meaning, its adaptation to domestic and public uses, its expression, its scope, than the rich client of to-day.

“It is not, however, necessary to look so far into the future. The opportunities now offered to American architects to design handsome dwellings are something extraordinary. I would not call present conditions a ‘Renaissance,’ but it is a movement clear, positive, and real. It extends to city houses as well as to the making of country estates. In the city house it has progressed so far that old houses are being entirely reconstructed on modern lines. At times this reconstruction is both internal and external; at others the



INGLE-NOOK IN HALL, RESIDENCE OF MATHEW BAIRD, ESQ., AT ARDMORE, PA.—See page 39.

it has given to contemporary work has brought its editor into the closest association with the leading architects of our time and necessitated the utmost familiarity with their buildings. That he is one of our keenest critics, as well as one of our sanest writers, his present volume has permanently established.

“At the present time,” said Mr. Desmond, in the beginning of our talk, “American architecture seems to be laying the foundations, of a vigorous native growth. I am free to say that it has spent many years in copying, modifying, reproducing. Our Colonial architecture, which is now so much thought of, and which has so much genuine interest in itself, was simply a copying of contemporary English forms, or at least of such forms as our early American builders were familiar with or could obtain models to copy from. Originality was long in being developed, and did not develop until American architecture had passed through—shall I say a purgatorial sort of existence?—in which everything strange and uncouth was thought of and experimented with. Much of the building of this intermediate period—this American dark ages of the building craft—is now quite rightly looked upon with pitying interest.

facility and freedom that at the present time American architects may be said to be more original imitators than the architects of any other country.

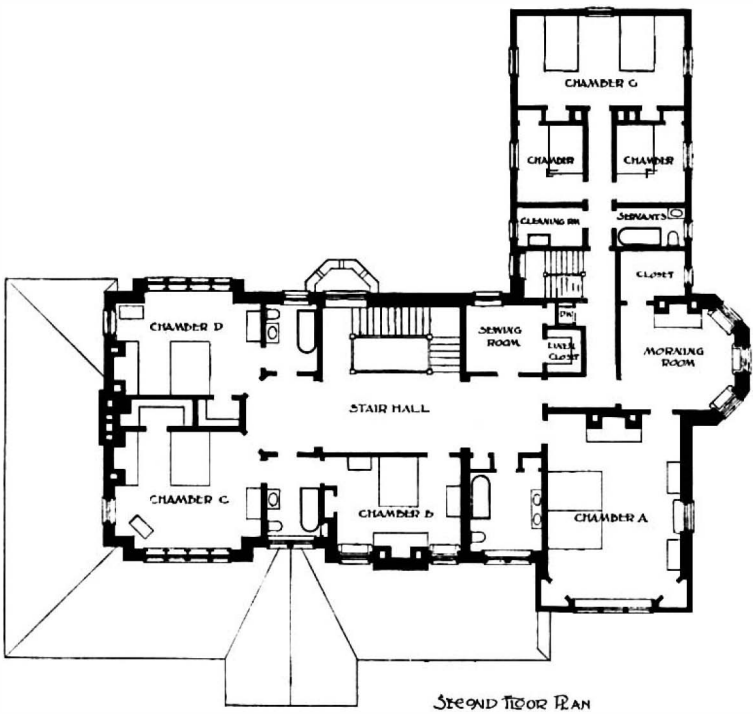
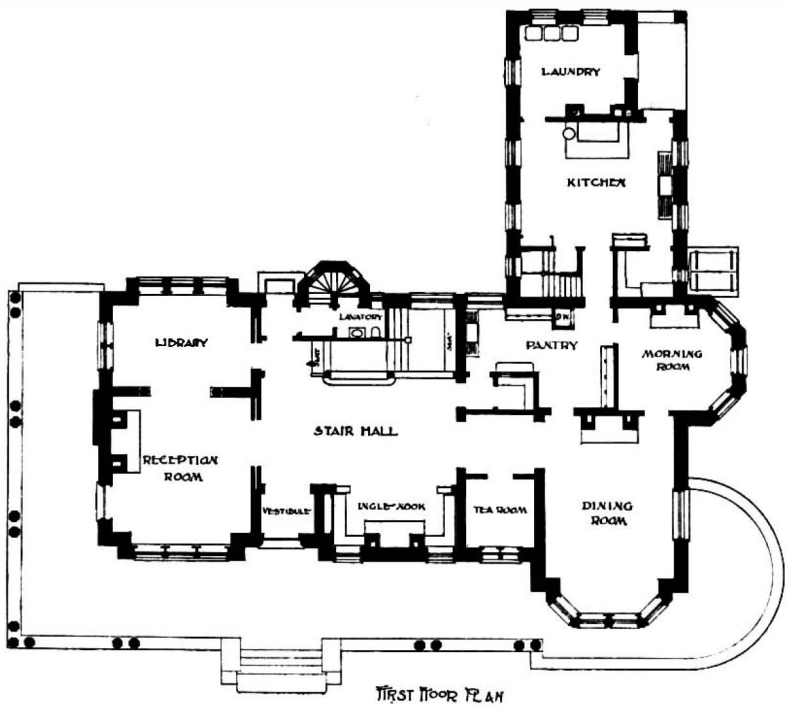
“So far as the greater contemporary residence is concerned—the house that can best be described as a stately home—the elemental fact to be noted is that it is the house of a very rich man. This economic and social condition must be recognized at the outset, or the actual value and lesson of these structures will not be understood. And I will say more than that, for if we do not start with the social and economic conditions of which these dwellings are the outward and visible expression, we will quite fail to understand their meaning or their relationship to the intellectual progress of our country. It is simply impossible to understand the contemporary great residence unless we keep its inhabitants constantly in mind.

“These American home builders have no other qualification to distinction than that they are rich. The great houses have been built by men of great concentration of purpose, of intense and continuous activity and of somewhat exclusive interests. Such a man wants, in his house, something wholly admirable. In many instances he does not know wherein the

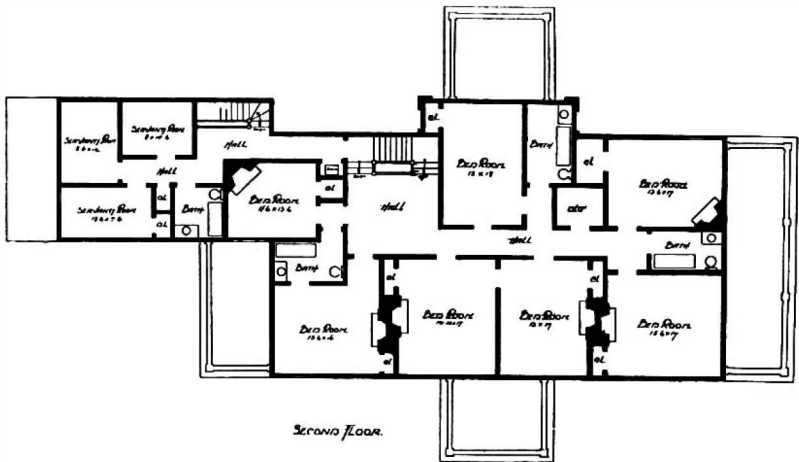
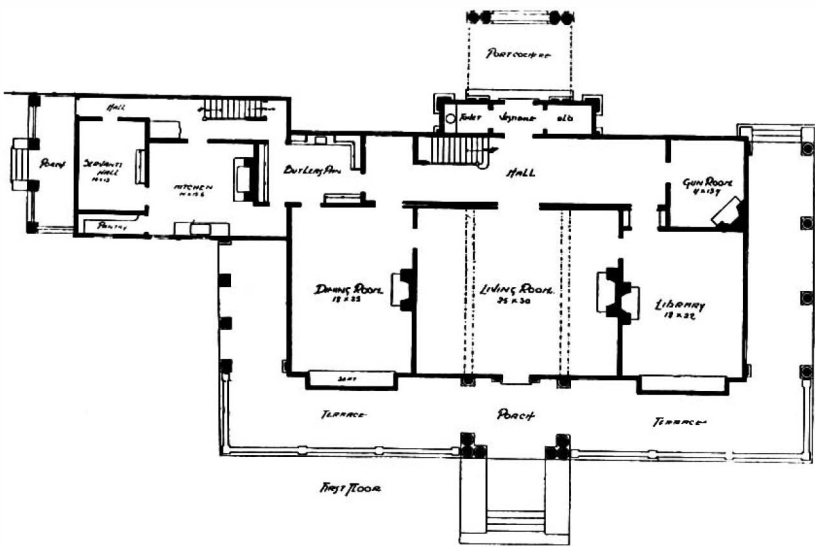
exterior is left as it was, and the skill of the architect is lavished on remodeling the interior. Several notable examples of the latter system have been produced in New York in rich and splendid dwellings. And the movement is so pronounced that city houses are no longer built in rows a block long, each house duplicating and repeating its neighbor, but individual designs are produced. If these have not always been happy either in their design or their juxtaposition, it is at least apparent that the idea of individuality the new method suggests has gained firm ground and attained a very considerable popularity.

“As to the country house it is well to distinguish between the villa, which may be designed as a country residence occupied by city people who are not dependent on the products of their estates for their maintenance, and the great country house which, in some respects, approximates the family seat of the English country gentleman, and is the product of leisure as well as of wealth. Mr. George W. Vanderbilt’s celebrated estate of ‘Biltmore’ is the most conspicuous example of the latter group, although the same idea is now frequently found in many parts of

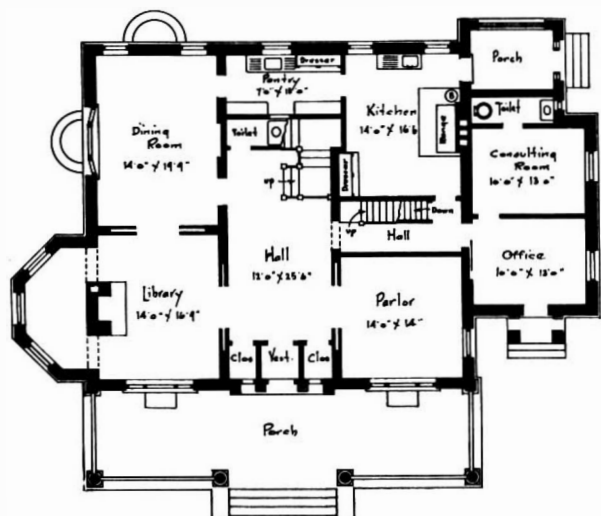
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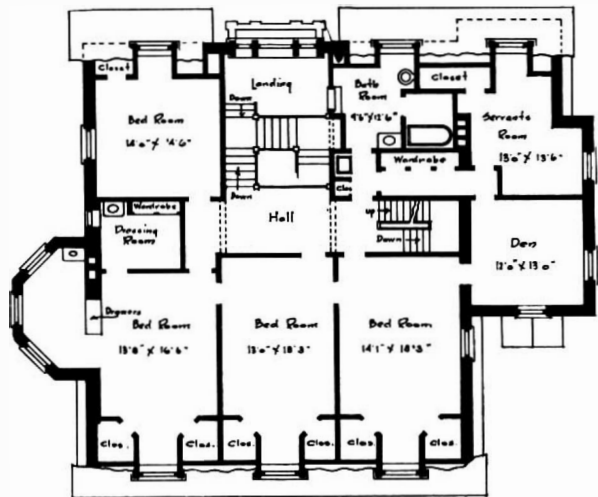
RESIDENCE OF MATHEW BAIRD, ESQ., AT ARDMORE, PA.—See page 39.
MESSRS. BAILEY & TRUSCOTT, ARCHITECTS.



THE WINTER RESIDENCE OF C. OLIVER ISELIN, ESQ., AT AIKEN, S. C.—See page 42.
MESSRS. HOPPIN & KOEN, ARCHITECTS.



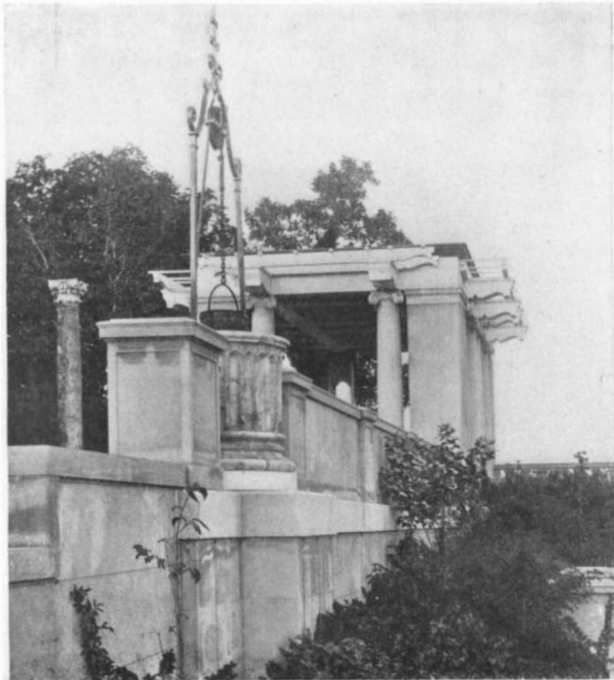
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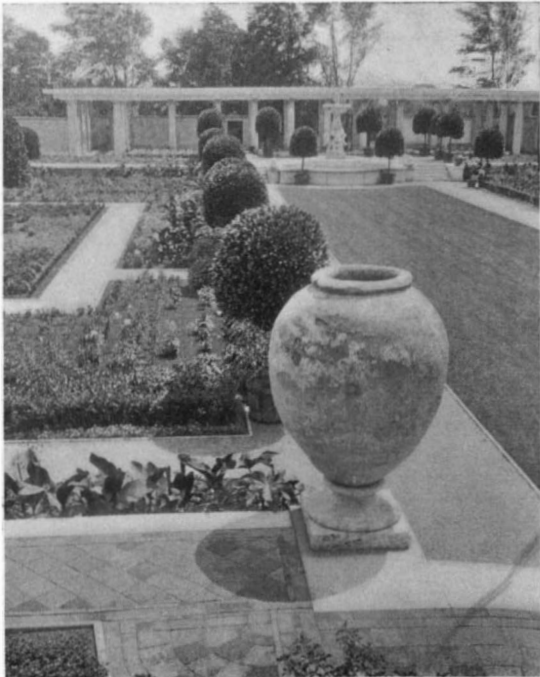
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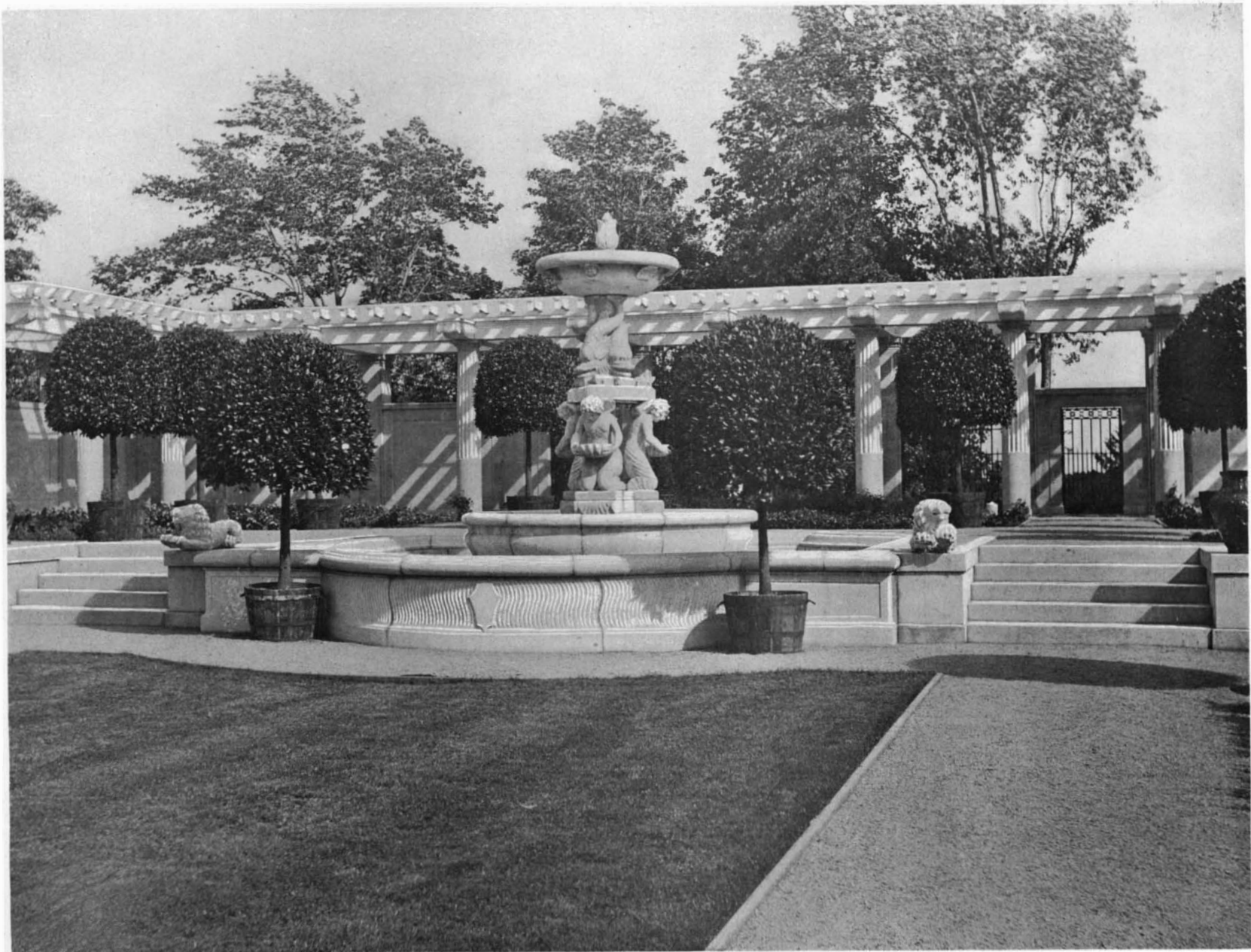
A PHYSICIAN'S RESIDENCE AT GERMANTOWN, PA.—See page 39.
MR. LAURENCE VISSCHER BOYD, ARCHITECT.



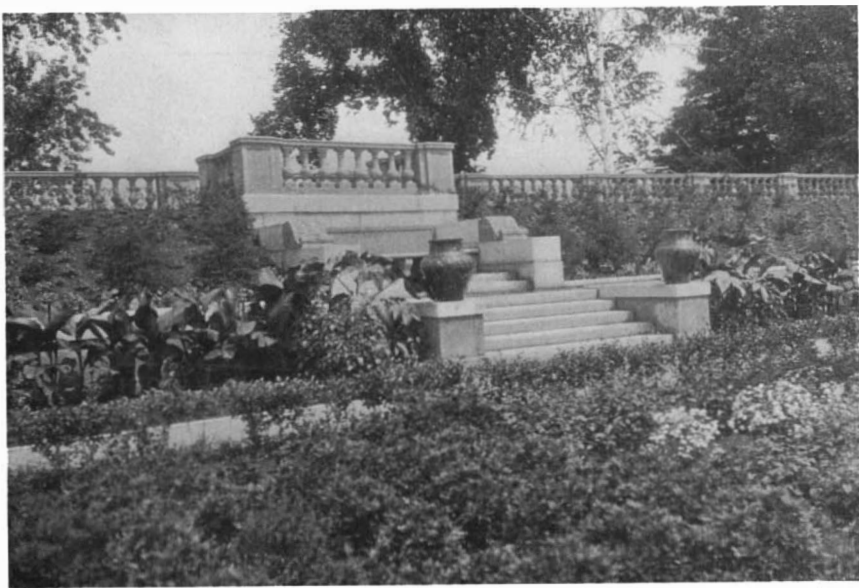
VENETIAN WELL AND GAZEBO.



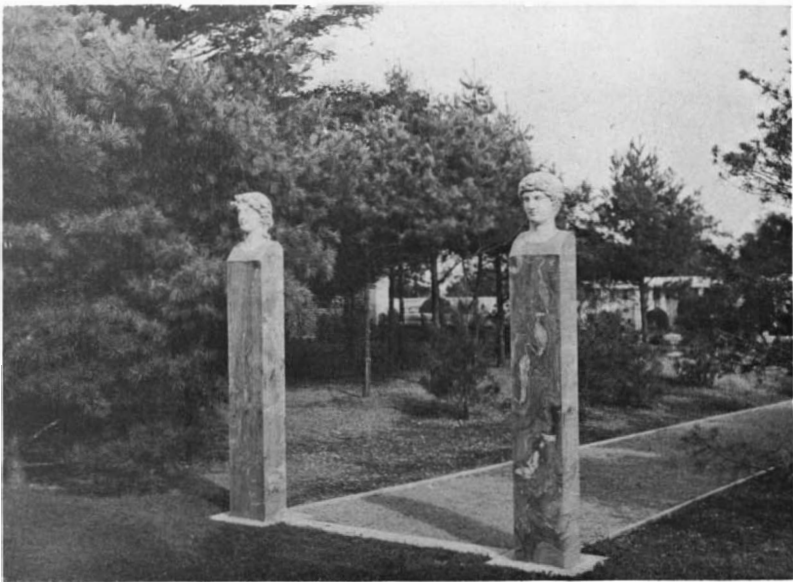
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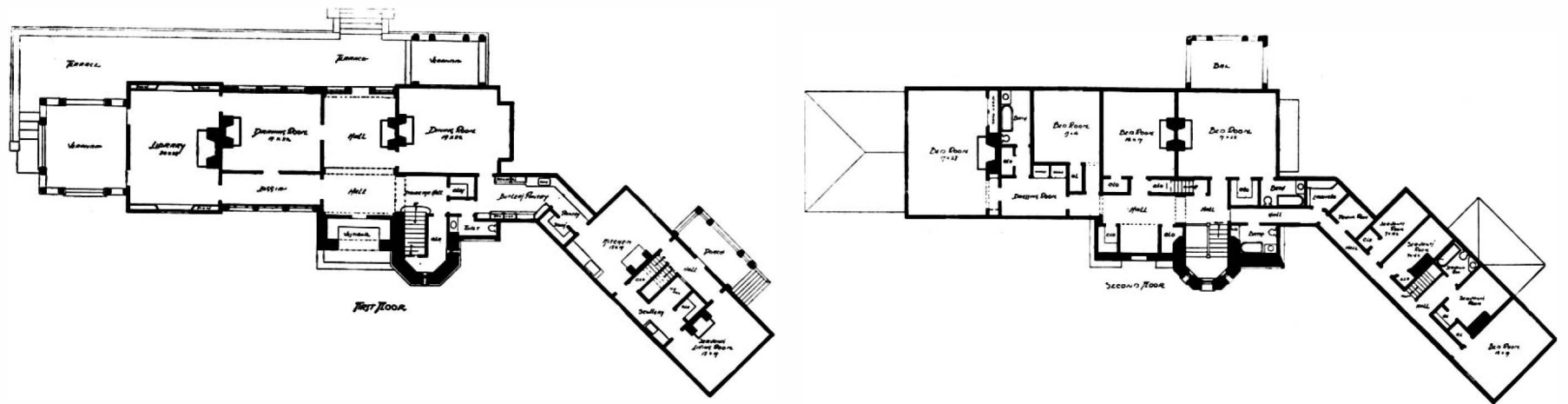


THE TERRACE STEPS.



TERMINALS OF BOWLING GREEN.

THE GARDEN OF "WELD," THE ESTATE OF LARZ ANDERSON, ESQ., BROOKLINE, MASS.—See page 43.
DESIGNED AND PLANTED BY MR. CHARLES A. PLATT.



THE COUNTRY RESIDENCE OF THOMAS HUNT, ESQ., BERNARDSVILLE, N. J.—See page 41.
MESSRS. LORD & HEWLETT, ARCHITECTS.

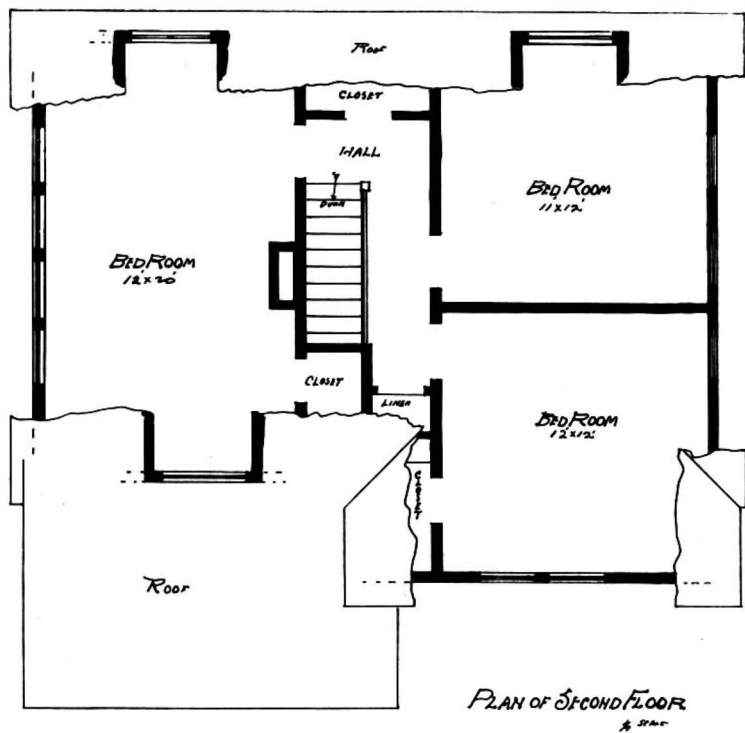
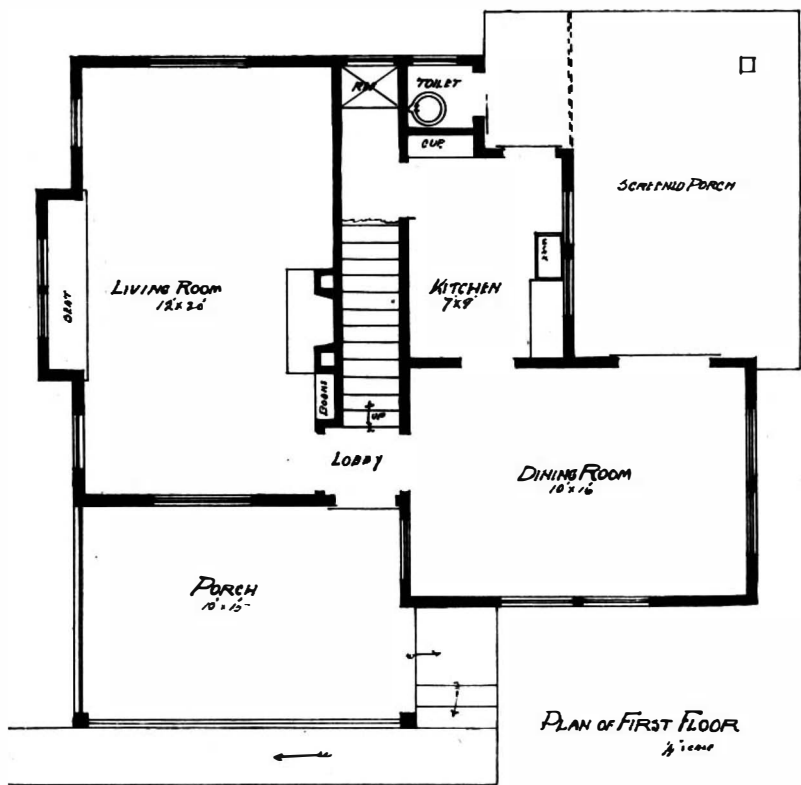


THE DRAWING-ROOM.

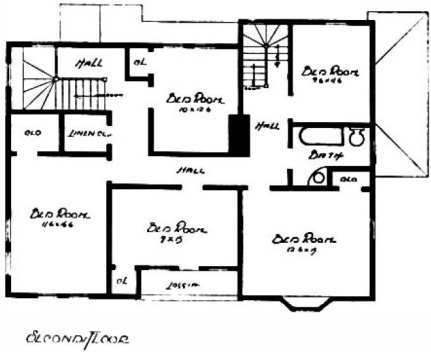
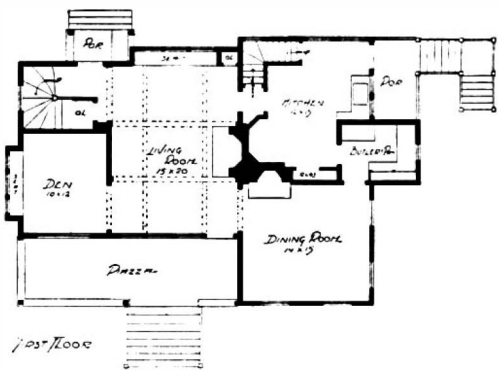


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THE COUNTRY RESIDENCE OF THOMAS HUNT, ESQ., BERNARDSVILLE, N. J.—See page 41.
MESSRS. LORD & HEWLETT, ARCHITECTS.



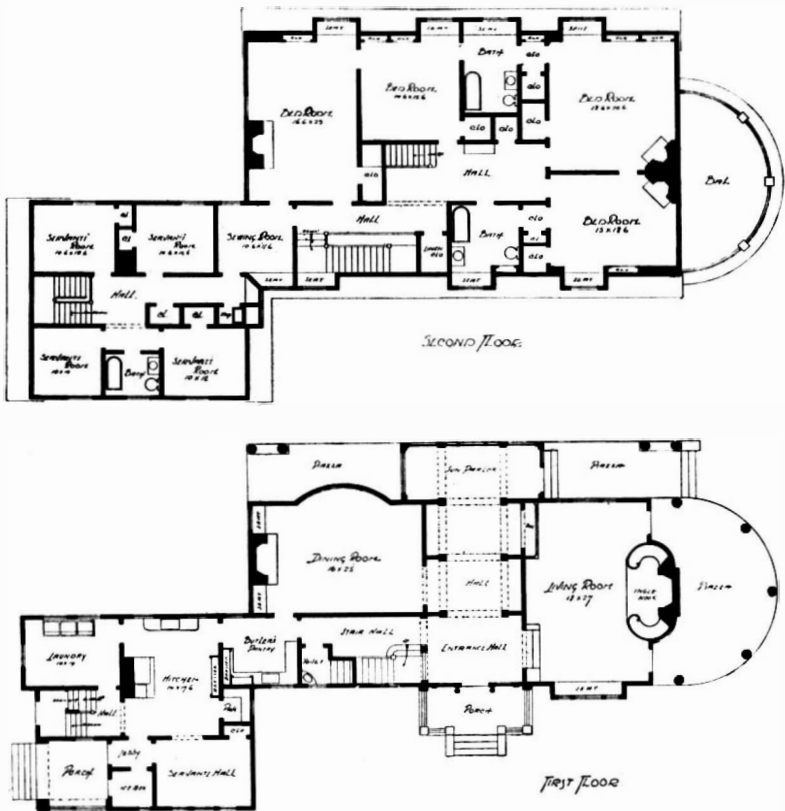
A SUMMER COTTAGE AT MONROE PARK, SOUTH HAVEN, MICH.—See page 41.
MR. A. M. WORTHINGTON, ARCHITECT.



THE HALL.



AN INEXPENSIVE SUMMER HOME AT PROUT'S NECK, MAINE.—See page 40.
MR. JOHN CALVIN STEVENS, ARCHITECT.



RESIDENCE AT WOODMERE, L. I.—See page 40.
MESSRS. ROSSITER & WRIGHT, ARCHITECTS.



LIVING-ROOM.

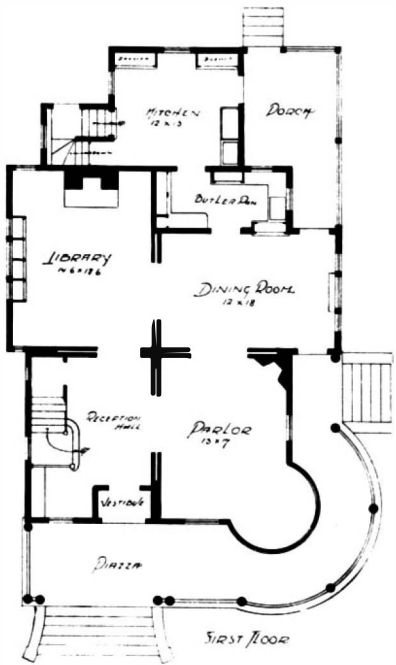


DINING-ROOM.

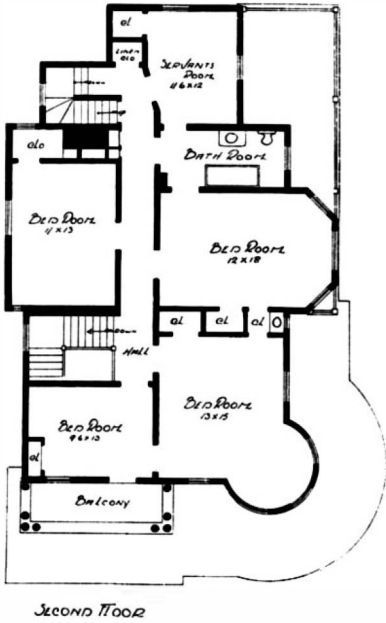


THE HALL.

RESIDENCE AT WOODMERE, L. I.—See page 40.
MESSRS. ROSSITER & WRIGHT, ARCHITECTS.

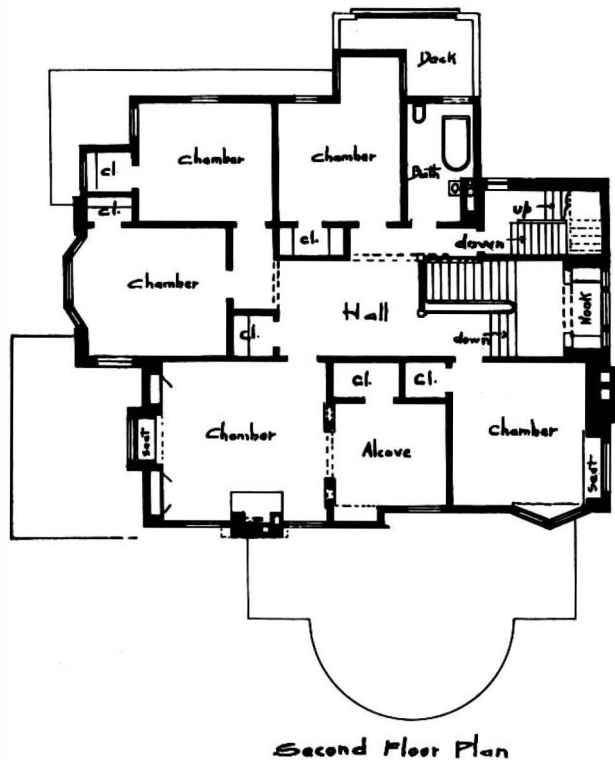
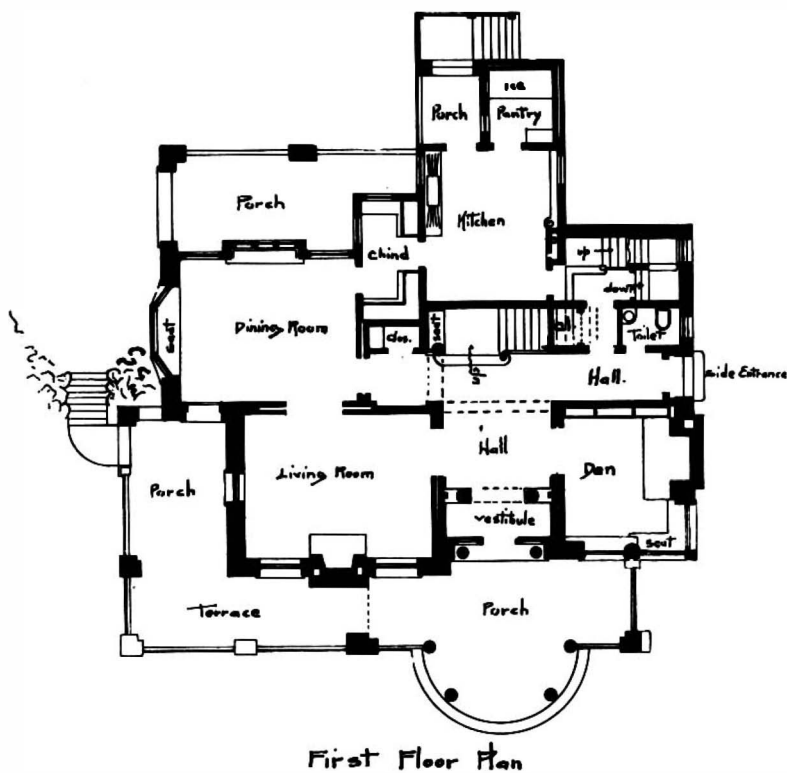


DINING-ROOM.



LIVING-ROOM.

A RESIDENCE IN FLATBUSH, BROOKLYN, N. Y.—See page 39.
MESSRS. BARBER & KLUTZ, ARCHITECTS.



RESIDENCE OF F. F. ROZZELLS, ESQ., AT HYDE PARK, KANSAS CITY, MO.—See page 42.
MESSRS. SHEPARD & FARRAR, ARCHITECTS.



A RUSTIC GATEWAY.



A RUSTIC SUMMER HOUSE.



A RUSTIC TEA HOUSE.



A RUSTIC STAIRWAY AND SETTLE.
GARDEN RUSTIC WORK.—See page 40.

MR. H. W. DESMOND ON THE STATELY HOME IN AMERICA.

(Concluded from page 25.)

the East. 'Biltmore' was not built with regard to the owner's convenience of access or its relationship to a great city, as is the case with most villas; but it is the home of a man amply able to build as he wished to build, and who has created an all-around country place at the particular spot which particularly interested him.

"The majority of our large private dwellings are either modified early Renaissance château or modified Italian 'palatial' villas. They are types of that sort of semi-public domestic architecture which modern conditions have hitherto favored in this country. In their original home they were magnificent, spectacular, impressive, and rather impersonal. They are styles that have appealed to our wealthy Americans and have given them a fitting setting for the display of their wealth. I do not mean to say that these styles are the best suited to reproduction and modification for American uses. Personally I favor the Jacobean residence as the best model for our American country houses, although as yet it has not been much used.

"For the present, at least, it is the architect who must be trusted in the building of our stately homes. Nearly everything they possess of interest is due to his skill; but more and more owners are awakening to their individual responsibility, and when this awakening becomes sufficiently cultured, a still greater advance will be made in this type of building than has yet been realized."

RESIDENCE OF MATHEW BAIRD, ESQ., AT ARDMORE, PA.

THE illustrations on pages 25, 26, and cover present the residence of Mathew Baird, Esq., at Ardmore, Pa. The style is English half-timber. The first story is constructed of rock-faced Holmesburg granite, with the porch walls and chimneys of the same, the latter being topped out with molded red terra cotta chimney pots. The second and third stories are of half-timber work, which is of a heavy character, the uprights being grooved to receive the plaster, and the horizontal timbers are beveled and dripped at the bottom to prevent the water from running down the walls. The spaces between the beams are filled in with stucco, and the pebble-dashing is the natural color of the pebbles, a cream white. The effect of the gray stone, the half-timber work, and the red chimney pots against the background of green woods presents a harmonious result.

The interior details are principally Elizabethan. The vestibule has a tiled floor, and the wainscoting is carried to the ceiling, which is also paneled. The hall is trimmed with oak, and it is finished in the Elizabethan tone. It has a paneled wainscoting, which is also carried from the floor to the ceiling, which is also heavily beamed and paneled. The ingle nook contains a fireplace of Indiana limestone, with paneled seats extending around the same. The staircase is of handsome design. The winding stairway in the octagonal stone tower in the rear leads to a grille room in the basement. The reception-room and library are trimmed with mahogany, and both have paneled wainscoting to the height of four feet. The separation of the two rooms is made by an archway supported on massive columns, with Ionic capitals. The reception-room has an ornamental ceiling of plaster in geometrical design, and an open fireplace, with the facings and a hearth of Pavonazza marble, and a mantel carved and of handsome design. The library has bookcases built in, which extend around the entire room.

The tea-room is a dainty little apartment treated in ivory white. The dining-room is trimmed with dark Flemish oak, as is also the morning-room, and both have a paneled wainscoting. The fireplace in the dining-room has Flemish green tile facings and hearth,

and mantel of Flemish oak. The kitchen and its dependencies are trimmed with North Carolina pine, and each is furnished with all the best modern conveniences. The second floor is trimmed with white pine, treated with white china gloss. It contains four bedrooms, a morning-room, sewing-room, linen closet, and three bathrooms, with cork floors, tiled wainscoting, porcelain fixtures, and exposed nickelplated plumbing. The bedrooms have ornamental plaster cornices and tiled fireplaces. This floor also contains the servant quarters, consisting of two single bedrooms and one double bedroom, and bathroom. The third floor contains two guest rooms and a billiard-room, with arch ceiling and a spacious fireplace, the entrance to which is just at the head of the stairs in the large open hall. There are also a bathroom and a trunk room on this floor. The cellar contains the heating apparatus, etc. Messrs. Bailey & Truscott, architects, 421 Chestnut Street, Philadelphia, Pa.

A RESIDENCE IN FLATBUSH, BROOKLYN, N. Y.

THE residence of Mr. Clarence E. Spayd, at 82 Lenox Road, Flatbush, Brooklyn, N. Y., illustrated on page 36, was built by Albert Janson, of Bay Ridge, Brooklyn. The underpinning is pitch-face ashlar bluestone with vertical and horizontal joints. The superstructure is of wood, and the entire framework is covered with pine sheathing nailed diagonally, over which the best quality of parchment building paper was carefully

dark green burlap below the plate rail and a floral tapestry of soft colors above the china rack to the cornice near the ceiling. A leaded glass transom over a triple window adorns one end of this spacious room, while a china closet extending from the floor to the cornice has been sunk into the butler's pantry, leaving the front on a line with the dining-room wall. From opposite sides of one end of this room doors open out on the front veranda and to the dining piazza at the rear.

The library, in Flemish quartered oak, is reached from the dining-room and also from the reception-hall. The room contains great, wide bookcases on every side built in, those next to the outside wall being under leaded glass windows. At one end of the library is a large mantel and open fireplace of dark red brick, made by the Philadelphia and Boston Firebrick Co. It contains a wrought-iron basket for burning coal, and under it is an ash dump, by means of which all the ashes are dropped into the brick ash-pit in the cellar. A rich Turkish red tapestry of oriental design makes this one of the coziest rooms of the house. Sliding doors on the first floor make it possible to throw the reception-hall, drawing-room, dining-room, and library into one. The floors throughout are double, and the top, or finished floors, are of hardwood of pretty design. The butler's pantry has a porcelain sink, refrigerator built in, as well as the usual closets, drawers, etc. The kitchen has closets,

gas and coal ranges, with copper hot-water boiler, porcelain sink, store-pantry, and pot-closet.

On the second floor is a large hall communicating with all rooms and the rear stairway. There are five bedrooms, each provided with large, well fitted up closets, while in the rear of the house is a large linen closet. The bathroom is finished in ivory white, with exposed nickel plumbing and the usual fixtures. A low-down tank Douglass siphon jet closet is one of the features that does away with noisy bathrooms. The tiled walls, with Holland scenes in delft blue, give the bathroom a pleasing appearance.

The third floor contains the servants' quarters, trunk room, and bathroom. A clothes chute, with openings on each floor, extends from the third floor to the laundry in the cellar. The cemented cellar contains the laundry, cold storage room, servants' toilet, heating plant, coal bins, and ash pit. A Thatcher sectional vapor and steam boiler was installed by John Murchison, Brooklyn, N. Y., and the heating plant is equipped with a Minneapolis electric heat regulator, by means of which absolute uniformity of temperature is maintained in every part of the house, regardless of any change that may occur in the weather on the outside. The house was plastered with elastic wood pulp plaster. Electric bells, burglar alarms, speaking tube, and telephone systems have been installed. A dining piazza off from the dining-room and kitchen is screened in, and it is one of the many practical novelties of the house. Over this piazza is a roofless balcony for sunning and airing clothing. A rear stairway extends from the cellar to the third floor. Messrs. Barber & Klutz, architects, Knoxville, Tenn.

A PHYSICIAN'S RESIDENCE AT GERMANTOWN, PA.

THE physician's residence which is illustrated on page 28 has been built for Dr. Schumann, at Germantown, Pa. The underpinning is constructed of long, flat, local stone, laid with rock-faces and pointed with wide, flat pointing. The remainder of the building is constructed of Sayre & Fisher red brick laid up in Flemish bond with wide five-eighth inch mortar joints, light buff in color, and raked out with iron. The steps at side entrance and part of the trimmings are of white marble, while the remainder of the trimmings are painted white. The entrance doors, with enriched pediment over, are some of the exterior fea-



MRS. MACKAY'S BATHROOM.—See page 39.

tacked. The second story and gables are covered with red cedar shingles dipped and brush coated with Samuel Cabot's creosote stain of a very dark green color. The same stain, but of a light mossy green, was used on the shingles for the roof. A cream white was used for all trimmings. Dimensions: Front, 34 ft. 6 in.; side, 50 ft., exclusive of the 8 ft. 6 in. piazza. Height of ceilings: Cellar, 7 ft. 6 in.; first story, 10 ft.; second, 9 ft. 6 in.; third, 8 ft.

The most attractive external features of this house are the extensive verandas and the graceful tower surmounted by an artistic weather vane; while the great expanse of rooms on the first floor impresses one with the air of comfort, quiet, peace and elegance which pervades the interior. Upon entering the house through a vestibule, a pretty vinelike entwined wrought iron grille on the vestibule door commands attention. The ornamental staircase of quartered golden oak rises from the reception-hall of the same finish, and has two landings, a large leaded glass window opening on each. Plain light green burlap covers the walls. To the right is the drawing-room, treated in ivory white and old rose decorations, with a large Colonial mantel. The circular tower feature of this room, with its curved plate glass window seat, and curved radiator under it, makes it one of the choicest in the house. The parlor chamber on the second floor is similarly finished, a lavatory, French plate pier glass, and two daintily leaded glass windows of elliptical shape having been added. To the rear of the drawing-room is the dining-room, in golden quartered oak, with plain

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RESIDENCE OF MATHEW BAIRD, ESQ., ARDMORE, PA.

No. 220

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tures. The roofs are covered with green slate. Dimensions: Front, 68 ft.; side, 43 ft., exclusive of piazza. Height of ceilings: Cellar, 8 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft. 6 in.

The entrance is through a vestibule, with closets on either side, into a hall, which is a central one and is trimmed with quartered oak and is stained a warm Flemish brown, and is finished with a paneled wainscoting 4 ft. 6 in. in height and an ornamental staircase. The parlor is trimmed with mahogany. The library and dining-room are trimmed with quartered oak and finished in a Flemish brown, and each has a paneled wainscoting to the height of 4 ft. 6 in. The library has an open fireplace built of Pompeian brick and is furnished with a mantel of oak. The butler's pantry and kitchen are trimmed with natural yellow pine.

The physician's quarters, consisting of an office and consulting room, are a special feature of this house, and have an outside entrance with a classic porch and a connection with the main house by the rear hall and stairway. These two rooms are trimmed with chestnut, antique finish. The second story contains a hall trimmed with quartered oak, and four bedrooms and den trimmed with natural chestnut. The bathroom is trimmed with white pine treated with white enamel. The floor is covered with white vitrified tile and wainscoted to the height of five feet with ivory white tiling. This bathroom is furnished with porcelain fixtures and nickelplated plumbing.

The third floor contains the servant quarters and trunk room. Cellar, cemented, contains laundry, hot water heating plant, fuel rooms, etc. Mr. Laurence Visscher Boyd, architect, Harrison Building, Philadelphia, Pa.

RESIDENCE AT WOODMERE, LONG ISLAND.

THE illustrations shown on pages 34 and 35 present a residence erected at Woodmere, Long Island, by the Woodmere Land Association, of which R. L. Burton, Esq., is the owner. The underpinning is of brick, and the house from the grade to peak is stuccoed and is tinted a deep soft yellow. The trimmings are painted ivory white, and the blinds are painted a dark apple green. The roof lines are graceful, and the entire roof is covered with shingles, which are left to weather finish. The exterior walls are lined with brick, which gives great warmth for winter houses. Dimensions: Front, 96 ft. 6 in.; side, 53 ft. 6 in., exclusive of porch. Height of ceilings: Cellar, 8 ft.; first story, 9 ft.; second, 9 ft.; third, 8 ft. 6 in.

The hall is trimmed with chestnut, and is stained and finished in a dull soft brown color. The ceiling is beamed, forming squares, and, at the intersection of each square, support is provided by a square column rising from the floor. This hall has a wainscoting to the height of five feet, and a floor of Dutch tile, red in color, and eight inches square. The staircase at the side of the entrance hall is of ornamental character, and beneath it there is a toilet-room. At the end of the hall there is provided a sun parlor, enclosed with glass and heated in winter. A feature of this hall is the small balcony with seat, which is thrown into the living-room, as a study of the plan will show. The living-room, which is on a lower level than the main floor, is trimmed with white pine and is treated with ivory white paint. It has a paneled wainscoting, above which the walls are covered with crimson burlap, and the whole finished with a wooden cornice. The ingle-nook, which is raised one step, has a tiled floor, paneled seats, and a fireplace built of brick, with tiled facings and a mantel of Colonial style. French windows open on to the porch.

The dining-room is treated in an artistic manner and is painted a dull green. The walls are paneled to the height of six feet and are finished with a plate rack; the space above has a painted panel extending around the entire room. The fireplace, built of brick, has a tiled hearth and facings, and a mantel of Colonial style and seats on either side. The butler's pantry, of large dimensions, is furnished with drawers, dressers, cupboards, sink, and closets. This pantry is well ventilated by two windows, which are placed in opposite directions, one from the other. The kitchen, servants' hall, and laundry are trimmed with North Carolina pine, and each is furnished with all the best modern conveniences. The servants' hall provides a recreation place for the servants and has a large closet for the servants' dishes, etc. The servants' porch is also a happy thought.

The second story is trimmed with white pine and is painted ivory white, except the hall, which is finished the same as the first story hall. There are four bedrooms and two bathrooms in the main part of the house, and four servant bedrooms and bath in the ex-

with canvas, and the beamed strips are then placed in position, forming panels, which are painted a deep yellow and the beams a bottle green. The roof is covered with shingles and is stained a deep red. Dimensions: Front, 49 ft.; side, 32 ft., exclusive of porch and piazza. Height of ceilings: Cellar, 6 ft. 6 in.; first story, 9 ft.; second, 8 ft.; third, 8 ft.

The interior throughout is trimmed with cypress, and the principal rooms in the first story are finished in Flemish brown. The living-room has a paneled seat, with a unique little bookcase at one side, and a beamed ceiling; the woodwork, which is stained a Flemish brown, harmonizes nicely with the rough plastered walls, which are tinted in a deep yellow tone. The rough brick fireplace is an attractive feature of this room. The staircase hall is well located, and contains an ornamental stairway. The den has a bay window with a paneled seat placed in the same. The dining-room has an open fireplace built of brick, with the facings and a hearth of the same, and a mantel-shelf. The kitchen and its dependencies are fitted up complete with all the necessary fittings, etc.

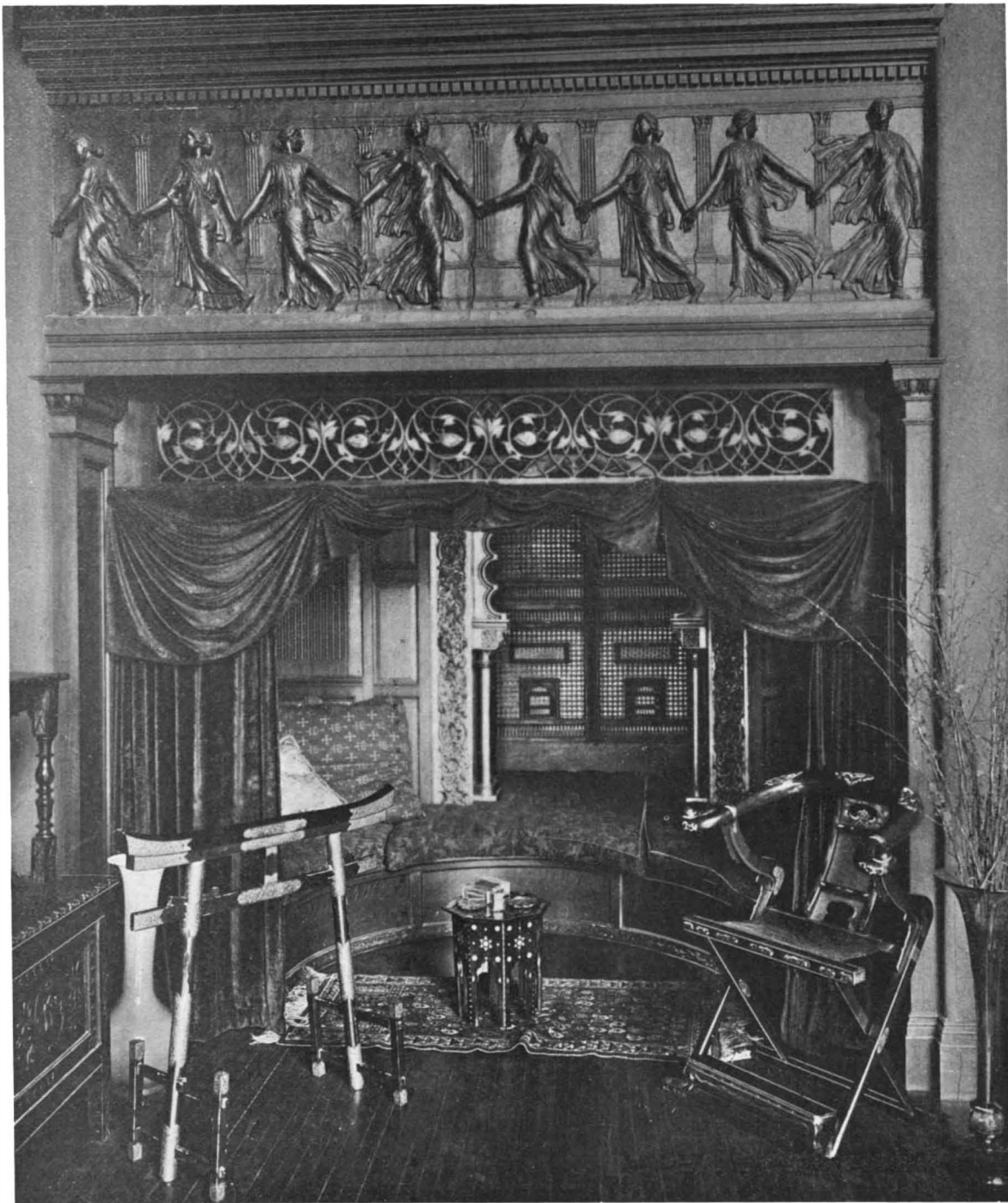
The second floor contains five bedrooms provided with large closets, and a bathroom furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains the servant quarters and a trunk room. The cellar has a laundry and fuel room.

Cost, \$3,200 complete. Mr. John Calvin Stevens, architect, Oxford Building, Portland, Maine.

GARDEN RUSTIC WORK.

RUSTIC work has real interest in garden making, and, when properly envired, is often very effective and sometimes extremely beautiful. It fails of high artistic value because it undertakes to represent buildings and structures which have no counterpart in nature, but it is interesting and good when the combinations made of it have structural form and are pleasing and happy in expression.

Four illustrations of the appropriate use of rustic work are shown in the illustrations on page 38. The rustic gateway is from the garden of C. L. Pyne, Esq., New Rochelle, N. Y.; the stairway and settle are in the garden of O. D. Munn, Esq., Llewellyn Park, Orange, N. J.—an extremely happy, though modest use of this informal garden material; the tea house is from the garden of Captain Steele, South Orange, N. J.; and the summer house is from the grounds of C. C. Philip, Esq., Glen Ridge, N. J.



TURKISH SMOKING-ROOM OF A. A. ANDERSON, ESQ.

terior part of the house over the kitchen. Every inch of space is utilized for closets, and they are many in number. Three of the bedrooms have fireplaces, and they are built of brick, laid with facings and a hearth of the same and mantels. There is also a sewing-room, which forms access to the servant quarters. The third floor contains three large bedrooms and a trunk room. The cellar, which is partitioned off into compartments with brick walls, is provided with a heating apparatus, fuel rooms, etc. Messrs. Rossiter & Wright, architects, 95 Liberty Street, New York City, N. Y.

AN INEXPENSIVE SUMMER HOME AT PROUT'S NECK, MAINE.

THE inexpensive summer home which is illustrated in this issue on page 33 has been recently completed for Mrs. Cheney Bartol, at Prout's Neck, Maine. The building is treated in the half-timber style. The house is erected on cedar posts with stone footings, and the exterior is covered with novelty clapboards, and the whole is painted a dark bottle green. The first story above this clapboarding is covered with narrow matched stuff, which is also painted a dark bottle green. The second and third stories are sheathed, covered with two thicknesses of building paper, and then

MRS. MACKAY'S BATHROOM.

THE superb mansion of Mr. Clarence H. Mackay, at Roslyn, Long Island, N. Y., was illustrated and described at length in the BUILDING MONTHLY for September, 1903. The additional illustration given on page 39 of the present number will be welcomed by those whose interest was then excited in this splendid house. The bathroom immediately adjoins Mrs. Mackay's bedroom, and is a boudoir-like apartment, shorn of the plain simplicity which characterizes the bathroom of the ordinary house. It is richly and elaborately furnished, the chief feature being the great bath of marble, carved out of a single piece and sunk in the floor. The illustration gives an excellent view of this interesting room.

MR. ANDERSON'S SMOKING-ROOM.

THE illustration given above affords a pleasant insight into the smoking-room attached to the studio of Mr. A. A. Anderson, in the Bryant Park Studio Building, in New York. This view supplements other views of Mr. Anderson's studio published in the BUILDING MONTHLY for October, 1902.

The Household

WINTER WINDOW CURTAINS.

A DAILY paper gives some useful hints on new material for heavy or winter window curtains. Chenille in soft tones of blue, green, and maroon, shaded from the darkest to the palest tints, is a material in which lovely hangings can be bought, if one wishes something inexpensive. The design is of oriental character, woven into the fabric. Fancy wool serge with vertical stripes is something new, and has a most pleasing effect. A very attractive wool curtain has a double border and fringe on both sides and bottom. Very effective is brocade in self colors, with raised design, in old rose, old gold, art blue, green, terra cotta, and maroon, fifty inches wide. A new soft-finished Roman satin, specially adapted for art needlework, is the Bagdad cloth in twenty tints, width, fifty inches. Moderate in price and delightful in effect is the Venetian striped tapestry for bedrooms, this being closely approached by a duplex printed reversible tapestry cretonne, which in effect is exactly that of a woven fabric. Numberless cretonnes at all prices are now showing the moiré stripes and the rose trellis. Casement curtain blinds and bris-bise come in for special treatment in materials and designs.

THE BEDROOM.

THE bedroom, says a contemporary, should be comfortably and cheerfully furnished, though without show or ostentation. The curtains at the windows, which should be large enough to let in plenty of light and air, should be of simple muslin in some dainty design. Matting is the best covering for a bedroom floor if the floor is not of hard wood. If it is, inexpensive Japanese, or, better still, simple, homemade rugs of light material, which can be easily shaken or cleaned, may be used.

Brass or metal bedsteads are by all means the best, because the different parts are so tightly screwed together that there are no crevices where dust or impurities can lodge. The old fashioned snow white counterpane is the prettiest, as well as the most sensible bed covering. It can be laundered easily and as regularly as the housekeeper wishes, and it also has the advantage of being more attractive and inviting to a tired person than a colored coverlet.

It is a mistake to have a very low ceiling in a bedroom, but unnecessary to have a very high one. It should, however, be high enough to admit of thorough ventilation. It is needless to add that growing plants should never be placed in the windows of a bedroom, as the earth and fertilizers often give off malarial germs.

Delicate colors are most suitable in furnishings. One of the prettiest bedrooms imaginable, in a country home, was decorated in cream and yellow. It was papered with a very simple design of yellow pansies, on a cream ground, with a silver line running lengthwise. The bedstead was of white enameled iron, trimmed with brass, and the bureau was an ordinary chest of drawers, repainted and enameled white, with brass drawer handles and oval mirror. Old fashioned chairs and washstand in white, with a pale green screen and lamp of the same color, completed the furniture. The washstand stood in a small alcove, and a portière of Japanese cotton crêpe, with a design in delicate yellow, separated it from the room. Before the bed was a soft rag rug of silk. These artistic furnishings cost only a trifle, in comparison with the average cost of bedroom fittings.

Another pretty bedroom in this same house was papered in delft blue, and furnished in oak, with a few etchings on the walls and a soft rug on the floor. The washstand also stood in an alcove, which had a picturesque little window to let in plenty of light, and a dainty grillework over the entrance, from which hung blue portières of Japanese cotton crepe.

THE WOMAN FURNISHER.

It is hard, remarks a recent writer, to make some women believe that the happy results arrived at by skilled artists and specialists are not so much from the caprice of taste, or the inspiration of the moment, as from an acceptance of and adhesion to certain definite laws and knowledge of styles. It is easy enough to admire a beautiful salon or a snug and cozy sitting-room, but unless one does so intelligently the result, in so far as it influences our own homes, is practically nil. And, after all, one of the most charming studies it is possible to conceive is that of the beautifying of the rooms we live in.

Without sticking strictly to "style," the dominant note of the room should not jar, and there should exist a homogeneity between the decorations and furniture.

THE COUNTRY RESIDENCE OF THOMAS HUNT, ESQ., AT BERNARDSVILLE, N. J.

ON pages 23, 30, and 31 will be found illustrations of the country residence of Thomas Hunt, Esq., at Bernardsville, N. J. The building is designed and carried out in the style of the old Normandy farm house architecture, and is a very carefully executed example of that particular type of building adapted to the modern mode of living.

The terrace wall and the tower entrance are built of local rock-faced stone laid with wide joints. The kitchen and servants' yard are enclosed by a stone wall fence of similar construction, the height of which is reduced by the wall planting on the outside. The remainder of the building is plastered. The exterior woodwork and trimmings are of chestnut, and are stained a dark soft brown color. The roof is covered with red tiles.

The first floor throughout is trimmed with chestnut; the doors are of one panel, with oak stiles, and the whole is coated with a water stain and then given a coat of shellac and alcohol with antique effect. This woodwork is treated with a hewn effect. The entrance vestibule has a brick floor laid herring-bone style. The hall has a paneled wall to the ceiling, of chestnut, and the whole is finished with a massive wooden cornice, and the ceiling is beamed. This hall, which is a central one, extends through the house and forms a living-hall, and it contains a fireplace, built of brick, with the facings and a hearth of the same and a massive mantel. The staircase is isolated from the hall proper and is at the right of the entrance, rising in the tower to the second floor. The loggia, forming an entrance to the library, is trimmed the same as hall, and it has a paved floor of 8 x 8 in. square Dutch tile.

The drawing-room has a low wainscoting and a beamed ceiling with the spaces filled in with narrow beaded stuff. The fireplace is built of brick with the facings and a hearth of the same, and a mantel of chaste design. The library has a battened wainscoting to the height of 6 feet, and is finished with a plate rack. The space above is covered with crimson burlap, and the ceiling is beamed. At either end of the room there are book cases built in on either side of a central window, which has a seat under the same. The open fireplace is of handsome design and is carved out of Indiana limestone.

The dining-room has a low wainscoting, a paneled ceiling, a picture window, and an open fireplace with brick facings and hearth and mantel. The butler's pantry, of large dimensions, is provided with drawers, dressers, sinks, etc. The kitchen pantry and store pantry are also well fitted up. The kitchen is provided with a large fireplace with range, and is furnished with all the necessary appointments. The scullery, with ice box, sink, and closet, is also a useful feature. Much attention has been given to the planning of this house, as a study of the plan will show, and the disposition of the servants' quarters has been very carefully considered. The servants' living-room, provided with an open fireplace, and neatly furnished, is a happy thought, and forms a unique addition to the kitchen and its dependencies. The servants' hall and porch and the private stairway leading up to second story, which contains four servants' bedrooms, all separate, and a bathroom, also show the thought which has been given to their apartments.

The second floor is treated with white enamel paint, and it contains four bedrooms, three bathrooms, and a large dressing-room, besides numerous closets. The bathrooms are furnished with tiled floors and wainscoting, and porcelain fixtures and exposed nickelplated plumbing. The third floor contains a trunk room and ample storage. The cellar, cemented, contains the heating apparatus, fuel rooms, laundry, etc. Messrs. Lord and Hewlett, architects, 16 East Twenty-third Street, New York.

A SUMMER COTTAGE AT MONROE PARK, SOUTH HAVEN, MICH.

THE summer cottage which is illustrated on page 32 has been erected for Mr. W. L. Desnoyer, at Monroe Park, South Haven, Mich. There is no basement or cellar under the house, and it rests on cedar posts. The framework is of dressed 2 in. by 4 in. studs covered on the outside with perpendicular boarding of pine with battened joints, the whole of which is stained a soft brown color. The gables are beamed and the spaces between are covered with rough cast cement plaster. The trimmings are painted white. The roof is covered with shingles of a dull green color. Dimensions: Front, 32 feet.; side, 24 ft., exclusive of porch. Height of ceilings: First story, 8 ft. 6 in.; second, 8 ft.

The living-room, 12 ft. by 20 ft., has a large open fireplace built of field stone and a broad window seat. The dining-room is well ventilated and lighted and is provided with a screened porch. The kitchen has a sink, dresser, pantry, etc. The second story contains three good-sized bedrooms furnished with ample closets. Cost, \$825. Mr. A. M. Worthington, architect, South Haven, Mich.

The Garden

FLORAL ARRANGEMENT.

It may be said that the art of successfully arranging flowers is one that is born in the lucky possessor, and not an acquired accomplishment. It is true that the eye may be so educated with regard to color that combinations may be made which are altogether harmonious, yet the knack of making a thoroughly pleasing bouquet does not consist in simply putting together colors that harmonize with each other. There is a certain something which is hardly definable, but which must be there in order to achieve success. It is intangible and difficult to define in words, but perhaps the best attempt at a definition would be to call it a natural intuitive taste—one which in some mysterious way makes no mistakes, as the cultivated or acquired taste is apt to do.

It is naturally impossible to lay down any definite instructions as to what must be done to insure success, because conditions vary so very much; but some general advice can be given that the would-be bouquet-maker who is doubtful of her ability in this direction may find useful.

To begin with, as in so many other decorative matters, let simplicity be the keynote. That is to say, try to make the arrangement as natural as possible, and, in order to do this, let object lessons be taken from Nature herself. Study the flowers while they are growing, and try to arrange them in some sort of way similar. For instance, in arranging roses, if the rose bush is studied—especially a wild rose bush—it will be seen that there is no crowding, no formality—everything is simple and natural; therefore should the roses be arranged loosely, and not forced into positions that are unnatural to them. In the same way, in arranging any flowers in vases or bouquets, it should be known how they appear when growing without interference with their natural tendencies, and this knowledge should govern the arrangement. Not that Nature should be copied servilely and exactly—this is neither practicable nor expedient—but the simplicity and grace of the natural growth should be imitated and should be the groundwork of the scheme of arrangement.

The next important feature in bouquet-making is to guard against overcrowding. This is not good for the flowers and invariably destroys the desired effect. And the crowding of several kinds of flowers together, even if their colors harmonize, is almost always disastrous. Each flower has its own individuality, and if many kinds are massed together their individuality is lost, or else the various individualities combat one another. A few flowers satisfactorily used go a long way further toward producing satisfactory results than great masses of blooms packed closely together. Therefore it is quality rather than quantity that is necessary in work of this kind. Although on the whole, as a general rule, it is advisable to use only one kind of flower in a vase, still occasionally two kinds may be used with advantage. For instance, a spray of white clematis used with roses will give a most pleasing effect, because the white of the clematis brings out the color of the roses vividly; but it is itself unobtrusive and serves as a background to the roses without in any way challenging their individuality.

Sweet peas are delightful for bouquets and should never be mixed with other flowers. In arranging a vase of sweet peas for the house, the blooms should be cut with the longest possible stems and bunched lightly in hand as they are cut, but without an effect being tried for. Not more than a dozen clusters should be cut; then they should be dropped into a rather tall, slender vase, preferably of clear glass, or at any rate one of unobtrusive color; the flowers should then be given a little shake, and the blossoms will have arranged themselves far more satisfactorily than could have been done by putting them deliberately together, because they will have now disposed themselves naturally and simply.

The vessel in which the flowers are put has much to do with their effect. Long-stemmed ones of stately habit, like the lily, will be spoiled if put into low vases. Flowers with short stems are always unsatisfactory in anything but low bowls or shallow vases. Color must also be taken into consideration in this connection. A blue china bowl may be pleasing when filled with yellow roses or large marguerites, but if pink roses or purple dahlias are put in it, then the result is a discord. As a general rule, a crystal vase or cut-glass bowl will be found more satisfactory than any colored vessel. Where these are used there will be no clash of color.—Family Herald.

New Books

HOW TO JUDGE ARCHITECTURE.

HOW TO JUDGE ARCHITECTURE: A POPULAR GUIDE TO THE APPRECIATION OF BUILDINGS. By Russell Sturgis. New York: The Baker & Taylor Co. Pp. 221. Price, \$1.50 net.

Mr. Russell Sturgis is not only one of the most voluminous writers on architecture, but one of the most competent. A scholar by nature and by training, his early life was spent in active architectural practice; many years of continuous residence in Europe has rendered him personally familiar with the great monuments of architectural art, old and modern; constant writing, and an intimate acquaintance with artists and architects have given him an unequalled facility in a real understanding of architecture and its expression.

The present book, though brief—it contains but 221 pages—is one of the most brilliant Mr. Sturgis has produced, and one of the most useful and successful of recent architectural publications. It sets out to do what no other writer has tried to do—to make clear why some buildings are better than others, and why some should be admired and others not. The task is not an easy one. Artistic judgment can not be definitely settled by rule of thumb, and yet there are obviously certain fundamental principles to be followed in forming an architectural judgment exactly as such principles must be followed in reaching artistic opinions generally.

Obviously there were two ways in which the subject might be approached—historically and analytically. Mr. Sturgis has chosen the former way, the one perhaps the most natural to a writer saturated, as he is, with the details of architectural history. The method might very well have been open to discussion before the book was written, but having been written, it is plain that no mistake was made, for the book not only establishes the purpose for which it was written, but it is also a very excellent and rapid sketch of the history of architecture. The reader who follows its pages through to the end lays it down with an increased appreciation of architecture, but he has, at the same time, mastered the outlines of architectural history.

This is no small triumph. A brief sketch of the history of architecture is one of the most difficult things to write, and it is even more difficult to write in a way that will hold and interest the reader. Mr. Sturgis does this and more, for his sketch is both interesting and stimulating, and the intelligent reader is likely to turn immediately from his pages to a more extensive treatise, and thus learn more of that wonderful art to which Mr. Sturgis is so devoted, and which comes closer to us, closer in a practical, real living way, than any other art of design.

The object of the book, writes the author, is to help the reader to acquire, little by little, such an independent knowledge of the essential characteristics of good buildings and also such a sense of the possible differences of opinion concerning inessentials, that he will always enjoy the sight, the memory, or the study of a noble structure without undue anxiety as to whether he is right or wrong. Rightness is relative: to have a trained observation, knowledge of principles, and a sound judgment as to proprieties of construction and design, is to be able to form your opinions for yourself; and to understand that you come nearer, month by month, to a really complete knowledge of the subject, seeing clearly what is good and the causes of its goodness, and also the not-so-good which is there, inevitably there, as a part of the goodness itself.

These are sensible words and admirably set forth the reason for the making of this book and the grounds on which it appeals to the reader. There is no better or more useful work than helping people to understand architecture. Architectural writing does not always accomplish that; it is too apt to be descriptive or theoretical. If it is descriptive it deals with facts, most of which can be observed in any illustration. If it is theoretical it deals with theories which, likely enough, are chiefly of interest to the person putting them forth. Mr. Sturgis has opened a new field in leaving both of these aspects and treating architectural history from the standpoint of appreciation.

The volume is illustrated with numerous views of notable buildings, admirably selected and well printed. They add materially to its interest, and, in themselves, constitute a fine summary of architectural history. The leading styles—styles that have counted in the progress of art—are passed in swift review, but always with the thought of their esthetic merit. It is a novel point of view, admirably put forth.

RESIDENCE OF F. F. ROZZELLS, ESQ., AT HYDE PARK, KANSAS CITY, MO.

THE residence which is illustrated on page 37 has been recently erected for F. F. Rozzells, Esq., at Hyde Park, Kansas City, Mo. The first story and chimneys and the columns to the piazzas are built of rock-faced gray stone. The second and third stories are of wood and the exterior is covered with shingles and stained a deep soft brown color, while the trimmings are painted white. The roof is covered with shingles and is stained moss green. Dimensions: Front, 52 ft.; side, 50 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft. 6 in.

The hall is a central one, with a side hall leading to a side entrance. These halls are trimmed with quartered oak and have paneled wainscotings and ceiling beams. The vestibule is formed with columns rising from the floor to the ceiling. The staircase is an attractive one with columns, also rising from floor to ceiling. The lavatory is conveniently located beneath the stairway. The den, which is designed in the old Dutch style, is trimmed with quartered oak, and it has a paneled wall and plain heavy beams on the ceiling. The woodwork is finished in a dark brown. The rough plastered walls are tinted a deep red and the ceiling an orange color. There is a quaint bookcase built in, paneled seat, and an open fireplace, furnished with a vitrified brick mantel, the top of which conforms with the paneled wainscoting.

The drawing-room is trimmed with antique oak, and it has an open fireplace with tiled facings and hearth and a mantel. The dining-room is trimmed with a dark fumed oak, and it has a paneled wainscoting and a recessed sideboard built in an artistic manner. The floors of this story are of oak and are highly polished. The butler's pantry is provided with drawers, dressers, closets, and sink. The kitchen and its dependencies are furnished with all the best modern conveniences.

The second story is trimmed with birch, and it contains five bedrooms, with large closets and a bathroom furnished with a tiled floor and wainscoting and porcelain fixtures, with exposed nickelplated plumbing. The third floor contains two servant bedrooms and bath and a trunk room. The basement is subdivided into various rooms for hot water boiler, coal bins, laundry, vegetable cellar, and a man's room. Messrs. Shepard & Farrar, architects, 506 Commerce Building, Kansas City, Mo.

THE WINTER RESIDENCE OF C. OLIVER ISELIN, ESQ., AT AIKEN, S. C.

THE illustrations shown on page 27 present the winter residence of C. Oliver Iselin, Esq., at Aiken, S. C. The design is treated in the Colonial style. The terrace, with its balustrade, the porches, with their columns of classic character, the windows, with their small lights of plate glass, and the quaint dormer are all good features. The underpinning is built of red brick. The superstructure is covered on the exterior framework with matched sheathing, and then shingles, and the whole is painted white. The roof is also covered with shingles. Dimensions: Front, 130 ft.; side, 43 ft., not including piazza and terrace. Height of ceilings: Cellar, 8 ft.; first story, 11 ft.; second, 9 ft. 6 in.; third, 8 ft. 6 in.

The front entrance opens into a large living-room, while the porte-cochère entrance opens into the main hall. The latter is trimmed with white pine and is treated with white enamel paint. It has a paneled wainscoting and ceiling beams, and an ornamental staircase with mahogany treads and rail. The living-room is trimmed and treated in a similar manner, and has a wainscoting six feet in height and a beamed ceiling and an open fireplace built of brick with Italian marble facings and hearth and a Colonial mantel. The library has a similar fireplace and a window seat. The gun room is conveniently located and it has an open fireplace. The dining-room, of large dimensions, is finished in a buff brown, warm in tone, and it has a wainscoting and beamed ceiling. The butler's pantry is fitted with drawers, dressers, cupboards, sink, etc. The kitchen and its dependencies are fitted up complete with all the best modern conveniences, including a servants' hall, which is quite an important feature of the modern country house.

The second floor is treated with white paint and contains an open hall, seven bedrooms, three bathrooms, besides three servant bedrooms and bath, with a private stairway and hall, which is placed over the kitchen extension. The third floor contains four bedrooms for servants and a trunk room. The cellar, cemented, contains a furnace, laundry, larder, store-room, and fuel rooms. Messrs. Hoppin & Koen, architects, 244 Fifth Avenue, New York.

INTELLIGENT supervision of the house is needful at all times. Mere cleanliness is not sufficient; the house must be known and understood as a house to give its best uses to those who live in it.

Fire Protection

THE TELESCOPIC AERIAL LADDER.

FOR life-saving purposes, says the weekly Scientific American, there is nothing to compare with the new telescopic aerial ladders, which are operated by means of compressed air. When it is desired to effect a rescue of a person on the roof or on one of the upper floors of a blazing building, the pneumatic ladder is shot into the air to a point just opposite where the imperiled person is standing, the endangered individual steps on to the top round, and the ladder as suddenly collapses, the tubes telescoping gradually but rapidly, and conveying the rescued person to a point near the ground.

The average telescopic aerial ladder is operated under an air pressure of 300 pounds to the square inch, the air tank being located in the center of the truck carrying the ladder. On many ladders there is provided an auxiliary tank with air under 100 pounds pressure, which is used to supply power for swinging the ladder from one side of the street to the other, so that buildings on both sides of a thoroughfare may be served without serious delay. The truck carrying the ladder weighs about two tons, the heavy construction having been introduced in order to obviate any possibility of overbalancing. Ladders of this pattern of 85 feet extension have been raised to their full height in 25 seconds. Inasmuch as the apparatus is strong enough to carry a dozen men, it is possible to conduct rescuing operations with great rapidity.

THE FIREPROOFING OF WOOD.

AFTER an exhaustive series of experiments with a wide range of compounds, it is stated in an exchange that Joseph L. Ferrell has found in sulphate of aluminum a compound that appears to answer all the practical requirements. It has the additional feature, of no slight importance in its bearing upon the fireproofing effect, that when strongly heated it leaves an infusible and nonconducting residue to cover and protect the cellular structure throughout the wood. It absolutely prevents the propagation not only of flame throughout the wood, but even of a glow, because of its unconducting and unalterable character. Sulphate of aluminum, in concentrated solution, is far more efficient than an alum solution; as if the alkaline sulphate of the alum simply detracted from the power of the aluminum sulphate in the matter of making wood fire resistant.

Sulphate or phosphate of ammonia acts to make wood fire resistant by rapidly liberating ammonia gas, which has the effect of checking the flames on the surface of the wood. The fiercer the flame which plays against such wood, the more rapid the liberation and exhaustion of the protecting vapor. There is no residual protective substance remaining in the wood, and the carbonization of the fiber proceeds apace. On the other hand, so soon as the sulphate of aluminum of the superficial layer of the wood impregnated with this chemical is decomposed by the heat of a flame a deposit of aluminum is formed, the nonconducting properties of which make it a barrier against the propagation of the carbonizing effect and protect the interior in a very notable degree.

SPONTANEOUS COMBUSTION.

DAMP lampblack, pointed out Mr. James H. L. Coon, insurance inspector, Watertown, Mass., in an address before the New England Foundrymen's Association, will ignite from the sun's rays. The same can be said of cotton waste moist with lard or other animal oil. Lampblack and a little oil or water will, under certain conditions, ignite spontaneously. Nitric acid and charcoal create spontaneous combustion. New printers' ink on paper when in contact with a hot steam pipe will ignite quickly. Boiled linseed oil and turpentine in equal parts on cotton or linen rags or cotton waste will ignite in a few hours under a mild heat, and will in time create enough heat to ignite spontaneously. Bituminous coal should not be stored where it will come in contact with wooden partitions or columns, or against warm boiler settings or steam pipes. This coal should not be very deep if it is to be kept on storage for a long period. If piled in the basement of a building it should be shallow and free from moisture, and under good ventilation. That liable to absorb moisture should be burned first. If on fire, a small quantity of water showered on this kind of coal cokes it upon the top and retards any great supply of water reaching the fire, thus necessitating the overhauling of the pile.

Iron chips, filings, or turnings should not be stored in a shop in wooden boxes.



BRICK, STONE, AND TILE.

TILE MADE OF VITRIFIED CLAY. F. U. Braunestein, Covington, Ky. December 8.....	746,448
TILE FLOORING. L. L. Silvers, Barberton, Ohio. Design.....	36,676
ROOFING TILE. C. Schlachter, Rockwell City, Iowa. December 15.....	746,747
BUILDING BRICK OR TILE. J. Soss, New York, N. Y. December 22.....	747,495

CARPENTRY.

PLATE OR BLOCK FOR PARQUET FLOORS. C. Amendt, Oppenheim, Germany. December 1.....	745,554
WEATHER STRIP FOR DOORS. W. F. Veber, Bowling Green, Ohio. December 8.....	746,416
WEATHER STRIP. W. C. Zimmermann, Duren, Germany. December 15.....	746,910
WINDOW. A. C. Hendricks, Waynesboro, Pa. December 15.....	747,173

CONSTRUCTION.

COLUMN SUPPORT. T. L. Beaufait, Grossepointe, Mich. December 1.....	745,315
SHEETING. D. B. McBean, New York, N. Y. December 1.....	745,452
PARTITION AND FURRING. W. N. Wight, New York, N. Y. December 1.....	745,547
METALLIC STRUCTURE. W. H. Clarke, Washington, D. C. December 1.....	745,570
ROLLING SHUTTER. P. Ebner, Columbus, Ohio. December 8.....	746,307
STRUCTURAL ELEMENT AND METHOD OF PRODUCING SAME. O. A. Turner, Los Angeles, Cal. December 8.....	746,411
METALLIC WINDOW FRAME AND SASH. J. Eberle, St. Louis, Mo. December 8.....	746,477
CONSTRUCTION OF ROOFS AND WALLS OF BUILDINGS. J. W. Beaumont, Los Angeles, Cal. December 15.....	747,120
FOUNDATION. E. C. Hodges, Farmer City, Ill. December 22.....	747,425
METAL COLUMN. J. Lanz, Pittsburg, Pa. December 22.....	747,411
METHOD OF BUILDING CONSTRUCTION. L. N. Blydenburgh, New Haven, Conn. December 22.....	747,579
FLOOR CONSTRUCTION. C. A. Ralph, Pittsburg, Pa. December 29.....	748,150
CONCRETE BUILDING WALL. A. I. Dexter, Birmingham, Ala. December 29.....	748,352

ELEVATORS.

SAFETY CUSHION FOR ELEVATORS. W. D. Baker, Rogers, Ark. December 22.....	747,357
ELEVATOR. N. Hiss, New York, N. Y. December 22.....	747,707
ELEVATOR SIGNALING APPARATUS. J. McLean, New York, N. Y. December 29.....	748,408
ELEVATOR. A. and T. E. Winiarski, Chicago, Ill. December 29.....	748,449

FIREPROOFING AND FIRE EXTINGUISHMENT.

FIREPROOF BUILDING. J. Sculley, Minneapolis, Minn. December 1.....	745,915
FIREPROOF CONSTRUCTION. H. L. Kubbernuss, St. Louis, Mo. December 8.....	746,345
FIREPROOF STAIRWAY. F. A. Winslow, Chicago, Ill. December 22.....	747,825

HARDWARE.

DOOR STRIP. A. Snorin, Olivia, Minn. December 1.....	745,396
DOOR OR WINDOW CLOSING DEVICE. G. A. Chaddock, Liverpool, England. December 1.....	745,783
SASH FASTENER. J. F. McElivee, Yorkville, S. C. December 1.....	745,888
SPRING HINGE. E. Bommer, New York, N. Y. December 8.....	746,272
HINGE. J. Soss, New York, N. Y. December.....	746,398
WINDOW FASTENER. E. A. Klages, Crafton, Pa. December 15.....	746,809
SASH FASTENER. Vance and Knapp, Winnetka, Ill. December 15.....	746,764
PIVOT HINGE FOR METAL WINDOWS. J. A. Knisely, Chicago, Ill. December 15.....	747,189
SPRING HINGE. H. Tscherning, Freeport, Ill. December 15.....	747,274
WINDOW LOCK. E. Foster, Chicago, Ill. December 22.....	747,403
SASH FASTENER. A. F. W. Lorie, Dunedin, New Zealand. December 22.....	747,616
STORM SASH FASTENER. J. Diehl, Sheboygan, Wis. December 22.....	747,866
LOCK. J. Mills, Marietta, Ohio. December 29.....	748,202
LOCK. W. K. Kaye, Leeds, England. December 29.....	748,285
DOOR KNOB. W. Munro, New Britain, Conn. December 29.....	748,404

HEATING AND VENTILATION.

ELECTROTHERMIC VENTILATOR. F. De Mare, Brussels, Belgium. December 1.....	745,507
HEAT INDICATOR. J. F. Smith, Scotland, S. D. December 1.....	745,740
FIREPLACE. D. C. Simons, Trenton, Tenn. December 8.....	746,182
RADIATOR. J. J. Spear, Wilmette, Ill. December 15.....	747,254
VENTILATOR. T. Hough, Anderton, England. December 22.....	747,427
VENTILATOR. G. E. Stevens, Auburn, Maine. December 22.....	747,658
VENTILATOR. W. J. Schumacher, Chicago, Ill. December 29.....	748,315

MISCELLANEOUS.

PAINTING AND CLEANING APPARATUS. E. Vegiard, Montreal, Canada. December 1.....	745,406
PORTABLE SCAFFOLDING. J. B. and R. Murray, Minneapolis, Minn. December 22.....	747,564

PLUMBING.

SIPHON WATER CLOSET. W. G. Newton, New Haven, Conn. December 1.....	745,651
FLUSHING APPARATUS FOR WATER CLOSETS. W. U. Griffith, Philadelphia, Pa. December 1.....	745,823
SINK AND SINK STRAINER. J. Koslowsky, New York, N. Y. December 1.....	745,963
BASIN OR BATH FITTING. J. J. Wade, Chicago, Ill. December 8.....	746,419
FAUCET. Totham and Merwin, New Haven, Conn. December 15.....	746,762
JOINT FOR WATER PIPES OR THE LIKE. C. Guyer, Muncy, Pa. December 15.....	746,828
VENTILATING DEVICE FOR WATER CLOSETS. A. Drouillard, Windsor, Canada. December 22.....	747,389
VALVE MECHANISM FOR WATER CLOSETS. M. C. Groison, Cincinnati, Ohio. December 22.....	747,413
FLUSHING TANK. F. H. Lindenberg, Columbus, Ohio. December 22.....	747,447
FAUCET. G. A. Soderlund, Somerville, Mass. December 29.....	748,115
FLUSHING VALVE FOR SANITARY APPARATUS. N. Curtis, Boston, Mass. December 29.....	748,265
FLOOR JOINT FOR WATER CLOSETS. H. S. Renton, New York, N. Y. December 29.....	748,418

TOOLS.

PLANE. Carleton and Trask, New Britain, Conn. December 8.....	746,285
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THE GARDEN OF "WELD," THE ESTATE OF LARZ ANDERSON, ESQ., BROOKLINE, MASS.

THE garden of "Weld," at Brookline, Mass., is a portion of the estate of Larz Anderson, Esq. It was designed and planted by Mr. Charles A. Platt, who has long enjoyed a special familiarity with Italian gardens, and who has, in the present example, created one of the most notable Italian gardens in this country.

The architectural framework of the garden of "Weld" is confined to the bounding enclosure. It is nearly square in plan, with a built-up enclosure of terrace and balustrades on the sides, and a pergola at the end furthest from the house. In the space before the pergola is the fountain, a very beautiful old piece of work. It stands at one end of the mall, which runs through the center. On either side are spaces with flower beds arranged symmetrically, while tubs with bay trees are placed at intervals.

The mall and flower beds are at the lowest level of the garden. Toward the outer edge is a higher walk, paved with brick, and the highest level is reached in the bounding walk, which is on a level with the gazebos. There are two of these, placed at the corners nearest the house. The formal garden is shut off from the house by a grove of trees. A beautiful bowling green stretches between the grove and the house. The latter stands on the apex of the high hill on which the estate is situated. Some glimpses into this garden are shown in the illustrations on page 29.



BUILDING CONTRACT—ARCHITECT'S CERTIFICATE.

A BUILDING contract, which required that payments should be made only on architect's certificates, also provided that the architect should be the superintendent of the building, with power to reject any work not in accordance with the specifications, and that such architect should be the arbiter between the parties. *Held*, that where the architect, during the progress of the work, inspected the materials and work, and approved the same, and constantly made directions for the correction of errors, which were complied with, and thereafter the owner, architect, and contractor agreed to the acceptance of the building, with the exception of certain alterations, the requirement of the architect's final certificate, as a condition to the contractor's right to sue for his final payment, was waived. *Vanderhoof vs. Shell*, 72 Pac. Rep. (Or.) 126.

INEVITABLE ACCIDENT—TERMINATION OF CONTRACT.

WHERE defendant contracted to construct an annex to a schoolhouse, and the specifications provided that such annex should be so constructed that when the building was completed it would be continuous, and the west wall of the old building was to be the east wall of the annex, with arched openings through the same to connect the old and new parts, so as to make continuous halls the full length of the two buildings, and the only access to the second floor of the annex was to be the stairway in the old building, the contract contained an implied condition that the old building should continue to exist until full performance of the work thereunder, and hence a destruction of the old building by inevitable accident before the annex was completed terminated the contract. *Krause et al. vs. Board of School Trustees of School Town of Crothersville*, 66 N. E. Rep. (Ind.) 1010.

CLAIM OF SUBCONTRACTOR—LIEN

UNDER a building contract providing that sufficient might be withheld from the amount due the contractor to indemnify the owner from claims filed by subcontractors, the filing of such claims did not defeat the plaintiff's right to recover the balance. *Perry vs. Levenson et al.*, 81 N. Y. Supp. 587.

ENFORCING LIEN.—JURY TRIAL.

CODE Civ. Proc. Sec. 3412, providing that, if a lienor fails to establish a valid lien in an action, he may nevertheless recover judgment for the sum due him, is not unconstitutional in depriving the parties of a jury trial, for it may be construed as either entitling the parties, when a personal judgment is desired, to have issues framed and sent to a jury under sections 970 and 974, or to authorize entrance of an interlocutory judgment declaring the lien invalid, and ordering the issues under the contract sent to the jury. *Hawkins et al. vs. Mapes-Reeves Const. Co. et al.*, 81 N. Y. Supp. 794.

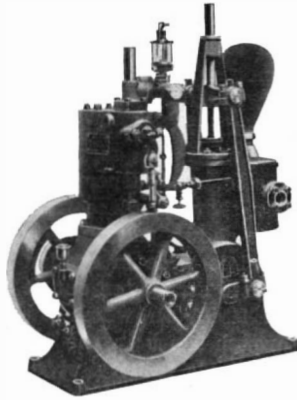


PUMPS AND ENGINES.

THE suburban resident, the florist, the farmer, and all who in any manner have to deal with the difficulty of supplying water to their establishments are fast realizing the need of a small pumping engine that is simple, reliable, and easily operated. Along with the development of the gasoline engine comes the perfection of the gasoline pumping engine, of which the accompanying illustration shows one manufactured by the Standard Pump and Engine Company. This symmetrical, compact, and durable machine may be placed in the basement of houses,

in barns, or any like convenient place. It is one and one-half horse power, and the engine and pump are combined on one base, making it self-contained and of small compass, which permits it being placed in a very small space, and also avoids the loss of power incident to belt-driven pumps. Being self-contained, it may be placed upon a truck together with a tank containing solution for STANDARD PUMPING ENGINE. spraying fruit trees. With

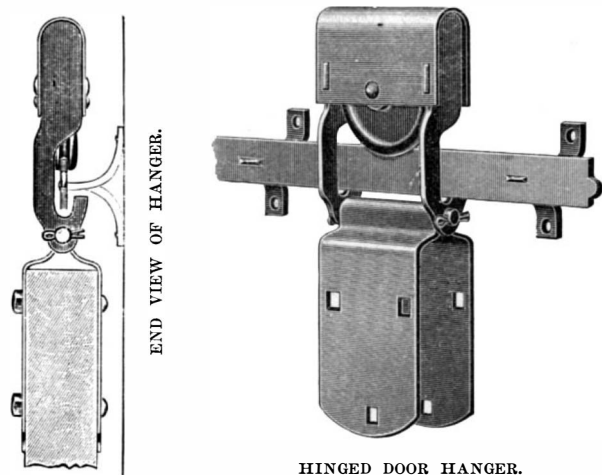
this combination several nozzles may be used at the same time. The engine here shown has a capacity of 1,200 gallons per hour, and is so constructed that it will pump against a constant high pressure without injury to any of the parts or heating of the journals. By using one of these engines an independent water works system may be had at a moderate cost, without using a large tank and tower. Water may be pumped to a small tank for daily use. For sprinkling and other work the hose can be connected directly to the pipe line, the large air chamber insuring a steady stream, and the automatic safety valve making it impossible to injure the machine or burst the pipes from excessive pressure. The machine is made to use gasoline, natural or artificial gas, and has sufficient power to force water over long distances and to very high elevations. For lawn and greenhouse spraying it will pump direct into the water main, furnishing a constant high pressure. In addition to its usefulness as a pumping machine the pump gearing may be disengaged and the engine used for power purposes. If gasoline is used, the tank may be placed outside of the building, underground, and when connected in this manner there is not more than half a pint of gasoline in the building at any time, thereby enabling users to comply with the requirements of insurance. The three and one-half and five horse power pumping engines have capacities of 3,500 and 6,000 gallons per hour respectively. They are designed for railway pumping stations, large greenhouses, and nurseries, for spraying and irrigating, for stock farms, summer resorts, suburban allotments, and residences. Compact and self-contained, they are unequaled for mine and quarry pumping, where space is limited and frequent changes of location are sometimes necessary. Simple and efficient, they adapt themselves to any use where water or other liquids are to be handled at a small expense of time and fuel. These machines are also very efficient as fire service pumps, and, as they can be started instantly at any time, they have a marked superiority over the steam fire pump. It is understood that the company can supply interchangeable water cylinders with these machines to furnish larger quantities of water at lower elevations, or smaller quantities at greater elevations. The proportions are ample throughout; the quality of material and workmanship is first class in every detail. The equipment is complete, as it includes foundation bolts, batteries, and spark coil in a special box, with switch and wires attached, gas pulsometer and graduated dial inlet valve for gas engines, or gasoline tanks with gasoline pump and reservoir for gasoline engines, together with muffler, wrenches, and oil cans. A spark retarding device enables one man to start these engines without the use of a priming or starting pump. For railway pumping stations the company furnishes an automatic stopping and draining device, which will stop and drain the pump when the tanks are filled. These engines are made on the four cylinder principle, the crank shaft receiving an impulse every second revolution. The entire cylinder and valve chambers are water-jacketed in a manner avoiding any joint between the water-jacket chamber and the cylinder. The



firm also makes a stationary deep-well pumping jack that may be attached to any deep well pump, windmill rod, or working head, and designed to meet the requirements of those localities where deep wells are necessary. In general we state that the engines make no noise, no smoke, and no trouble, and may be used for driving fans, corn shellers, dynamos, churns, feed grinders, presses, freezers, wood saws, workshops, etc. The address is Cleveland, Ohio.

HINGED DOOR HANGER.

AMONG the new devices coming to our notice that are calculated to be of interest to builders is a type of barn door hanger we describe and illustrate in this article. It is just put on the market by the Lane Brothers Company, of Poughkeepsie, N. Y. The hanger is of the hinge joint "tied on the rail" variety, and permits some side flexibility at the top of the door, which will compensate for slight warping or binding of the latter. It has a detachable door piece, which has proved a great convenience in the case of hangers having a guard back of the rail. By reference to the illustrations, it will be noted that the wheel is not only covered, as that term is generally understood, but is protected at the ends as well. The hanger frame is made entirely of steel, and is exceptionally strong, as the supporting strains are nearly direct tension. In suspending the load it is carried but a very short distance from the center around the rail, as is shown particularly by the end view, and as the metal is wide in section there is scarcely any tendency to straighten out at this point, while the hinged pin itself, on which the clevis is supported, passes through holes in the lower part of the main frame. The clevis is very wide, permitting three bolt holes, that are not in line, and it is supported the whole width on the hinge pin; but it is not prevented from rising independently of the latter as far as the underside of the track, thereby jamming a door, so that if one edge jumps up it can not possibly strain the hanger. With this hanger the bottom of the door is



not only free to swing outwardly on the pivot, but it may be raised to a horizontal position or even higher if it is desired to use the door as an awning. The wheels are fitted with the regular Lane roller bearings, having a separate bushing for the rollers to run on. The improved pattern of hinged door hanger for 1904 is manufactured in three sizes. Each number hanger must be used with size rail as indicated in the manufacturers' directions. No. 93 hangers and $1\frac{1}{4}$ hinge hanger rail are interchangeable with other hinge hangers and rails on the market. Added to the marked advantages mentioned, it may be stated that the hanger can not get off the track, and that it is stronger than any track it can be used on, and altogether it may be claimed that it is as well made and as promising as any hardware specialty ever introduced by the company.

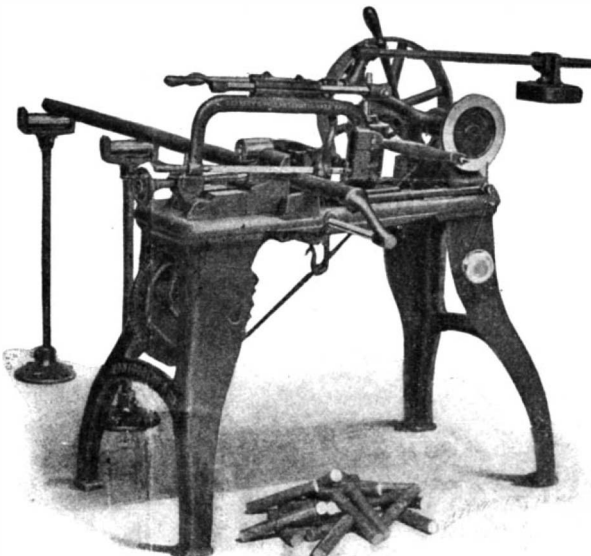
PORTABLE WOODEN HOUSES.

A SPECIAL article in Uhland's Technische Rundschau describes the Brummer system of portable wooden houses, of which many specimens were used for restaurants, etc., in the Dusseldorf Exhibition. The principle adopted consists in making panels one meter wide and three or four meters long, as desired, out of dry, impregnated wood, with an air space as insulator. The panels are fixed together by swallow-tailed edging or dovetailing. The pitch-pine sleeper frames and the roof frame are in parts, and must be fixed wind and water tight. The roof panels are delivered all ready prepared with roofing felt. The parts can be adapted to a great variety of houses without skill, and the inner parts, doors, and windows can be changed without interfering with the structure.

A NEW AUTOMATIC HACK SAW.

A NEW automatic hack saw, one designed to cut up bars or pipes into pieces of any uniform length required, has just been placed upon the market by Montgomery & Company, No. 105 Fulton Street, New

York, N. Y. By this apparatus bars of any material, of any shape, and of any size up to four inches in diameter can be cut up. As shown in the accompanying illustration, the bar is fed to the machine over a number of roller supports, and pushed forward until it touches the stop shown in the front of the machine. Setting this stop determines the size of the

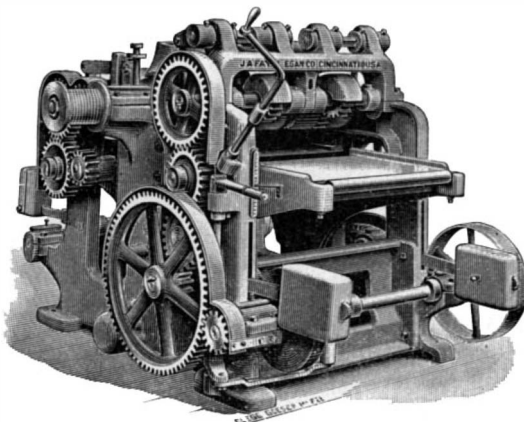


A NEW AUTOMATIC HACK SAW.

pieces into which the bar or pipe is to be cut up. On starting the machine, the work is firmly gripped by the vise, and the saw begins to cut like an ordinary hack saw. The counterbalance weight shown at the right alters its position automatically to compensate for the blunting of the saw through use. On the completion of a cut the saw rises, the vise opens, the work feeds forward the needed length, the vise closes, the saw falls, and a fresh cut is commenced. When the bar is entirely cut up, a bell, shown on the upper part of the right hand leg, rings continuously until attended to by the operator. When only one cut is to be made, the machine can be set to ring at the completion of each cut. The bell also rings in the same way when a saw blade breaks. The blades are very cheap and can be replaced in a few moments.

SINGLE CYLINDER PLANER.

IN introducing this machine to the notice of our readers it may be stated that it is ahead of any of its class ever made by its manufacturers, J. A. Fay & Egan Company, of 209-299 West Front Street, Cincinnati, Ohio. The makers have been eminently successful in building standard planing apparatus for trade at home and abroad, and all advantages secured from a long experience are embodied in the construction of this new No. 29. This substantial machine, for use of woodworkers in general, has a very solid frame, and works 30 inches wide, 8 inches thick. It has a powerful feed with a broken feed roll made in two or four sections, and each section is centergeared. Two or more pieces of uneven thickness can thus be planed at the same time, and each piece receives an even pressure, as the roll gives any variations desired. It is easily operated, and all the different adjustments can be quickly and conveniently made, and it gives a fine, smooth finish to the lumber, whether it be soft



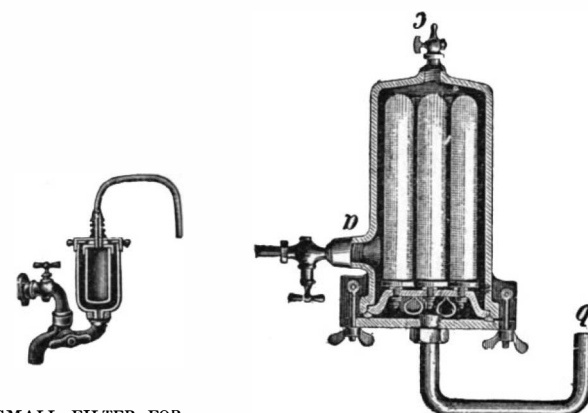
SINGLE CYLINDER PLANER.

or hard. The feed rolls have sectional weights, and the feeding out roll raises and lowers parallel. The table also easily raises and lowers, and the feed is driven from the cylinder and is always under instant control of the operator. The illustration inserted here gives a clear presentation of this new planer.

FILTRATION OF DRINKING WATER.

GERMS in impure drinking water transmit diseases by absorption into the human system. These micro-organisms can be kept out in two ways, namely, by boiling, or by filtering the water. In the case of drinking water, however, boiling renders the water

unpalatable, or, at least, less pleasing to the taste than unboiled water, and filtration is, therefore, the most satisfactory method of purification. In order theoretically and practically to fill all requirements, a filter must furnish a medium which offers the least resistance to the flow of water, and still prevents the passage of the minute animalcula which convey disease. A filtering medium that is scientifically constructed to thus maximize the power of resistance to noxious, injurious, and deadly germs is used in the apparatus manufactured by August Giese & Son, and called the "Berkefeld Filter." Of course, very much of the excellent result obtained by the makers is to be credited to the fortunate choice of material used, and known as infusorial earth, which consists of innumerable minute fossil skeletons, that form a mass with microscopic pores, sufficiently large to allow a satisfactory movement of water, but small enough to prevent the passage of even the smallest germs conveying disease. This earth is formed into a hollow cylinder of a filter, shown in the smaller of the two illustrations. The water enters through the upper cock on the left and into the filter at the bottom, passes through the microscopic pores of the cup, then up and out through the spout at the top. When necessary, this cup can be easily removed and cleansed by brushing or washing. The lower cock shown on the left is a two-way cock, by means of which the stream of water may be sent up through the filter, or, when unfiltered water is desired, down through the outlet at the left. By means of this device one gallon of the purest drinking water, free from all solid atoms and disease germs, can be filtered in four minutes. The



SMALL FILTER FOR HOUSEHOLD USE.

LARGE SUPPLY FILTER.

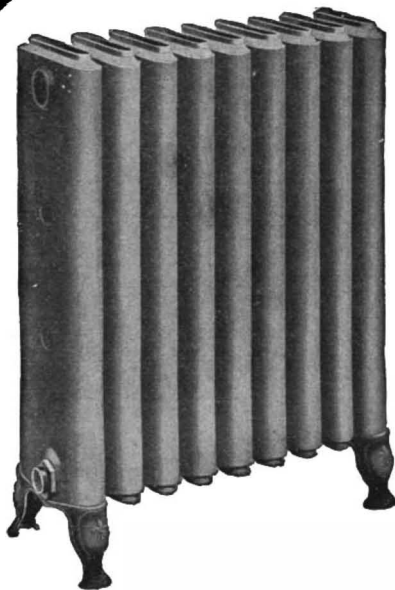
other illustration is that of a Berkefeld large supply filter, a very rapid germ-proof filter, which gives a maximum quantity at minimum cost. This economic and reliable apparatus is especially useful for manufacturers, hotels, clubs, and institutions requiring large quantities of distilled water. The address of the Berkefeld Filter Company is No. 4 Cedar Street, New York, N. Y.

WINDOW APPARATUS FOR MILLS, ETC.

THE new device known as the Lovell apparatus for operating sashes and shutters has recently been placed on the market by the G. Drouvé Company, of Bridgeport, Conn. The ready adoption of this window mechanism by mill, factory, and foundry owners, railway companies, etc., has been so pronounced that more than sixty thousand feet has been sold in the past year—a statistic that indicates the device is destined to revolutionize this line of industry. With this apparatus, a line of sash five hundred feet long can be safely, conveniently, and quickly operated from one station if desired. It makes no difference as to the kind of sash to be opened, the apparatus working equally well with the sash hung from the top, pivoted at the sides or top or bottom, or hinged at the bottom. Furthermore, it can be applied to sliding or ordinary lifting windows. As the operating station for an entire building is, unless otherwise ordered, always planted on the wall at the end or side of the structure, in case of fire or panic the windows can be rapidly closed while the occupants are leaving. This is a practical feature of such great importance that it immediately appeals to the owners of large plants, railway companies, etc. Owners or controllers of factories, mills, and the like have long been anxious for the development of a system which would give perfect ventilation and permit of faultless operation readily and quickly. The apparatus is strong, durable, and practical, besides subserving the comfort and health of those compelled to work indoors. The G. Drouvé Company can erect the apparatus in large number in any part of the country. A very important part of the business of this large and finely equipped plant is the manufacturing of skylights. These lights furnish the desired combination of lightness, strength, and durability. They are made up in many shapes and sizes, and suited to all sorts of roofs. The light gathering and distributing power is admirable. Send for a catalogue containing information on sheet metal architectural work, etc.

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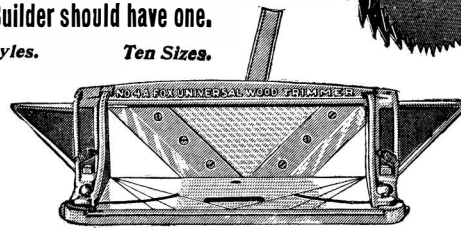
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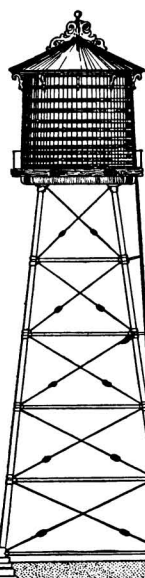


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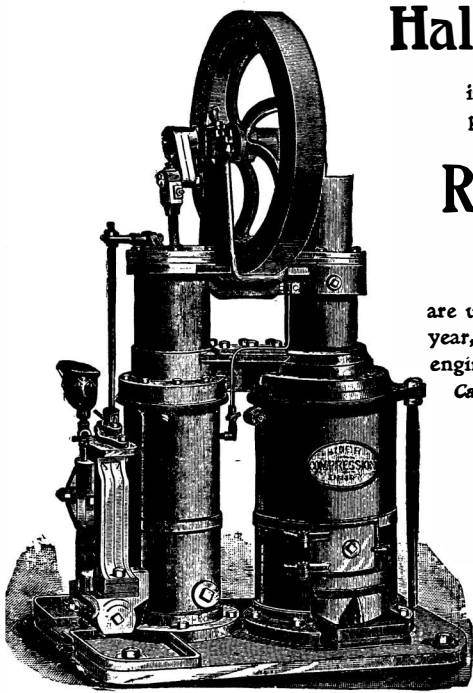
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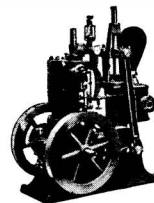
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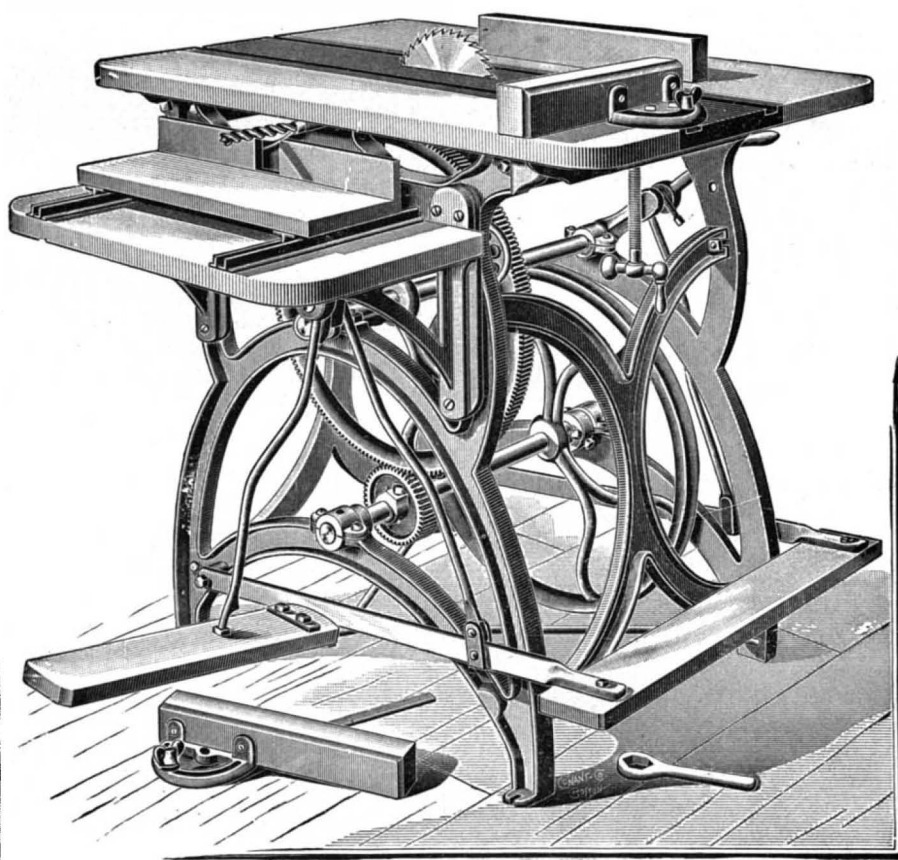
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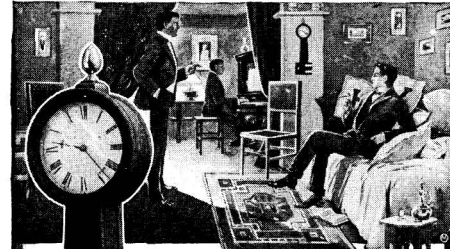
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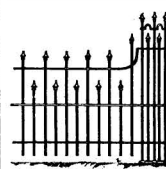
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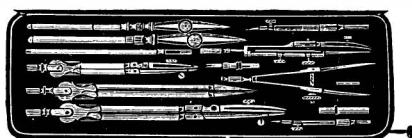


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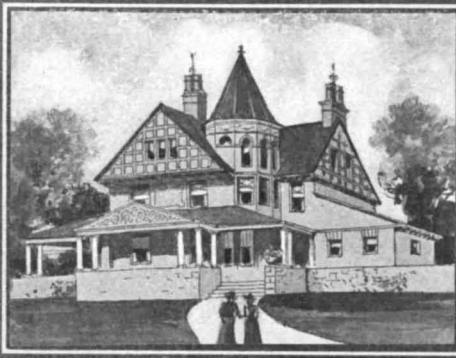
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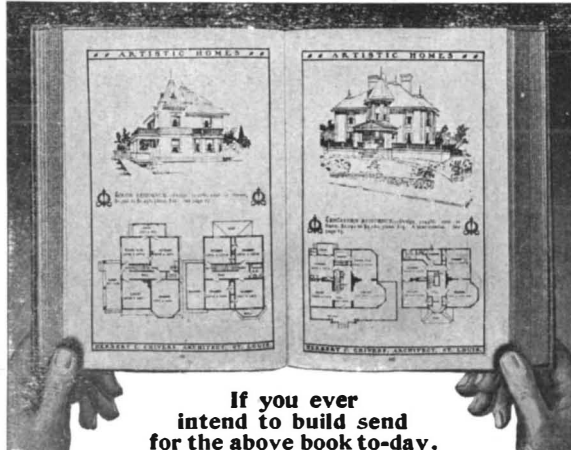
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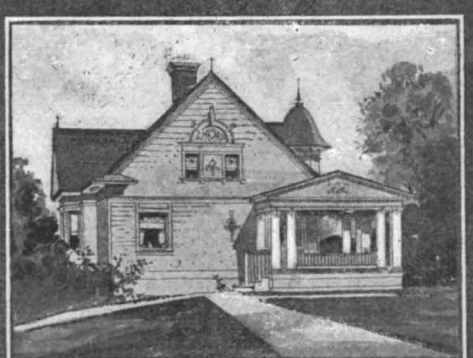
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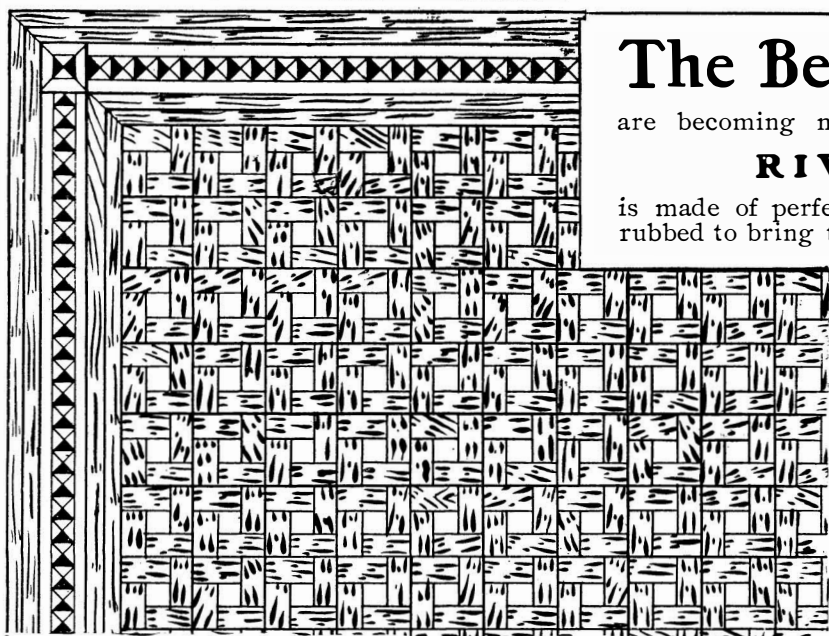
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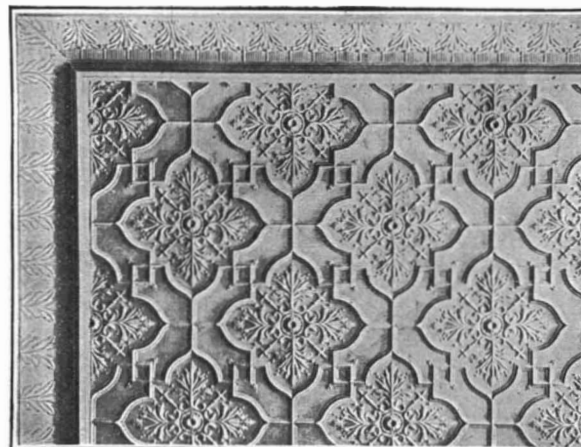
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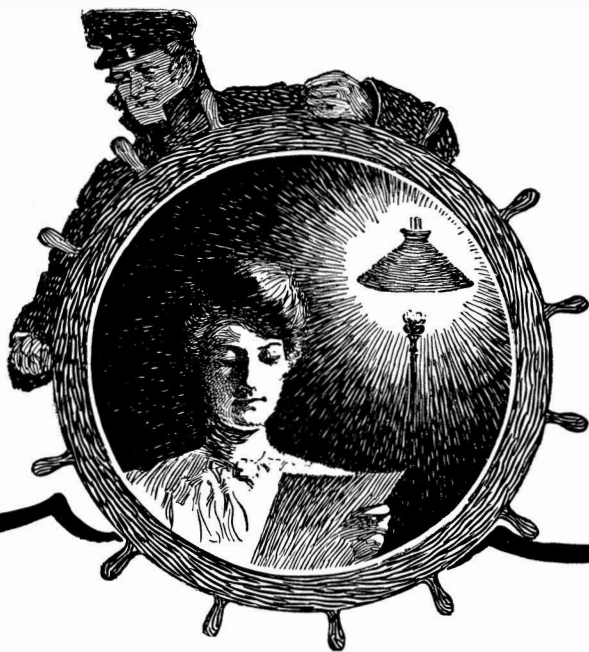
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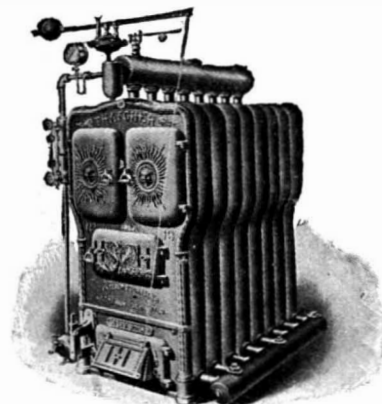
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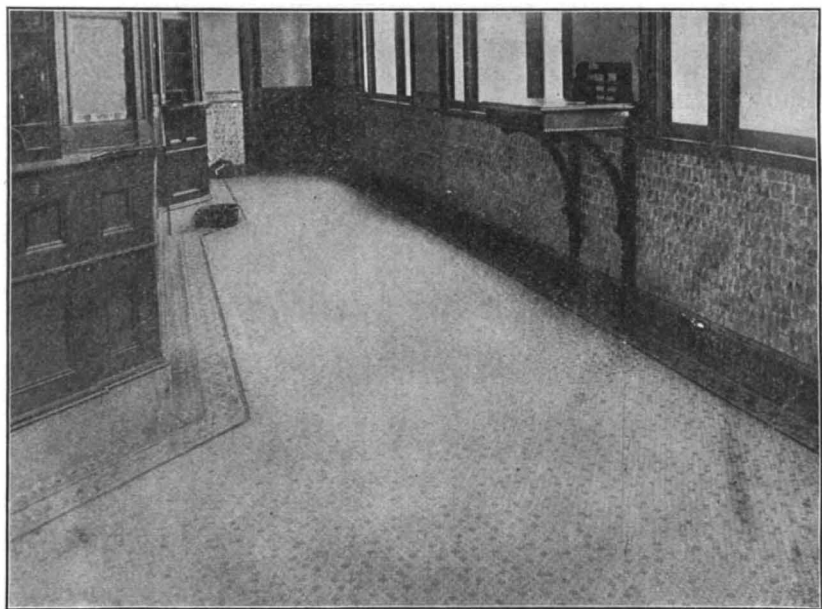
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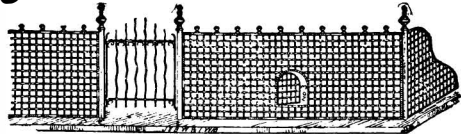
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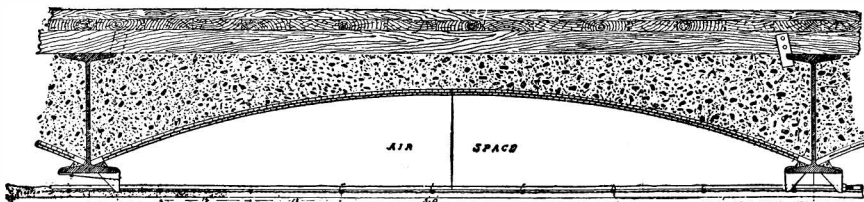
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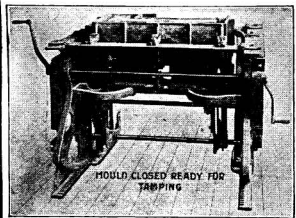
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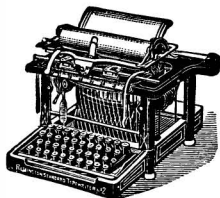
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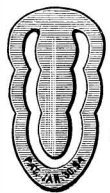
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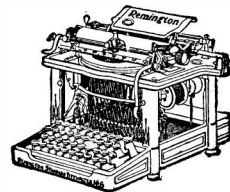
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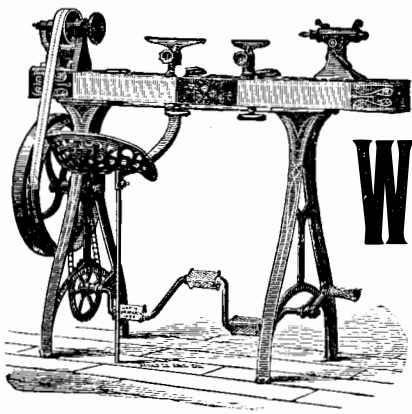
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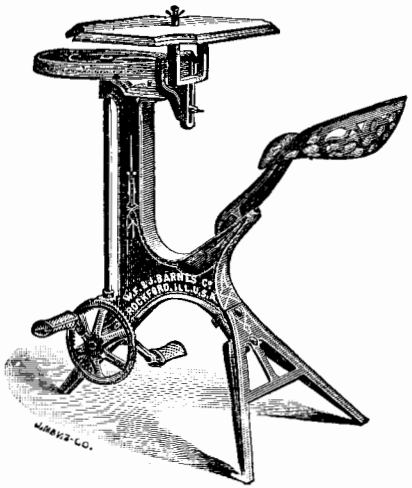
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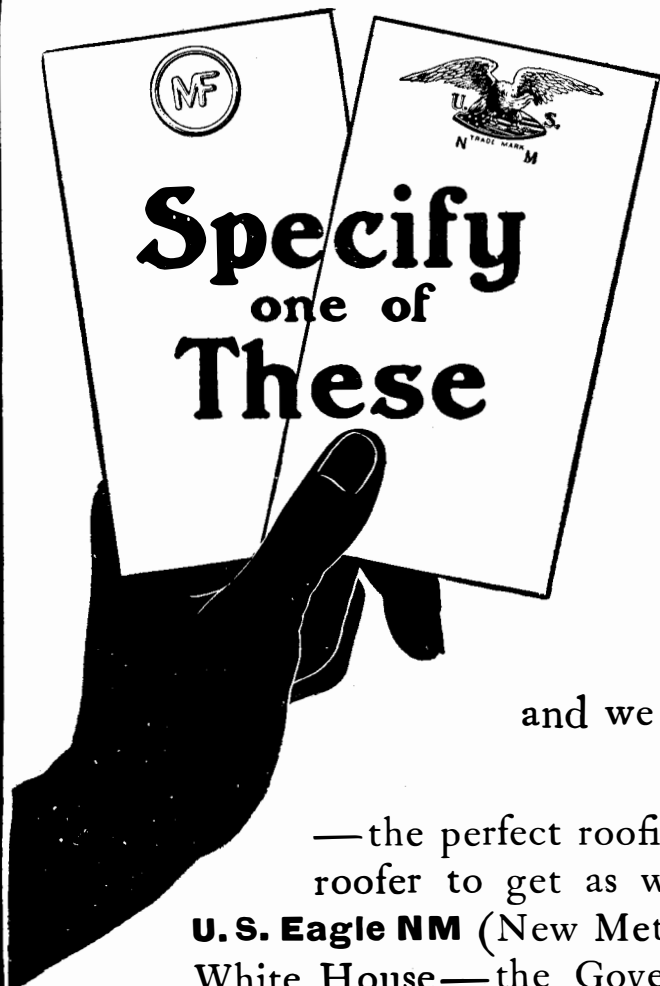
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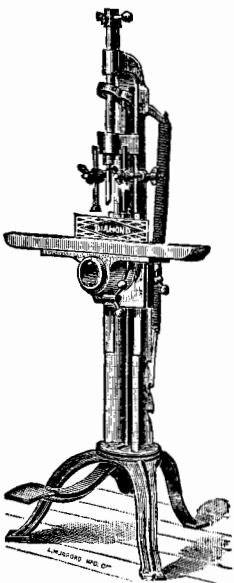


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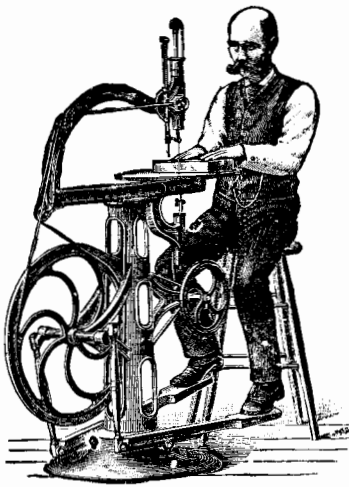
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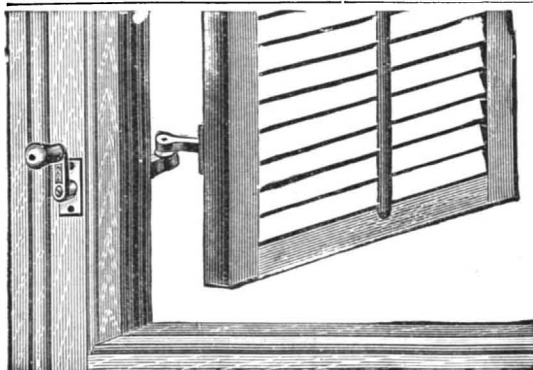
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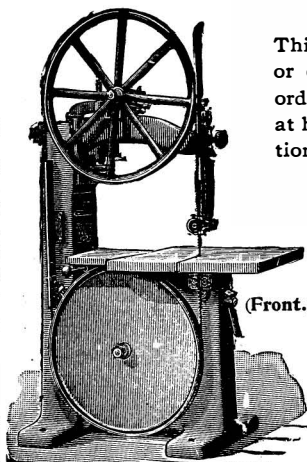


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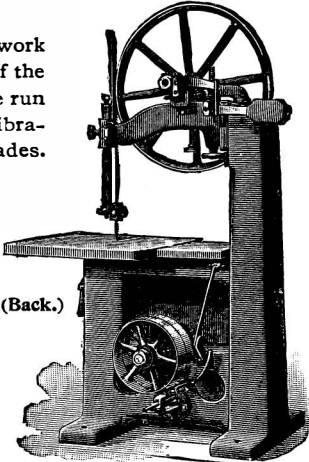
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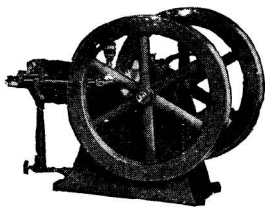
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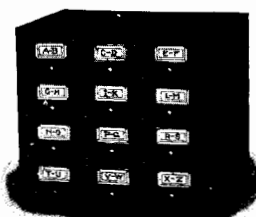
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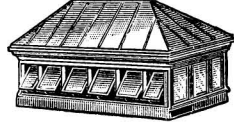
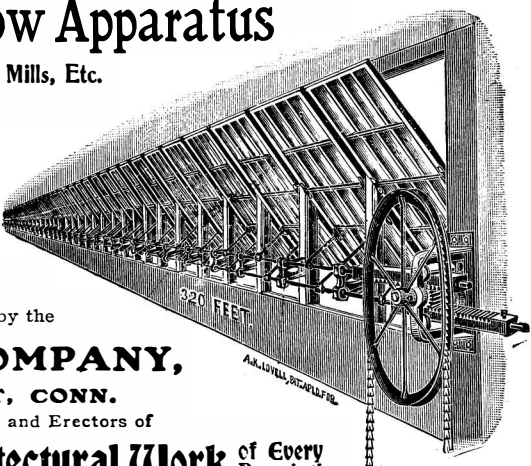
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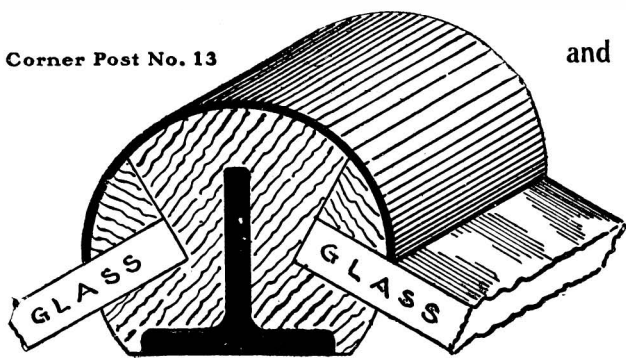
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