

SCIENTIFIC AMERICAN

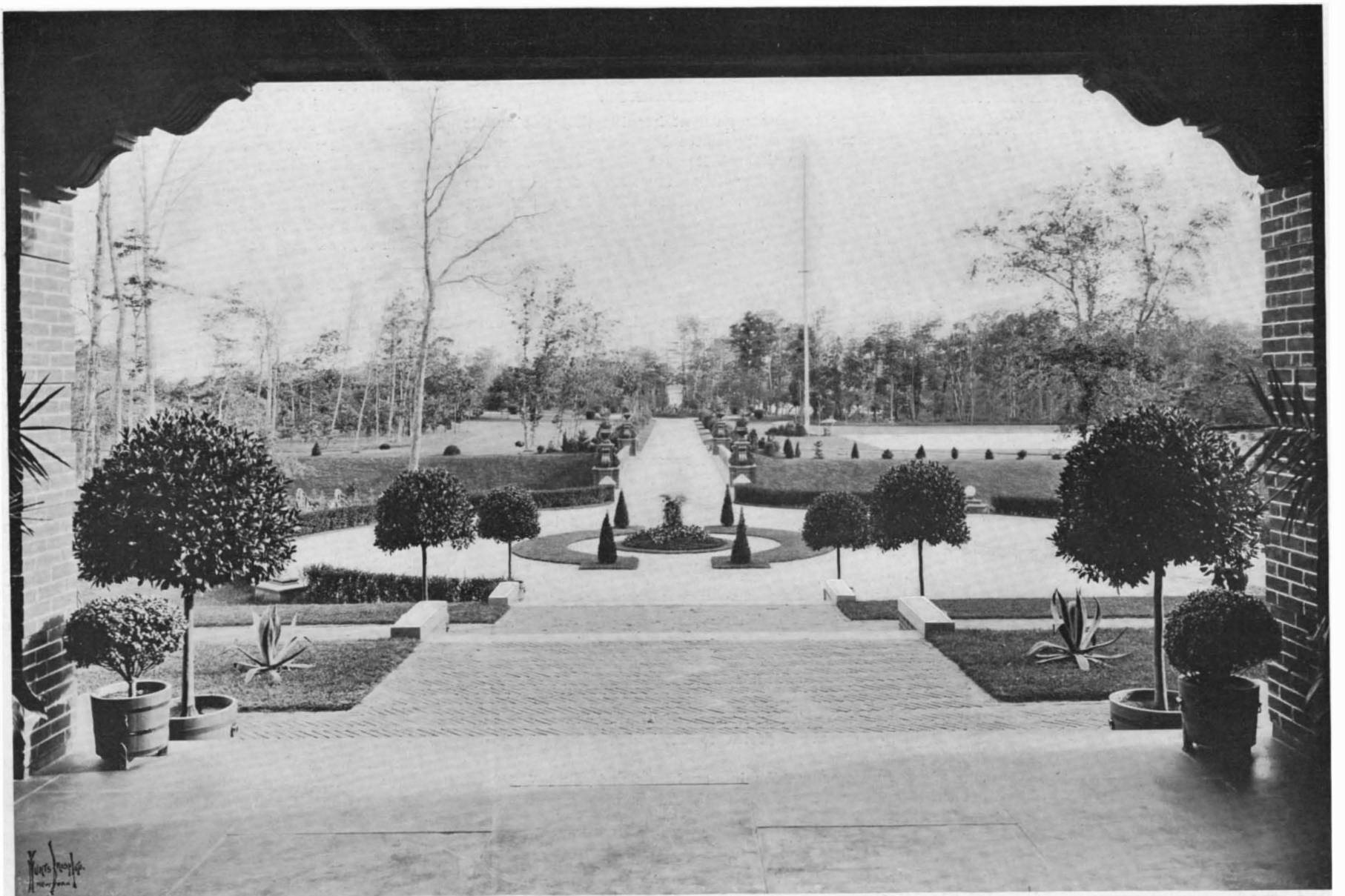
Building Monthly.

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VIEW FROM THE ENTRANCE OF "KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ.,
DEAL BEACH, N. J.—See page 3.
MR. G. K. THOMPSON, ARCHITECT.

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.

CAN art be taught? Mr. W. M. R. French, the director of the Chicago Art Institute, thinks it can, and has recently published an article telling why he supports this view. What are commonly called art schools, he writes, do not claim to be anything more than training schools in the technic of a profession in which technic plays an unusual part. Probably the best education for an artist, he adds, is a combination of the art school and the studio of the experienced artist, and it is something like this that our best and most fortunate men get. By the systematic practise of the school, the student acquires good methods of handling material, learns where to put the point of his pencil, becomes acquainted with such formal branches as anatomy and perspective, gains a general acquaintance through library and lectures with the history of art, and lays an invaluable foundation for future achievement. Mr. French, while largely confining himself to the education of the picture painter, goes on to point out the many modern practical uses of art in applied art, and pertinently he asks how the technical knowledge that is needed for this work can be obtained unless we have schools in which such training can be taught. He maintains that every town of three or four thousand inhabitants requires at least one good drawing teacher. His arguments are drawn from wide experience and most extended observation, and constitute an important contribution to the literature of a subject that, too often, is discussed with violence on both sides and, by the opponents of the schools, without a proper appreciation of the work these institutions really set out to accomplish.

THE announcement of a new and presumably final edition of the writings of Mr. Ruskin, edited under auspices that he himself would have considered ideal, directs anew attention to this remarkable writer. The fame of Ruskin has long since ceased to be secure among artists, yet as a matter of fact Ruskin did

more for art than many artists of his own day, or many artists before or since. His strength is that of the writer only. That his art criticism was strongly personal and opinionated is well known, but as a writer of most eloquent English he stands supreme among the men of his time. His point of view concerning architecture was esthetic, philosophical and moral, and he discussed his topics from the loftiest standpoint and with the most unbounded enthusiasm. The rabid anti-Ruskinite is as far wrong as his most enthusiastic supporter. Notwithstanding his failings, notwithstanding his unreliability as a guide in art matters, it is probably true that his influence has, on the whole, been for good.

THERE has recently been opened for the delectation of the public in New York a summer pleasure resort of the most sumptuous description. Competent architects planned it, wise builders backed it, and vast sums of money were forthcoming for the erection of pleasure palaces and other structures needed to make the place at once a source of pleasure to those who visit it and of profit to those who have put their money into it. One point of special interest has been the liberal use of color as a decoration of the buildings. In this respect this place is quite unique in the artistic annals of pleasure resorts. The great international exhibitions have long made our public familiar with the value of sculpture as a decorative adjunct to architecture, but it has remained for Coney Island—of all places in the world!—to teach the lesson of the value of mural painting on the exterior of buildings. Several structures in a new resort in this famous place are decorated with paintings, and very novel and successful they are. One important practical lesson is that the results have been obtained at very much less cost than would have been required to produce an effect with sculpture. The mural painters of this country have not been very successful in obtaining opportunities for the practical display of their art, and, so far as popular appreciation goes, it is yet in its infancy. The new work at Coney Island, some of which has been done by an artist of well known standing, is a move in a new direction which must greatly help in extending the appreciation of this beautiful art.

SAD ARCHITECTURE.

LET no one for a moment imagine that this article is concerned with the funereal and memorial structures that make up the architecture of cemeteries. Little of that sort of construction is of sufficient interest to warrant chronicling, and much of it is so sadly sad as to have no place apart from death memories. But there are other types of architecture so truly sad, so heartrending in their effect upon those who view them, so depressing in their influence upon those who live in them, so altogether frightful as to be but the saddest sort of commentaries upon human life and upon the ways in which hard-earned money is spent and transformed into permanent edifices.

A building, even of the poorest sort, has elements of permanency. The flimsiest of building materials have a durability that is often astonishing when put together into the semblance of human habitation. Geological knowledge is not necessary to realization of the permanency of stone, and the child has thorough knowledge of the enduring qualities of brick. Wood does not rot in a day, and the fall of a building in the process of construction is a calamity so notable as to invariably call forth the horror of an entire community.

The permanent element in building is, of course, a varying quality. There is now on view in St. Louis a vast group of structures representing an outlay of nearly \$50,000,000, none of which is intended to be used six months hence. But this is an exceptional case; and while some structures are erected most properly to last but a short time, the majority of buildings are expected to have a life-tenure of some reasonableness.

Any work of the human hands and mind that has qualities of durability should possess merit. This proposition is so self evident as to be axiomatic. A building is not worth erecting unless it is well built. Its excellence may be in design, it may be in construction, it may be in purpose; some merit, at least, it should have, and merit that is clear and unmistakable. Why, then, are so many buildings of little merit, and so many of no merit at all?

One word sums up the whole situation: Ignorance. It may be the ignorance of the person for whom the building is erected; it may be the ignorance of the person who performs the work of construction; it may be because the intelligence of the community in which the structure is put up is low and undeveloped; but ignorance covers all architectural sins—sins of commission and sins of omission.

A building that has no merit is the saddest sort of a building. It is woe crystallized and permanent in building materials. It is worse than a nightmare, for the dream passes away on awakening and becomes

a formless memory because there is no permanent material on which reality may thrive. But a building is something real; it may be seen by any one who will take the trouble to view it, and it is, unfortunately, very visible to many who would, if they could, close their eyes to it. It is a memory that will not down, for there it is, real and dreadful, with all the horrors of its impossible art.

Absurd buildings, thoughtless buildings, buildings without merit, buildings devoid of interest, foolish buildings; these constitute the body of the great group of structures that can best be classed, as a whole, as examples of sad architecture. They are sad because they make one sad. They make one sad because they show how ready men are to spend money on erecting buildings that never should have been erected.

It is an essential fact in architecture that buildings should be as beautiful as it is possible to make them. Beauty is the noblest expression of architecture. It is unreasonable to expect it in uniform amount in every structure; but it is not going too far to insist that every structure should be as beautiful as possible.

Poor humanity can not, by mere will power, make itself beautiful; but even the plainest face can acquire interest through education and refined thinking. Ugliness exists in the world, and sometimes a good deal of it; the man who adds to the visible supply, who adds to it in the permanent form of a building, is not only no benefactor of his race, but a serious deterrent to human progress. A man must take the features and form that nature gives him; but the misfortune of human ugliness is not remedied by thrusting ugly structures upon nature's bosom, and rearing buildings devoid of merit.

It is disheartening to think of such buildings; it is worse to contemplate them; it is unmentionable to think and to know of their duplication and reduplication. There is more thought, more energy, more art put into buildings to-day than at any time in the memory of living man. The unfortunates of the middle ages seemed able to build and design beautiful structures right off the bat, without thought or premeditation. Actually it may not have been so; but beautiful building came naturally in that unenlightened era. In our own brilliant civilization the building of frightful structures seems to be quite as natural. Never were the excuses for poor designing so slight and flimsy as to-day. Our architectural schools are thronged with embryo architects; our builders are men of sense and penetration; the men who build have ample funds and ample means of familiarizing themselves with examples of good building. Yet the frightful structure will not down. Like the poor, it seems to be with us, and with us always.

And the most distressful case is the worst of all: it is the man of knowledge who builds badly. It is terrible to think of the rooms that are furnished and decorated even in this day of professional decorators and high prices for expert advice. But, at least, such rooms are private; if they give joy to the owner, he hides his hideous treasures within the privacy of his own dwelling. His idols are his own, and no one worships at his badly decked shrine save those he admits to his uncouth intimacy. But a bad house is a public nuisance. It thrusts its ugly front upon the attention of the casual passer by. It will not be ignored, and it can not be effaced. It may permanently degrade a fine thoroughfare; it is invariably so well built as to add the horror of permanency to its other qualities.

Yet the outlook is not wholly bad. Of sad architecture we have an abundance, and served fresh daily; yet its sum total appears to be diminishing. People who, of their own information, have no knowledge of architecture, have awakened to the value of handsome buildings. It is still true that the good looking house, the artistic house, the refined house, is an object of cost and luxury. The cheap, small house that every one wants and is so ready to pay for at the smallest cost is not yet produced in high grade of art. Good building is an expensive thing, and refined building is not cheap; yet that most delightful buildings were built at small cost the relics of the middle ages still show us, with their provoking wealth of lovely things for all sorts of purposes.

And sad architecture, bad as it is, is not without its value. It is sometimes as necessary to show what not to do as to offer examples of the correct thing. Sad architecture has, therefore, the value of the “awful example.” But we need no more of it; there is such an abundance of sad architecture in the world that many years must elapse before it can be eradicated from off the face of the earth. And the relationship of the people at large to architecture is such that, were it possible to instantly erase all evidence of such grotesqueness in architectural manners, a very capable person would instantly, out of the fulness of his ignorance, proceed to erect a fresh horror, and thus keep alive that feeling of sadness which distressful buildings must call forth in every honest soul. This, no, doubt, is the saddest fact of all.

NOTABLE AMERICAN HOUSES*

BY BARR FERREE.

"KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J.

THE sandy shores of the New Jersey coast have not generally been found fruitful spots for the laying out of great estates and the building of sumptuous houses, yet Mr. G. K. Thompson, the architect, in the house and grounds planned and arranged for Daniel O'Day, Esq., at Deal Beach, N. J., has produced a house of the first rank in size, and one of the most notable of recent American houses.

It is a splendid property, not large, as country estates are now measured, consisting of but twenty-five or thirty acres, but quite large enough to call for the exercise of fine architectural ability, and so admirably planned that the great house which forms the center around which the grounds have been laid out has a fine and beautiful setting for itself.

Both house and grounds are entirely original and distinctive. The main entrance, with massive gates, is at a terraced approach on Sydney Avenue. The railroad track is immediately spanned by a seventy foot bridge of heavy timber, ornamented with wrought iron; thence to a circle in the center of the grounds, and thence again directly to the house; another bridge, a splendid structure of brick, spans an immense sunken garden; and the roadway comes to an end in a second circle with a sun dial, just before the house. A wonderful series of views can be had from this point, and standing here one looks back upon the just-traversed driveway, through avenues of pine and hemlock, across the lake to land two miles away.

The dominant feature of the house is the great tower. It is a strong piece of design, in itself larger than many houses, giving dignity to the building of which it forms a part, and put to so many varied uses as to have a decidedly utilitarian purpose apart from its esthetic value.

As to the house, it may be briefly described as a complex edifice composed of three chief parts: the main house, intended for summer use; the tower, and the annex, for winter use. It is well to keep this triple division well in mind, for the total length of the front is about 200 feet, and its varied divisions will not be understood until the reason for its many parts is made clear. The tower actually acts as a dividing line; in its lower story, which serves as a porte-cochère, it entirely cuts the building into two. A free rendering of the Elizabethan has been chosen for the architectural treatment, and stone, brick, terra cotta tiles, cement, and chestnut wood enter into the constructive details. An elaborate color scheme has been chosen, the brick and roofing tile being red; the

Indiana limestone and cement are in their natural tints, and the wood is stained black, showing the natural grain.

The chief feature of the interior is the great hall in the center of the main house. It is about 40 feet wide and 60 feet long, and is 40 feet high. On one side is the grand staircase; on the other, a large mantelpiece of Caen stone, decorated with a sculptured group, by Fernando Miranda, symbolizing the union of the ocean and the lake. The strong cornice is supported by square channeled piers or columns; and over each, in the coved ceiling, are life-size caryatides by the same sculptor. The hall reaches to the full height of three stories, with a double gallery; the lower open to the central space, and enclosed within railings; the upper provided with circular windows.

The plan of the house calls for rooms of great variety. On the first floor, and opening from the hall,

The annex, which is intended especially for winter use, is, of course, available for occupation at all seasons of the year. On the ground floor is the billiard-room, private dining-room, and auxiliary kitchen, with pantries, and serving-room. On the second floor is the owner's private bedroom suite, consisting of parlor, library, baths, balconies, sun parlor, and maids' rooms. More bedrooms and baths are placed on the third floor, and the basement is occupied by the laundry. The house contains in all about fifty rooms and ten bathrooms.

The interior furnishings and fittings are in excellent taste. The principal rooms are furnished in hardwood with elaborate carvings, wainscots, cornices, and ornamental plaster ceilings. Most of these rooms contain open fireplaces, with mantels of stone, marble, brick, and wood. The bathrooms are throughout furnished in marble and tile. Bright colors fittingly adorn the bedrooms, which are furnished in several styles, including some elaborate Empire designs. The chief rooms in the first story are in the late English styles or of classic design, with walls frescoed or in solid colors, with tapestry hangings. Much special furniture has been provided, and the house abounds in nooks, window seats, and Turkish corners. An elaborate system of electric lighting has been installed, and fire apparatus and hose lines have not been forgotten in the arrangement of the utilitarian fixtures.

One must necessarily be brief and somewhat general in describing a house as large as this. The mere enumeration of the rooms fills space, and a detailed recital of their furnishings and characteristics is out of the question. It will, perhaps, be sufficient to be content with generalities, and to note the very apparent fact that the architect's work has been done with care and with due regard to the effect of the whole.

Although the grounds have been described as somewhat circumscribed in area, their actual extent is considerable and quite sufficient for the great house to which they belong. They are, in fact, so extensive that the bridge path which winds about them has a total length of about a mile and a half. The house stands toward one end of the park, but the other buildings of the estate constitute a formidable list. They include a stable, greenhouse, boat-

house, summer houses, log cabin, rustic shelters, gate lodge, gardener's cottage, bridges, and other buildings. All of these have been designed with the utmost care; each structure not only has its own use, but each has its own part, and a very distinctive part, in the effect of the whole design.

A special feature of the grounds is the sunken garden. It forms a noble L, about fifty feet wide and eighteen hundred feet long—truly regal proportions—and extends from the greenhouse to the aquatic garden in a basin at the lake, to the level of which it is brought by a series of steps. At the lake the garden is twelve feet below grade, and is laid out in flower beds and shrubbery, divided by gravel walks, laid with a gravel of an ivory white tint.

The bridge which carries the main driveway over the sunken garden is a beautiful structure about a hundred and twenty-five feet long, with two elliptical

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THE GREAT HALL IN "KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J.

are the banquet-room, conservatory, breakfast-room, music-room, reception-room, parlor, children's parlor, butler's office, pantries, and halls; on the second floor are twelve bedrooms, together with dressing-rooms and baths. All of them are approached from the balcony around the hall, and most of them are provided with exterior reading balconies. The third floor contains the servants' sitting-rooms, bedrooms, and baths, which are reached by a special stairway from the basement, which, in its turn, contains the main kitchen, pantries, storerooms, servants' dining-room, heating apparatus, store cellar, and wine cellar.

Allusion has been made to the multiple uses to which the tower is put. Its chief purposes are twofold—to serve as a water tower and also as an observatory. But, in addition to these special ends, it is so large that space is found within it for bedrooms, a completely equipped gymnasium, and a large playroom for the children.

* Previous articles in this series: "BILTMORE," THE ESTATE OF GEORGE W. VANDERBILT, ESQ., BILTMORE, N. C., February, 1903. "THE GARDEN AT 'GEORGIAN COURT,'" THE HOUSE OF GEORGE J. GOULD, ESQ., LAKEWOOD, N. J., August, 1903. "HARBOR HILL," THE ESTATE OF CLARENCE H. MACKAY, ESQ., ROSLYN, N. Y., September, 1903. "THE ORCHARD," THE COUNTRY SEAT OF JAMES LAWRENCE BREESE, ESQ., SOUTHAMPTON, N. Y., November, 1903. "THE RESIDENCE OF W. L. STOW, ESQ., ROSLYN, N. Y., December, 1904. "WHITE HALL," THE HOUSE OF HENRY M. FLAGLER, ESQ., PALM BEACH, FLA., January, 1904. "FAULKNER FARMS," THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS., March, 1904. "THE HOUSE OF E. J. BERWIND, ESQ., NEWPORT, R. I., April, 1904. "GREY CRAIG," THE ESTATE OF J. MITCHELL CLARK, ESQ., NEWPORT, R. I., May, 1904. "BLAIRSDEN," THE ESTATE OF C. LEDYARD BLAIR, ESQ., BERNARDSVILLE, N. J., June, 1904.

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RECEPTION-ROOM.



DINING-ROOM.



THE BRIDGE OVER THE SUNKEN GARDEN.

"KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J.—See page 3.
MR. G. K. THOMPSON, ARCHITECT.



A RUSTIC HOUSE.

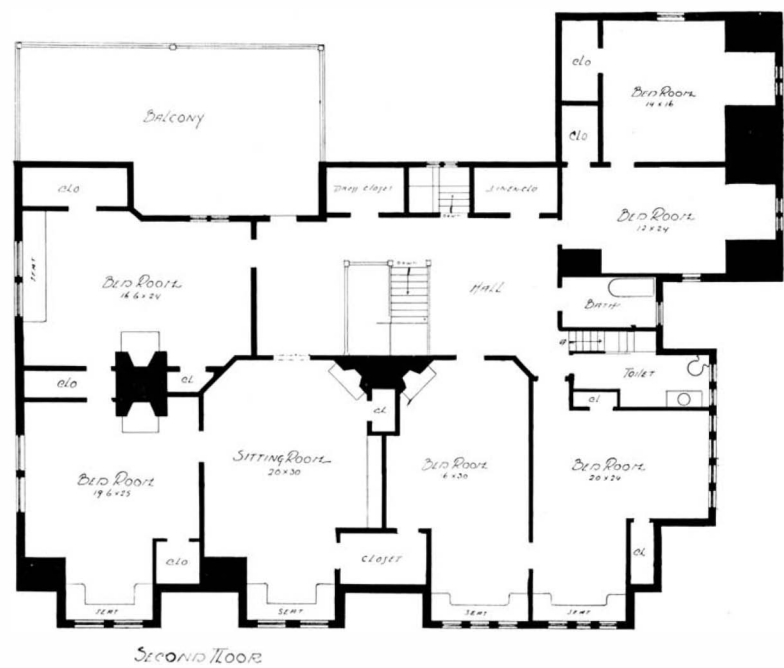
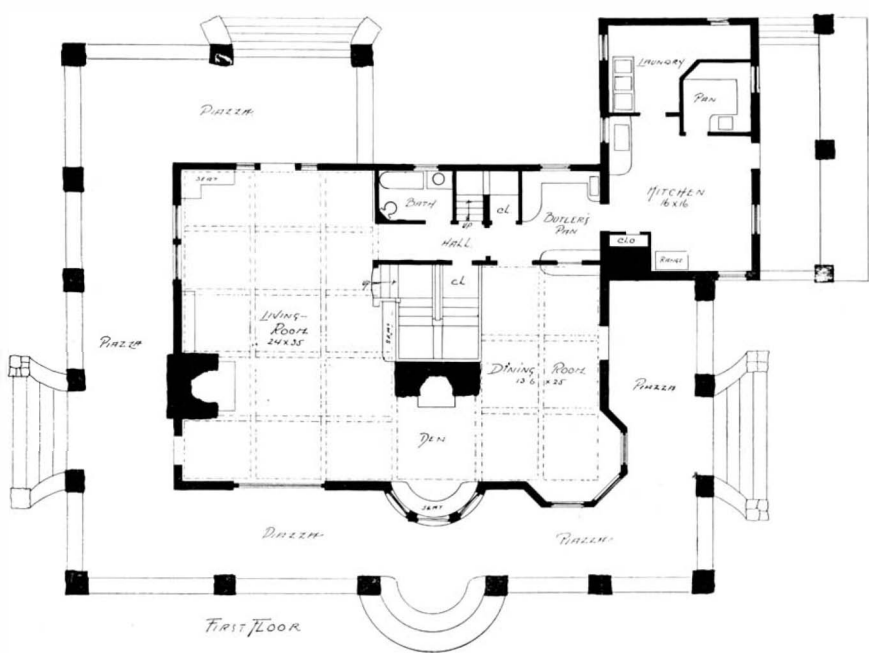


THE SUNKEN GARDEN.

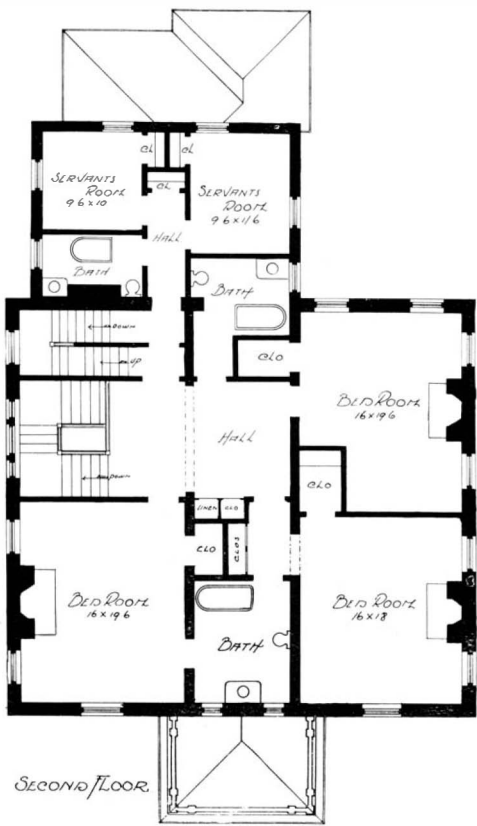
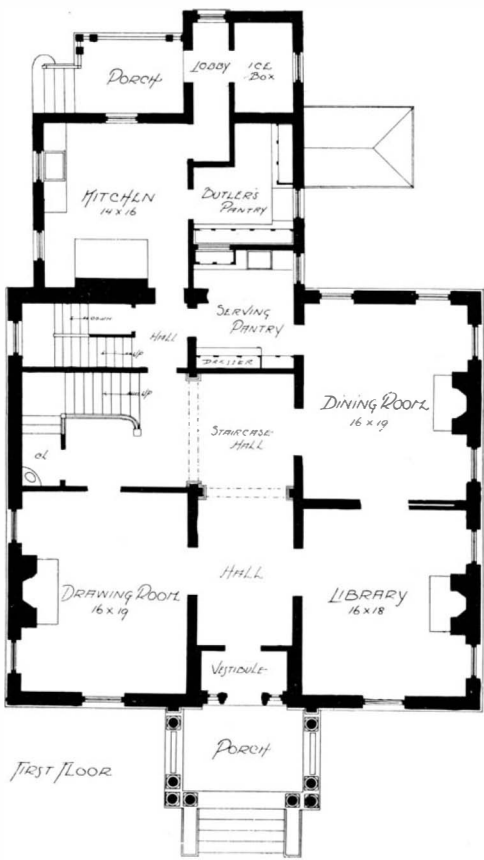


THE STABLE.

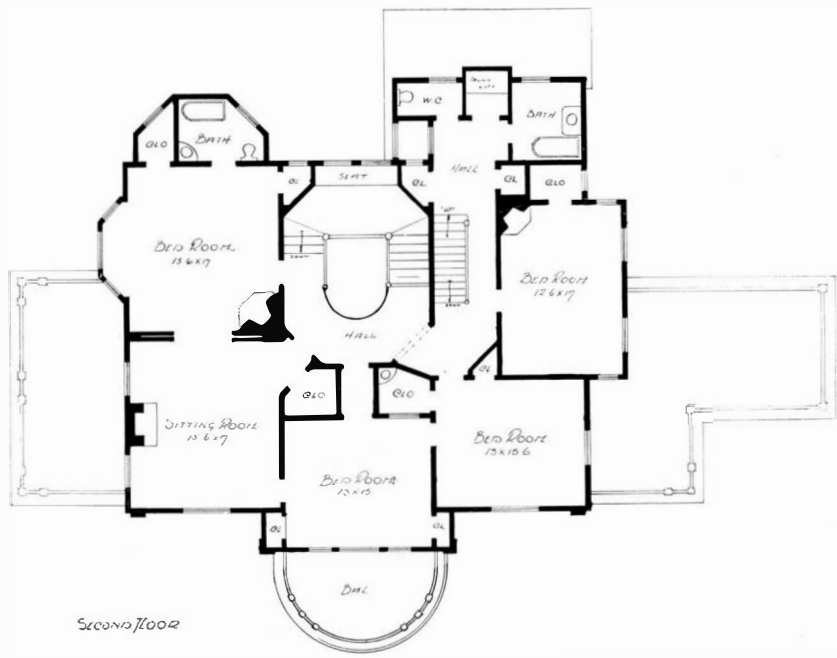
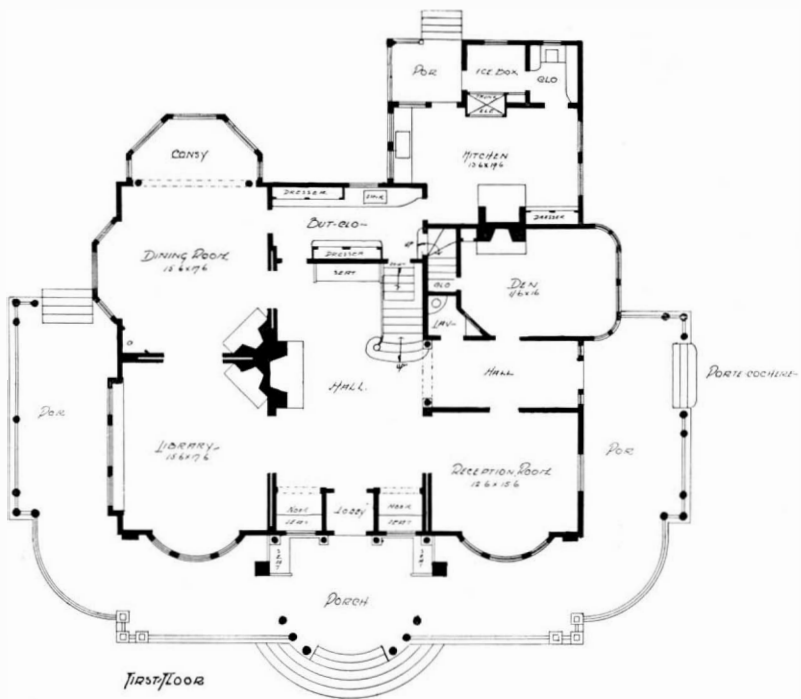
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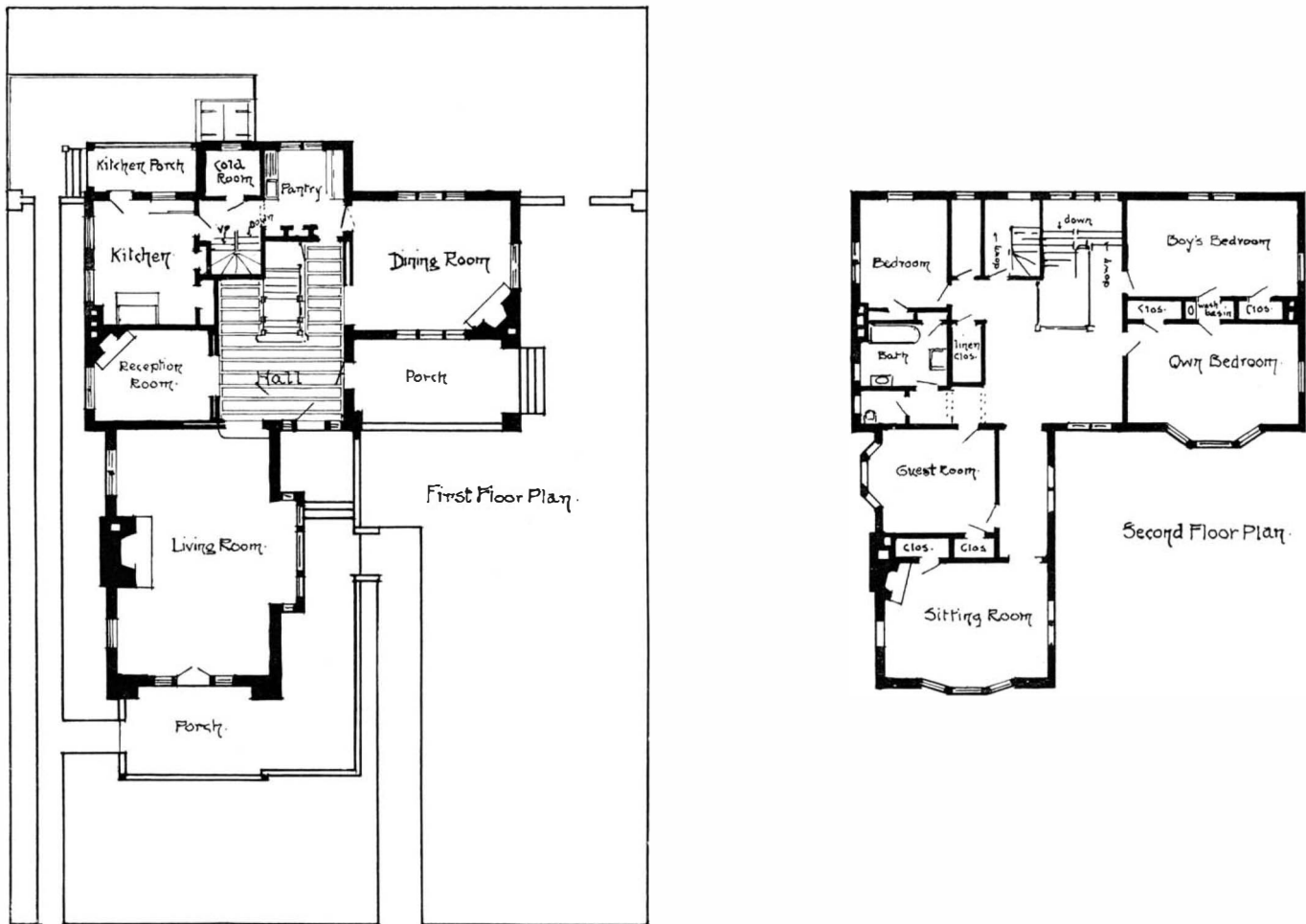
A RESIDENCE AT PROUTS NECK, MAINE.—See page 17.
MR. JOHN CALVIN STEVENS, ARCHITECT.



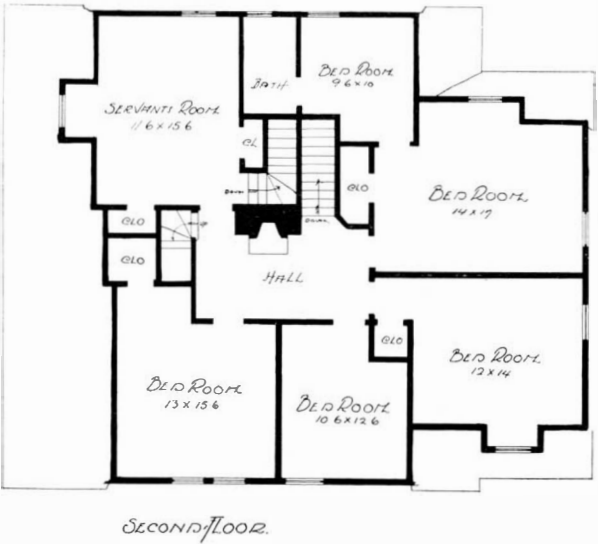
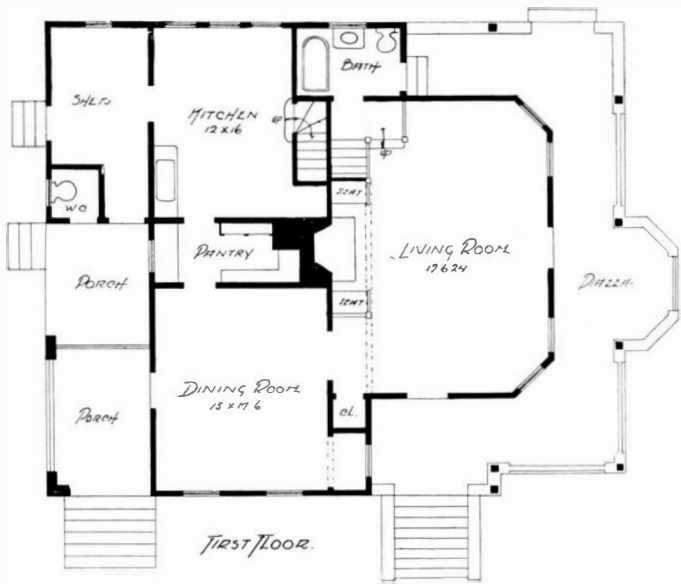
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MR. GEORGE BURNHAM, ARCHITECT.



RESIDENCE OF C. C. WEST, ESQ., AT MONTCLAIR, N. J.—See page 18.
MR. E. R. NORTH, ARCHITECT.



RESIDENCE OF FRANCIS D. BENNETT, ESQ., AT JERSEY CITY, N. J.—See page 16.
MR. WILSON EYRE, ARCHITECT.



“EDGECOMBE,” THE SUMMER HOME OF DR. FRANKLIN B. STEPHENSON, PROUTS NECK, MAINE.—See page 18.

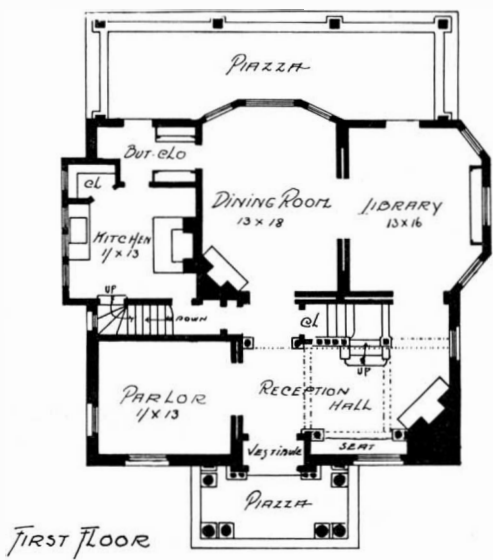


LIVING-ROOM.



LIVING-ROOM, SHOWING STAIRCASE AND DINING-ROOM.

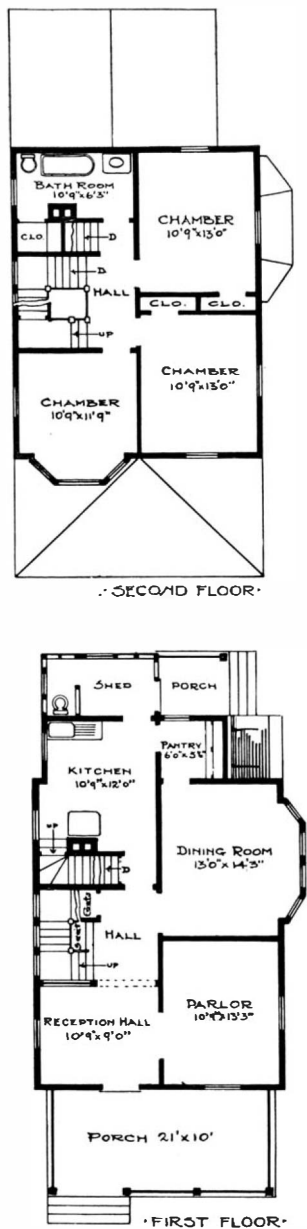
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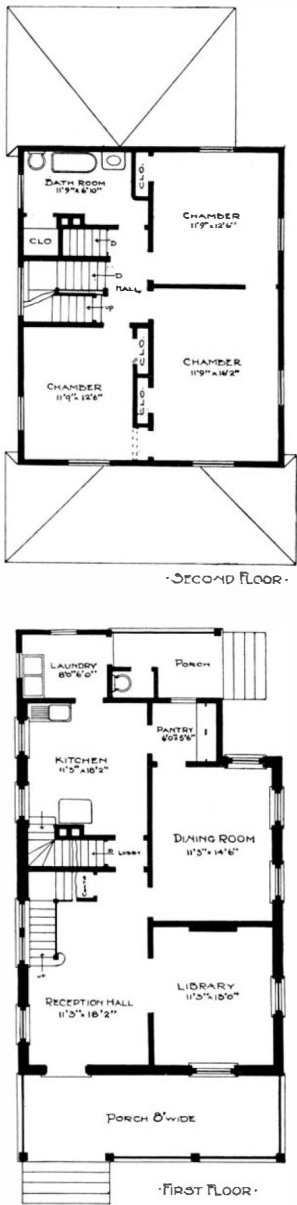
A RESIDENCE AT NEWARK, N. J.—See page 16.



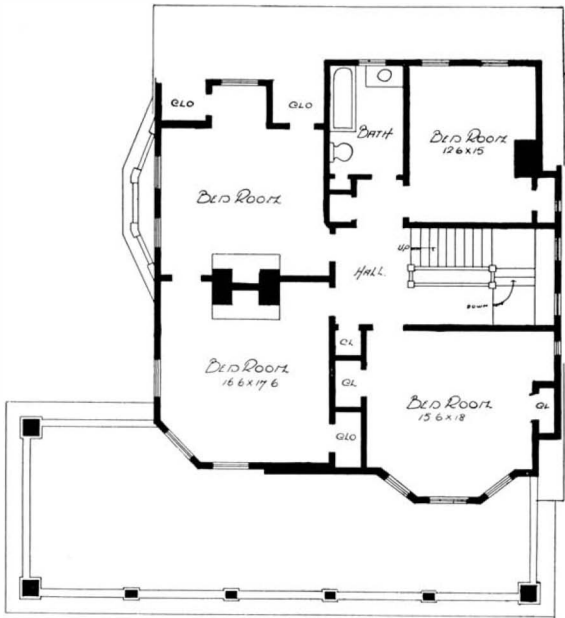
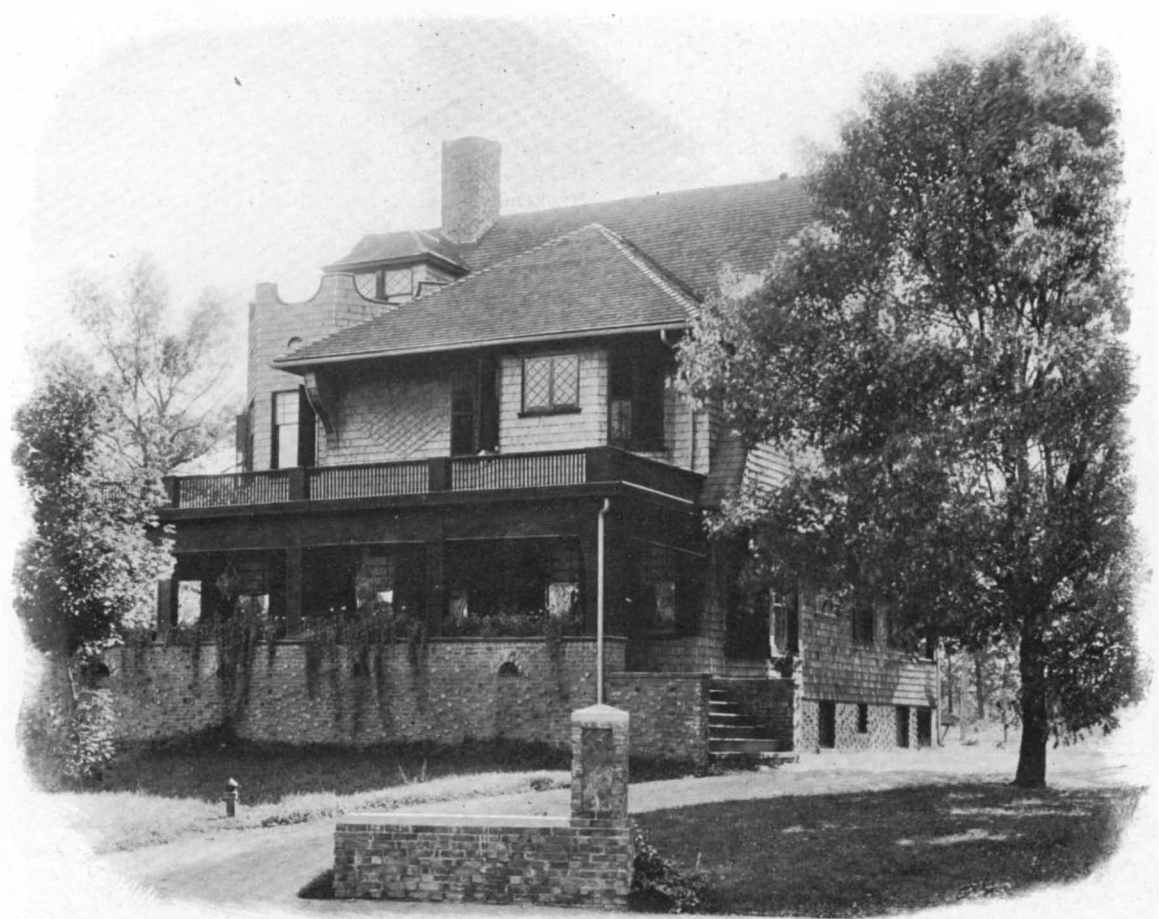
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MR. WILLIAM L. PRICE, ARCHITECT.



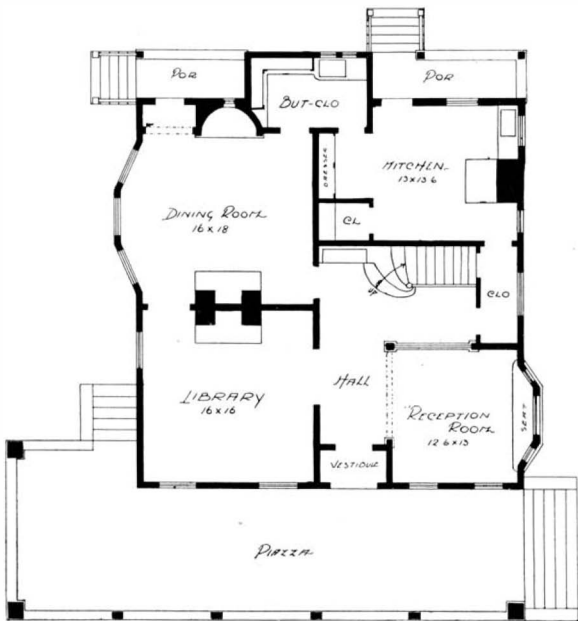
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MR. C. E. SCHERMERHORN, ARCHITECT.



A HOUSE AT BALA, PA.—See page 19.
MR. WILLIAM D. JONES, ARCHITECT.



SECOND FLOOR



FIRST FLOOR



RESIDENCE OF HARRIS PARKER, ESQ., AT ROCHELLE PARK, NEW ROCHELLE, N. Y.—See page 20.
MR. GEORGE KRAMER THOMPSON, ARCHITECT.

"KILDYSART," THE COUNTRY SEAT OF DANIEL O'DAY, ESQ., DEAL BEACH, N. J.

(Concluded from page 3.)

spans. It is built of red brick with wide white mortar joints with projecting courses. The evergreen shrubbery at the approaches of the bridge is continued along the main drive by an avenue of linden trees and privet balls. At every fifty feet between the latter are the road lights, placed low, and in the shrubbery, yet affording a perfect illumination of the roadway. The lights are placed in milk white glass balls set on brick and terra cotta bases, which come below the level of the eye. They constitute a characteristic feature of the grounds, and when lighted at night produce a very beautiful and most unique effect.

The stable, which is placed at one corner of the grounds and is heavily screened from the house by plants, is a charming structure about a hundred feet by a hundred and twenty-five. It is U shaped, with the stable yard and shed in the center and the coachmen's house in one wing. The building contains ten

color, and the sash and frames are painted white. The roof is covered with split cypress shingles, and is stained a dull green. The chimneys are topped out with terra cotta flue pots.

The interior plan is excellently arranged. It has a hall trimmed with quartered oak. The staircase, of handsome design, is provided with a broad landing, over which there are clusters of leaded glass windows. The ceiling is beamed, forming panels.

The reception-room is trimmed with white pine and is treated with old ivory white. It has a low Colonial wainscoting and a wooden cornice. The open fireplace is furnished with facings of Sienna marble, and a mantel of excellent design in the pure Colonial style.

The living-room is two steps down from the hall, giving it extra ceiling height, on account of its size. The ceiling is open timbered, with carved beam brackets under each timber, and paneled wainscoting and bookcases. The open fireplace is built of clinker brick, with facing of the same, above which there

A RESIDENCE AT NEWARK, N. J.

The residence which is illustrated on page 12 has been erected for Dr. F. Edsall Riley, on Mount Prospect Avenue, Newark, N. J. The house is located on the side of a hill, and is so arranged that the principal rooms face the rear, from which an extensive view is obtained. The foundation, underpinning, and chimneys are built of hard burned Jersey brick, faced with Hackensack brick laid in red mortar. The exterior framework is sheathed with rabbeted boards, and these covered with heavy building paper. The first story to the height of window heads is veneered with Hackensack brick laid in red mortar, the same as underpinning, and anchored to the sheathing with heavy iron anchors. The window sills and trimmings are of dressed Indiana limestone. The remainder of the building is covered on the exterior with shingles, which are stained a brown color, while the trimmings are painted white. The roof is covered with shingles and is stained in harmony. Dimensions: Front, 37 ft.; side, 34 ft., exclusive of piazza. Height of ceil-



THE ENTRANCE AND BAY WINDOW TO THE RESIDENCE OF FRANCIS D. BENNETT, ESQ., JERSEY CITY, N. J.

stalls, large carriage rooms, harness rooms, wash rooms, tool rooms, automobile rooms, and an office for Mr. O'Day. In addition there are bedrooms for the men and a special dining-room and kitchen for their exclusive use. The stable has been designed in the style of the house, and is a thoroughly successful building.

RESIDENCE OF FRANCIS D. BENNETT, ESQ., AT JERSEY CITY, N. J.

The illustrations on page 9 and above present the residence of Francis D. Bennett, Esq., on Gifford Avenue, Jersey City, N. J. The building is admirably arranged for a suburban house, and the main body of the house is planned parallel with the front street, and slightly nearer to one of the party line. The tradesmen's path is on this same side of lot, and the wing containing living-room is also placed at the side, giving a wide open space in the lot on which the principal room and porches face. The house is treated in the domestic English style, and is most artistic in its design. The balustrade and terrace and part of the first story are built of clinker brick with rough faces. The remainder of the building is covered with rough plaster cast. The woodwork is stained a dark soft brown

is placed a massive wooden shelf. Opposite the fireplace there is an attractive bay window with leaded glass panes.

The dining-room is also trimmed with oak, and it has a paneled wainscoting, an ornamental paneled ceiling in plaster, and an open fireplace furnished with a green tiled hearth and facings and a mantel of emblematic design. The butler's pantry is fitted up with drawers, dresser, bowl, etc., complete. The kitchen is furnished with all the best modern conveniences, and it also has a glazed brick chimney hearth, a French range and hood, and a cold storage room.

The second floor contains a hall trimmed with oak, and a sitting-room treated in forest green, and four bedrooms treated with ivory white enamel. The sitting-room has a bay window with seat, and an open fireplace. The bathroom has a tiled floor and wainscoting, and the walls above the wainscoting and the trim are painted with white enamel. This bathroom is furnished with porcelain fixtures and exposed nickel-plated plumbing.

The third floor contains one bedroom and a trunk room. The cellar, cemented, contains a laundry, steam heating apparatus, etc. Mr. Wilson Eyre, architect, 929 Chestnut Street, Philadelphia, Pa.

ings: Cellar, 9 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft. 6 in.

The front entrance vestibule has a tiled floor with a Grecian border and a paneled wall painted with ivory white. The doors opening from the vestibule to the hall have elliptical shape headlights, same as the outside doors, and are glazed with clear leaded glass in Colonial designs.

The entrance hall is trimmed with whitewood, treated with old ivory white. It contains the main staircase, with balusters of four inch square fluted Doric columns, and occupies the space between the string and the ceiling rib. The balustrade at the foot of the stairs is a paneled bulkhead, matching the paneling under the stairs. The newels and rail are of birch stained mahogany. This contains also an ornamental nook, a window seat, and an open fireplace, which is six feet wide and seven feet high, and it has a hobbled fireplace opening and recessed shelf in part over the same. This fireplace is built of brown colored pressed brick, with hearth of unglazed buff color tile.

The entrance to the dining-room is under the main stairs, opposite the front door, and is flanked on either side with eight inch fluted Doric columns, set on top of a two-foot base, which extends around the hall, and

which forms a very attractive feature. On the side of the hall opposite the stairs there is an angle nook, which is framed in with fluted Doric columns and pilasters, and it has a paneled seat and back of birch stained mahogany. The walls and ceilings of nook, and the walls of the entire hall, are formed into panels with white painted strips, and cornice at the line of heads of doors extends around the hall, with medallions in the parts that come over the mantel. The ceiling is heavily beamed and ribbed.

The parlor is treated in the Empire style, and it has a cove ceiling, and is decorated with relief and fresco work. The library is trimmed with whitewood, and is painted ivory white. Under the ornamental window on the outside there is built a bookcase with birch doors stained mahogany. The dining-room is trimmed with quartered oak stained a very dark antique color. There is a paneled base which extends around the room, and a wooden cornice. The fireplace is a combination mantel and china closet, with tiled facings. The butler's pantry contains cupboards, with shelves,

posts, with stone footings, and it is so well elevated at the rear that a door opens into the space underneath the building and forms a cellar for storage, etc. The building from grade to the peak is of wood, and the exterior framework is covered with matched sheathing, and then cedar shingles, which are left to weather finish. The roof is also covered with similar shingles. The trimmings are painted white and the blinds light yellow. Dimensions: Front, 41 ft.; side, 38 ft. 10 in., exclusive of piazza. Height of the ceilings: Cellar, 6 ft.; first story, 9 ft.; second, 8 ft.; third, 8 ft.

The living-room occupies the entire length of the house, and is provided with an angle nook, containing an open fireplace built of brick, with facings and a hearth of the same, and a mantel shelf. The stairway, of attractive character, rises out of this room and extends up to the second story. This room, and also the dining-room, is wainscoted from the floor to the ceiling, the latter having beams, which are dressed and exposed to view. The butler's pantry is fitted up

piazza. Height of ceilings: Cellar, 8 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The hall is a large central one, trimmed with white pine, finished with old ivory white and treated in the Colonial style. It has Colonial staircase of quaint design, with painted balusters and a mahogany rail. A lavatory and a coat closet are provided underneath the staircase.

The living-room is trimmed with quartered oak, and has a paneled wainscoting, bookcases built, and a massive beamed ceiling. The alcove, containing an open fireplace, with seats on either side, is an attractive feature. The fireplace is built of brick, and the facings and hearth are of the same.

The dining and smoking rooms are also trimmed with oak, and they have batten wainscotings with burlap panels. The smoking-room is separated from the dining-room by an archway, which is paneled, and it has a paneled seat, over which there are a cluster of small windows. The fireplace is built of brick, with facings and a hearth of old Delft tile brought



VERANDA OF THE SUMMER HOUSE OF CHARLES CUDAHY, ESQ., THOUSAND ISLANDS, CANADA.—See page 19.

drawers, butler's bowl, and a refrigerator. The kitchen is conveniently arranged with coal bins, gas and coal range, porcelain sink, and the best modern conveniences. In the ceiling of kitchen is placed an 18-inch ventilator in connection with a large vent shaft, which is also connected to the bathroom and water closet in the second story to the outer air. The woodwork in the butler's pantry and in the kitchen is of cypress, and finished natural.

The second floor contains five bedrooms, provided with ample closets, linen closet, and a bathroom, the latter having a tiled wainscoting five feet high, a tiled floor, and porcelain fixtures with exposed nickelplated plumbing. The trim on this floor is painted white, with doors of mahogany finish. The third floor has good sized servant quarters.

A RESIDENCE AT PROUTS NECK, MAINE.

THE residence illustrated on page 6 has been built for Winslow Homer, Esq., the painter, at Prouts Neck, Maine. The house is built for summer uses, and is constructed in a simple manner. There is no stone cellar under the house, but the building rests on cedar

posts, with stone footings, and it is so well elevated at the rear that a door opens into the space underneath the building and forms a cellar for storage, etc. The building from grade to the peak is of wood, and the exterior framework is covered with matched sheathing, and then cedar shingles, which are left to weather finish. The roof is also covered with similar shingles. The trimmings are painted white and the blinds light yellow. Dimensions: Front, 41 ft.; side, 38 ft. 10 in., exclusive of piazza. Height of the ceilings: Cellar, 6 ft.; first story, 9 ft.; second, 8 ft.; third, 8 ft.

The living-room occupies the entire length of the house, and is provided with an angle nook, containing an open fireplace built of brick, with facings and a hearth of the same, and a mantel shelf. The stairway, of attractive character, rises out of this room and extends up to the second story. This room, and also the dining-room, is wainscoted from the floor to the ceiling, the latter having beams, which are dressed and exposed to view. The butler's pantry is fitted up

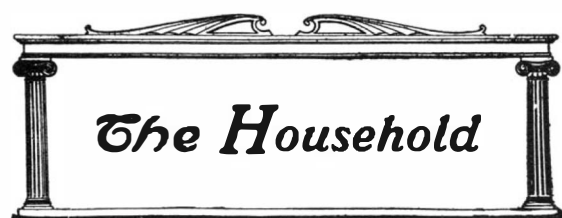
RESIDENCE OF EDWARD BOK, ESQ., AT MERION, PA.

THE illustrations shown on page 13 present the residence of Edward Bok, Esq., at Merion, Pa. The building is treated in the English style, and is constructed of stone and half-timber work. The walls to the terrace and the first story are constructed of rock-faced Foxcroft stone. The remainder of the building is of beamed work with plaster panels. The half-timber work and all the trimmings are stained a soft brown color, while the plaster panels are gray. The roof is covered with shingles. Dimensions: Front, 76 ft. 7 in.; side, 71 ft. 11 in., exclusive of terrace and

from Holland, and a mantel. The butler's pantry is fitted with drawers, shelves, dressers, bowl, etc. The kitchen and servants' hall are trimmed with chestnut, finished natural, and each room is fitted with all the best modern conveniences. The kitchen range is built in an alcove furnished with a slate hearth and a glazed brick wainscoting. The ice box and refrigerator are built in, with an outside entrance.

The second floor is trimmed with white pine and treated with white enamel. The hall is semicircular in form, and the several bedrooms on this floor are fitted up in an attractive manner with tiled facings and hearth and mantels. This floor contains three bedrooms, boudoir, day and night nurseries, nurses' room, and five bathrooms. The latter are wainscoted and paved with white enamel tile, and furnished with porcelain fixtures and exposed nickelplated plumbing.

The third floor contains a large, well-fitted workroom and the servants' quarters. The cellar contains the laundry, cold storage, and the heating apparatus. Mr. William L. Price, architect, 1604 Walnut Street, Philadelphia, Pa.



VACATION HOUSEKEEPING.

IN vacation housekeeping, remarks Good Housekeeping, bear in mind that there is no place like home, even if it is a temporary one. To keep house for even a month or two is many times better for comfort, for rest, for health, for pure enjoyment, than any hotel can possibly be. In one's own house, even if it be hired, one has control over all those matters of health and comfort which in a boarding house must be left to others. And as for a really wholesome life for children, it can never be obtained at a hotel. There is only one drawback to summer housekeeping, and that is that the housewife has no rest from her cares. The change which her family has she shares only in part. Yet it is often a question which many a woman decides in the affirmative, whether the strenuousness of dress, the social demands, and the annoyance of the gossip of a large hotel, are not greater burdens than country housekeeping. In summer, too, the food, milk, and water supply are all important, and it is difficult to be sure of them in a large hotel. Fresh milk, fruits, and vegetables are a common necessity, but as the hotels draw their supplies from distant city markets, one can usually be certain that at a hotel these things are from twelve to forty-eight hours older than could have been obtained in one's city apartments; but, after all, people who go to a summer hotel do not go for their children, or for their health, and probably have no use for hints on hygiene. The smaller and more isolated hotels and country boarding houses are better, because there one can throw off more of city life, be outdoors more, and become better acquainted with the character of the well, the cow, and the cook.

NEW RUSH FURNITURE.

Vogue gives descriptions of several novelties in rush furniture for the summer cottage. A comfortable-looking divan is of good width and long, stained in forest green. Only the framework is rush, for the entire body is upholstered, fitted with springs, and covered with green tapestry. A high headpiece gives a rest for a long cushion covered with the same material. Backing this and made in one with the couch is a three-shelfed bookcase. The top reaches the level of the headpiece and affords a convenient shelf for an electric standard or lamp. A very attractive desk is rather larger than the customary woman's writing desk. The wide writing shelf is bordered by a high back that tapers down at the sides; two long flaps of wicker extend from one end to the other and give plenty of room for paper, envelopes, etc. Under the desk is a shelf for odds and ends, and a convenient scrap-basket is attached at the side. Many unusual and decorative pieces of furniture can be made of rush, and for a country home nothing could be more appropriate or pretty.

THE POLISHED FLOOR.

A LITTLE beeswax melted in turpentine, says a contemporary, is as good a floor polish as any of the elaborate mixtures often recommended. Only a little should be applied at a time. The great mistake that servants make is in putting on too much liquid at once, thereby making the surface dull, smeary, and sticky, and often rendering the floor so unsightly that the professional floor polisher has to be called in to put it in condition again.

The rubbing should be done with a soft cloth and a small surface treated at a time. Apply the polish with the cloth and then rub quickly and lightly until dry. The entire secret of keeping a floor in good condition is to do the cleaning regularly, and to watch for daily stains and to remove them at once. If the floor is attended to systematically, there will be no need of giving it any but the lightest and gentlest kind of treatment, which is the right kind of treatment to keep it in good condition.

THE TEA CART.

THE tea cart, which has succeeded in installing itself in the good graces of the community, has added to its family a cellarette wagon. The cellarette wagon, closed, looks very much like a genteel laundry cart. By simultaneously raising two lids, which close over the top of the cart, a full outfit of liquor and tobacco furnishings in cut glass rises to view, while the lids become leaves at each side to hold glasses and other paraphernalia. It is made of oak.

A cart for afternoon tea also has a sink into which the furnishings are let down by the closing of side leaves over the top.

"EDGEcombe," THE SUMMER HOME OF DR. FRANKLIN B. STEPHENSON, AT PROUTS NECK, MAINE.

ON pages 10 and 11 will be found illustrations of Edgcombe, the summer home of Dr. Franklin B. Stephenson, A.M., M.D., of the United States Navy, at Prouts Neck, Maine. The site upon which the house is situated is one typical to the coast of Maine, and the house is designed and built in keeping with its surroundings, with its field stone balustrade and columns and the first story of the same, and the second story finished into a gambrelled roof. This second story is covered on the exterior with shingles and is stained with shingle stain of a dark green color, while the trimmings are painted ivory white. The roof is also covered with shingles, and is stained in harmony. The triple dormer windows, overhanging as they do, form the principal characteristic of the exterior. Dimensions: Front, 66 ft.; side, 54 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The interior throughout is trimmed with yellow pine, finished natural. The living and dining rooms and den, which are practically one great room, have a high batted wainscoting, finished with a plate rack and a beamed ceiling. The plaster, which is shown to view, is of rough cast, and is tinted in harmony. The large open fireplaces are built of field stone, laid up at random, with hearths of red brick. There are numerous seats and bookcases built in, and an open staircase built in an attractive manner. The butler's pantry is fitted with drawers, dressers, and sink, and the kitchen and laundry are well fitted with all the best modern conveniences. There is a bathroom on the first floor, which is fitted up with all the necessary conveniences.

The second floor is treated with ivory white paint, and all the rooms are provided with a three-foot wainscoting. This floor contains a large open hall, a sitting-room, six bedrooms, linen closet, large clothes closets, and two bathrooms, the latter furnished with porcelain fixtures and exposed nickelplated plumbing. The open fireplaces, which are shown on the plan, are built of brick, with the facings and a hearth of the same and a mantel.

The third floor contains one room and ample storage space. The house was built from the instructions of Mrs. Stephenson, and by Mr. Alonzo L. Gorgius, a builder of Prouts Neck, Maine.

RESIDENCE OF C. C. WEST, ESQ., AT MONTCLAIR, N. J.

ON page 8 will be found an illustration of the residence of C. C. West, Esq., at Montclair, N. J. The building is designed in the Colonial style of architecture. The underpinning is built of cut red sandstone. The superstructure is covered on the framework with matched sheathing and then good building paper; this building paper is covered with clapboards, and the whole is painted white. The roof is covered with shingles and is stained a moss green. Dimensions: Front, 55 ft.; side, 52 ft., exclusive of piazza. Height of ceilings: Cellar, 8 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The house is planned with a central hall and a front entrance through the vestibule, while the lateral hallway forms an entrance from the porte-cochère. The hall is trimmed with quartered oak, and it has a paneled wainscoting and a beamed ceiling. It also has a vestibule with an alcove on either side provided with paneled seats, over which there are stained glass windows. The staircase is of a very handsome design, with an archway effect on the staircase platform from the lower hall. The fireplace has tiled facings and a hearth and a massive mantel of oak.

The reception-room is trimmed with pine, and is treated with white enamel. The library is trimmed with cherry, and it has an alcove with bookcases built in, over which there are windows of delicate tinted glass. The fireplace is furnished with tiled facings and hearth and a mantel of cherry. The den is conveniently situated at the porte-cochère entrance, and it is trimmed with curly birch, and has an open fireplace.

The dining-room is trimmed with oak, and it has a paneled wainscoting, beamed ceiling, bay window, and an open fireplace. The conservatory at the rear of dining-room is an attractive feature, and it is separated by an archway supported on columns. The butler's pantry is trimmed with cypress, and it has a bowl, dresser, and drawers, etc. The kitchen and its dependencies are trimmed with cypress, and each is fitted with all the best modern conveniences.

The second floor contains a large open hall, four bedrooms, and two bathrooms, the latter provided with a tiled wainscoting and floor and porcelain fixtures and exposed nickelplated plumbing. The third floor contains three bedrooms and a bathroom, besides a trunk room and a storage room. The cellar, cemented, contains a laundry, furnace room, fuel rooms, and cold storage. Mr. E. R. North, architect, 220 Broadway, New York City.



AN ENGLISH TREE LIFTING MACHINE.

THE transportation of large trees is now so frequently a necessary part of the making of large estates that the problems involved in their conveyance include few difficulties. Work of this nature is more common in America than abroad, for in this country large estates are often made by order, if not overnight, yet in so short a time that our wealthy men are not willing to wait until trees grow to a considerable height, but must have them full grown at once. A machine for transporting large trees was recently used in St. James' Park, London, which was expressly constructed for this occasion.

It consists of a strong steel carriage on four wheels, of which the front and sides are the principal features, the back being a movable structure, and only fixed after the tree is slung, to give rigidity to the machine when traveling. There is no body or back axle, a bifurcated support on either side, in which the wheels are fixed, taking the place of the back axle. Thus, when the machine is backed over the tree to be removed, there is nothing to impede it, or prevent its being so stationed that the tree is in the center of the carriage. Running along on either side is a strong windlass or winch, to which chains are attached. The tree having been prepared for removal by digging a suitable trench around it, and leaving sufficient soil to form a good ball round the roots, is undermined to enable two stout boards to be placed beneath it. Next, boards on either side of these center ones are placed in position, which completes a platform on which the tree with its soil is now standing. The machine is next brought over the hole on strong planks, which are laid in a gage the width of the wheels apart. The whole can now be raised by means of the chains and windlasses, and is suspended in the center of the vehicle. It can now be carted to any desired position in the grounds. The operation is repeated of placing the planks over the hole for the wheels, and additional ones in the center for the horses. As soon as the machine is in position these center boards are removed, leaving the tree suspended over its new situation. It is a simple matter to lower the tree and draw out the planks from beneath.

THE PEONY.

By the time these words are in type the peony season will be practically over. It may not be amiss, however, to direct attention to this beautiful flower, which is now enjoying a new and well deserved popularity.

The sort of garden in which this flower occurred, says a contemporary, is called the grandmother's garden by florists; and the "piney" of the grandmother's garden was the result of a lively interest which sprang up in the peony among the florists of Massachusetts about fifty years ago. That interest succeeded in placing the red and the white peony in every village garden.

Then it slackened, and the peony remained a village flower from that day up to half a dozen years ago. Curiously enough, the new revival hailed from the West, where interest in the peony seems to have hibernated through a long period of neglect.

Hybridization has been going on apace. New varieties have been developed with rapidity, and every man has named his own just as it suited him, so that to-day there is an astonishing abundance and variety of nomenclature in the peony cult.

In a flower running the scale of shades from pure white to ruby red, with an occasional tinge of yellow and lavender, with mixtures of all these hues, and with all manner of differences in form and size, the possibilities of variations are almost infinite.

Another result for the mania for peony culture has been to develop a delicate fragrance in the blossom, in place of the slightly disagreeable odor of the old time flower.

One reason for the long continued, widespread interest in the peony is the fact of its adaptation to the widest area of almost any flower in America. There is not a State in the Union in which it will not flourish, and it can be cultivated as well in the simplest as in the most elaborate garden. It grows quickly, blossoms freely, has a great, tangled root mass which prevents winter killing, and its foliage is ornamental after the blossoming period is over.

But a more subtle reason exists for its progress as the flower of fashion. The peony was born to be the flower of plutocracy. The peony is a true democrat, too, in spite of its penchant for magnificence, for it will grow in any known soil. But—suburbanites, take notice—it does best in a rich, heavy soil, moist, well drained and abundantly fertilized.

Fire Protection

FIREPROOF FLOORS.

IN designing fireproof floors, remarks a recent authority, one of the most important points to be determined is the scantlings of the joists to be employed and the distances center to center. Modern practice inclines to the spacing of the girders at very short intervals, say, 18 inches to 24 inches. This method may be advantageous with very small spans, but with any considerable span it involves either extravagance or insecurity. It is necessary, in order to secure adequate rigidity and to guard against deflection, that the relation between the span and the depth of the joist should have some minimum ratio. According to some of the best authorities, the depth of a steel joist should not be less than one-twentieth of the span, and due allowance must be made for all holes drilled in the joists, especially if they be in the flanges. This ratio is not necessarily dependent on the load to be supported, but relates mainly to the span. It is evident, therefore, that as the girders must be of considerable weight to secure this proportion, and as girders of such scantlings are capable of carrying very substantial loads, it is not economical to place them very close together. On the contrary, the object should be to space them as widely apart as possible consistent with keeping the load within the factor of safety. This factor of safety must depend upon the nature of the load to be carried. For permanent dead loads not liable to variation, a factor of 3 is sufficient, if the steel will bear a tensile strain of 30 tons per square inch, with a moderate elongation, say, 20 per cent. in a maximum length of 8 inches. Then the maximum safe load not liable to variation would involve a tensile strain of 10 tons per square inch. For ordinary live loads applied gradually, the factor of safety would be 4, and the safe load would produce a strain of $7\frac{1}{2}$ tons per square inch. For live loads rapidly applied, the factor should be 5, and the maximum strain should not exceed 6 tons per square inch. If the floor is to be a real fire-resisting floor, the girders must be completely encased in the fire-resisting material.

To keep within safe limits, it is not wise to assume that for dwellings or office buildings the combined dead and live loads will be less than about 154 pounds per foot. The average dead load of a fireproof floor made of steel joists and 6 inches of coke breeze-concrete for moderate spans may be taken as 70 pounds per foot, and the live load may be put down at 84 pounds, giving a total load of 154 pounds. In public buildings or in schools where large numbers of persons may congregate, or in warehouses where heavy loads are stored, the total loads to be provided for will be much greater.

NON-INFLAMMABLE WOOD.

WHATEVER be the chemicals for incorporation in solution into the interstices of the wood, says an English expert, care must be taken to see that the aqueous part has all been evaporated before the wood is painted. If the woodworker paints the wood while it still contains internal moisture, nothing is more certain than the fact that such internal moisture will work out and peel off the paint. If the wood were impregnated with water, and only water, and painted before such water had entirely evaporated from the interior of the wood, the same result would accrue—the interior moisture would come out and peel off the paint. This was the trouble, and the whole trouble, with the non-inflammable wood in the royal yacht, about which so much has been heard within the past few years. When the treated wood was sent to the shipbuilders, they were notified in writing to make sure the wood was thoroughly dry before it was painted and finished, and it was explained to them that if the treated wood contained internal moisture when primed such moisture would work out and peel off the paint or other coating, and possibly set up more or less corrosion of the nails. The shipbuilders were advised to do as the American shipbuilder does, namely, put non-inflammable wood for twenty-four hours in a small kiln before being finished to make sure that the interior moisture had all been evaporated. Some of them complied with these requirements, but others failed to do so, and, consequently, a portion of the wood was painted when it contained internal moisture. Woodworkers, as a rule, are not enthusiastic about the non-flammability of wood, and do not welcome the little extra trouble required in order to properly work it. The Admiralty, in 1899, finding a portion of the paint on the non-inflammable wood in the royal yacht in an unsatisfactory condition, made complaints, with the result that the internal moisture was dried out and the Admiralty workmen then painted the wood.

RESIDENCE OF PEREZ B. BURNHAM, ESQ., AT PORTLAND, MAINE.

THE illustrations shown on page 7 present the residence of Perez B. Burnham, Esq., which has been erected on the Western Promenade, at Portland, Maine. The building, square in form, is built of red brick, laid in Flemish bond, with Indiana limestone trimmings, and the woodwork is very well detailed, and the whole is painted white. The severity of the design is relieved by the ornamental porch and balustrade which surrounds the roof. Dimensions: Front, 45 ft. 9 in.; side, 67 ft. 8 in., exclusive of porch. Height of ceilings: Cellar, 7 ft.; first story, 11 ft.; second, 10 ft.; third, 9 ft.

The interior throughout is trimmed with white-wood, treated with china white enamel paint. The hall is a central one, reached through a vestibule with a paneled wainscoting, wooden cornice, and a tiled floor. An archway with a pilaster effect separates the entrance hall from the staircase hall, and the latter contains an ornamental staircase with white enameled risers and balusters, oak treads, and mahogany rail and newel posts. A lavatory beneath the stairway is conveniently located.

The drawing-room has a low Colonial wainscoting and an open fireplace with tiled facings and a hearth, and mantel made from a special design. The library and dining-room are treated similarly, and each has an open fireplace. The principal rooms on the first floor have floors of polished quartered oak. Unusual attention has been given to the butler's and serving pantries, and each is furnished with many cupboards, dressers, sink, etc., complete. These pantries and kitchen are trimmed with brown ash, and the floors are of spruce. The kitchen is fitted with all the best modern conveniences, and the chimney breast is faced with glazed enameled brick. The lobby is well placed, and the ice box is of large dimensions.

The second floor is treated with china white enamel, and it contains three bedrooms, fitted with large closets, and two bathrooms, besides two servant bedrooms and bath, which are placed over the kitchen extension, and are reached by a private hall and stairway, and also from the second floor of the main house. The bathrooms have tiled wainscotings and floors and porcelain fixtures with exposed nickelplated plumbing.

The billiard-room is trimmed with cypress, stained forest green, and the smoking-room is treated the same, with a fireplace with red brick hearth and facings and mantel. This floor also contains two guest rooms, bathroom, and a trunk room. A cemented cellar contains a furnace, laundry, fuel rooms, cold storage, etc. Mr. George Burnham, architect, 120 Exchange Street, Portland, Maine.

A HOUSE AT BALA, PA.

ON page 14 will be found an illustration of a house at Bala, Pa. The underpinning is built of rock-faced stone, and the first story is constructed of dark, rough, hard brick, laid in Flemish bond. The second story is of wood, with the exterior covered with shingles and stained a seal brown. The roof is covered with shingles, and is stained a moss green. The trimmings are painted white. Dimensions: Front, 25 ft.; side, 42 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft.; third, 8 ft.

The entrance is into a reception-hall, which is trimmed with chestnut, finished with antique brown waxed finish. It contains an ornamental staircase turned out of similar wood. The library is trimmed with oak, and has a chimney breast with oak mantel. The dining-room is trimmed with Antwerp gray oak. The butler's pantry, kitchen, and laundry are trimmed with chestnut, and are finished natural. Each apartment is fitted up with all the necessary conveniences.

The second floor is trimmed with chestnut and finished with antique brown, and it contains three large bedrooms and a bathroom, furnished with porcelain fixtures and exposed nickelplated plumbing. There are two bedrooms and trunk room on the third floor. The cellar, cemented, contains a furnace, fuel rooms, etc. Cost \$3,200 complete. Mr. C. E. Schermerhorn, architect, 430 Walnut Street, Philadelphia, Pa.

The cellar, a basement, contains hall, laundry, billiard-room, man's room, cold room, heating apparatus, etc. The cellar hall is so arranged that it connects with the main hall in first story in a convenient manner for using the billiard-room without going through the kitchen or servant quarters. The building is heated with steam and is provided with electric light. Mr. William D. Jones, architect, 245 Broadway, New York City, N. Y.

MR. CUDAHY'S VERANDA.

THE veranda of Charles Cudahy, Esq., at Thousand Islands, Canada, illustrated on page 17, is one of those charming, homelike, expansive verandas which are now so frequently built and which add so much to the pleasures of country living.

New Books

A HANDBOOK ON ORIENTAL RUGS.

HOW TO KNOW ORIENTAL RUGS: A HANDBOOK. By Mary Beach Langton. New York: D. Appleton & Co., 1904. Pp. 244. Price, \$2.00 net.

Several sumptuous recent books on Oriental rugs have prepared the way for this more modest volume, which has been published at a price so reasonable that no rug lover will hesitate to add it to his library. It is beautifully illustrated with photographs of rugs to the number of twenty, of which twelve are in color and very well done. The book, however, hardly approaches the value of a handbook in its text, which is not only deficient in information, but which contains not a few inaccuracies. To those, however, who have not made rugs a scientific study, it will be found of considerable help in exciting interest in rugs, in explaining the distinguishing characteristics of many of the chief makes, and in broadening one's knowledge of rugs in general.

The author's purpose, as explained in an introduction by Joseph F. Langton, has been the eminently practical one of telling her readers how to know Oriental rugs. The book is largely descriptive for this reason. A survey of the entire field is followed by chapters describing the various classes of rugs. Each is placed in its proper geographical environment as to the country where it is produced, and the manners and customs of the makers are set forth. The peculiarities of patterns, colors, materials, and workmanship are explained in detail.

There are four qualities, points out Mr. Langton, which commend Oriental rugs. First is durability. The life of the average domestic carpet may be reckoned by a few years, while that of the Oriental product can be measured by decades or generations. Second, should be named their artistic beauty of design and coloring. The Oriental workman knows how to combine colors. In a general way other makers are only imitators who reproduce designs found in the East. In the third place, we secure through them economy in furnishing. While the outlay at first is undoubtedly large, yet, in view of the wearing qualities of rugs, owners possess something which has real, permanent value. Fourth, may be named the sanitary conditions which attend their use. Housecleaning with rugs on the floor ceases to be altogether a terror. Indeed, housekeeping in general through them is simplified and placed under better hygienic conditions.

This is a very fair statement of the value of the Oriental rug in the modern house. All told, however, the most convincing argument for their use is their wonderful beauty and exquisite harmony of colors. The beautiful illustrations which accompany this book are quite convincing and sufficient testimony on this point, should any be needed.

EASY LESSONS IN ARCHITECTURE.

EASY LESSONS; OR, THE STEPPING STONE TO ARCHITECTURE. By Thomas Mitchell. Second edition. New York: The Industrial Publication Co., 1904. Pp. 92. Price, 50 cents.

It is impossible to summarize the history or meaning of architecture within the narrow scope of a volume so small as this, which is a reissue of an English work; yet the elementary information here printed will doubtless be found valuable by those who may have need of slight architectural knowledge and not know where else to find it. The book is arranged in questions and answers, and its contents is, of course, limited to the briefest notes.

LUMBER TABLES.

HANDY LUMBER TABLES. Containing board measure, plank measure, scantlings reduced to board measure, with other useful data and memoranda. New York: The Industrial Publication Co. 1903. Paper. Pp. 24. Price, 10 cents.

A handy little booklet of convenient tables, whose general scope is expressed in the title page.

NOTHING helps a room so much as color. Color is the dominant note in the interior. The shape of the room and the openings—windows and doors—are of the very greatest consequence in the general effect; but a good color scheme will thoroughly transpose a badly shaped and planned room into one of beauty, while a bad color scheme will as completely ruin it. A good color sense is essential in the proper decoration of a room, for a quite ordinary apartment may be made most attractive by a skilful use of color.



Sanitation

THE STERILIZATION OF WATER.

PROF. PATERNO, in a communication to an Italian academy, has suggested a process for the purification of water for private use. He has made numerous and extensive experiments looking toward that end, from the results of which he claims that, by adding to impure water, even that containing pathogenic microbes, an extremely small quantity of chloride of silver, there is accomplished the complete disinfection of the water. For this purpose two milligrams, or at the most two and one-half milligrams, of the chloride (a milligram equals .01543 of a grain avoirdupois) are sufficient to absolutely sterilize a liter of water and to eliminate every danger of infection. The process is simple, and may be used by any one and in every condition of life, the sterilization being complete after a few minutes—ten at the most—and no apparatus being necessary beyond a small vial with a solution of chloride of silver. The water keeps its flavor and all of its properties without modification, undergoing only a slight whitening, which disappears after a few hours of repose. Water purified by means of boiling, ozone, and all other processes known up to the present, when exposed to the air soon becomes impure, but Prof. Paterno's process is said to keep the water pure for many months.

PROTECTION AGAINST GERMS.

Is the germ fear a craze or a reality? Undoubtedly the human race has existed for some time in happy but unconscious existence with germs, and without any special disturbance that any one was aware of. To-day, however, the germs abound in everything, and the nervous man or woman surrounds himself with all sorts of means of protection against the inroads of the dreaded creatures. A positive demand exists for germ proof materials and germ destroying devices. Silver money scoops are made in order to handle unsterilized coins. There are germicide doormats which, being stepped upon on the right spot, emit a spray of volatile fluid which sterilizes the disease germs collected on the shoes from the dust and mud of cities. There are wind veils for men and women, intended to be worn over the mouths and noses as preventives against the inhalation of germs. There are fumigating attachments for letter boxes which, being compressed, are guaranteed to sterilize the recipient's mail before he touches it. There are tubular baths for hallways, used for canes and umbrellas. There are generators that sterilize carpets, walls, clothing, books, etc. There are pocket lamps for sterilizing cups at public drinking fountains. There are antiseptic communion cups with rotating brushes that wash the cups' edges as they pass from one communicant to another.

LIGHT AND SANITATION.

THE importance of sunlight to health was touched on by Sir James Crichton Browne in a recent lecture. He showed how it gained access to and caused nutritive and tonic effects upon the whole system through the optic nerve, brain center, and spinal cord. The blind were almost invariably feebly anemic and prone to illness. It behooved all good sanitarians to spread the light, to conserve it and to protect it from pollution. Fresh air, pure water, good drainage, unadulterated food, and well-ventilated dwellings were cardinal sanitary requirements, and white light must be added to their number. Hitherto its claims had not been sufficiently recognized, or else so many encroachments upon it would not have been suffered. In former days there were restrictions upon it in the form of a window tax, and now big windows were of little avail if we allowed buildings to be so constructed that the light could not obtain access. A window should be so placed as not to be overshadowed, and that the sunlight during some part of the day could directly fall upon it. It is impossible, he added, to witness without anxiety the piling up of houses that was now going on story above story because lateral expansion had become too costly. We see artisans' dwellings, warehouses, shops, mills, and mansions adding cubits to their stature and depth to their shadows. There are streets in London that are like tunnels, courts like damp cellars, and rooms, even in fashionable quarters, that no gleam of sunshine has ever entered. It is little wonder that so many of the London children were of puny limbs, poor, thin blood, and flabby muscles. He pointed out how the sun was veiled by a canopy of soot and noxious vapor, which not only hung over the towns, but extended into the neighboring country, so that they could hardly pick a flower or blade of grass without soiling the fingers.

A HOUSE AT GLENSIDE, PA.

THE house illustrated on page 14 has been erected at Glenside, Pa. The underpinning is built of rock-faced field stone laid up at random. The exterior framework is covered with matched sheathing, good building paper, and white cedar shingles, dipped in pearl gray stain. The roof is covered with shingles, and is stained a deep green. The trimmings are painted white. Dimensions: Front, 25 ft.; side, 40 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft.; third, 8 ft.

The reception-hall, parlor, and dining-room are trimmed with red oak, with plainly detailed trim, and are stained and finished with a weathered oak effect. The reception-hall has a screened effect between the hall and stairway, the latter being of an ornamental character. The butler's pantry and the kitchen are trimmed with chestnut, and are furnished with all the best modern conveniences.

The second floor is trimmed with chestnut, and contains three bedrooms and a bathroom furnished with porcelain fixtures and exposed nickelplated plumbing. There are two bedrooms and a trunk room on the third floor. The cellar, cemented, contains a laundry, hot water heater, and fuel rooms. Cost, \$3,500 complete. Mr. C. E. Schermerhorn, architect, 430 Walnut Street, Philadelphia, Pa.

RESIDENCE OF HARRIS PARKER, ESQ., AT ROCHELLE PARK, NEW ROCHELLE, N. Y.

THE illustrations shown on page 15 present the residence of Harris Parker, Esq., at Rochelle Park, New Rochelle, N. Y. The building is designed in an attractive manner, and it has many pleasing features, including the spacious piazza, with its brick enclosed terrace, and the numerous bay and dormer windows. The underpinning and the terrace to the piazza are built of clinker brick, laid with Flemish bond, and with black-headed bricks protruding at various intervals. The superstructure, of wood, is covered on the framework with matched sheathing, good building paper, and then shingles, which are painted white throughout, while the trimmings are painted dark bottle green. The blinds are also painted bottle green. The roof is covered with shingles and stained a moss green in good harmony and with pleasing effect. Dimensions: Front, 43 ft.; side, 42 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft.

The entrance to the house is through a vestibule into the hall, from which the various rooms are entered. At the rear of this hall there is a paneled seat, from the end of which the staircase, of ornamental character, rises to the second and third floors. The reception-room is separated from the hall by archways, supported on a column and pilasters of Colonial style, one of which is filled in with ornamental spindlework from the floor to the ceiling. This reception-room is treated with old ivory paint, and it has an attractive bay window and a paneled seat.

The library and dining-room are finished with open fireplaces trimmed with tiled facings, and hearths and mantels in harmony with the treatment of the rooms. The dining-room has a semicircular space in which an ornamental buffet is built, and at one side there is an arched alcove forming an entrance to the porch. The butler's pantry is fitted up with sink, drawers, cupboards, etc. The kitchen is furnished with a broad chimney breast, with slate hearth and range, a large store pantry, sink, dresser, etc., complete.

The second floor contains four bedrooms, nine closets, one of which is a linen closet, and a bathroom. The bedrooms are fitted up in a neat manner, two having tiled fireplaces. The bathroom is wainscoted and is furnished with porcelain fixtures and exposed nickelplated plumbing.

The third floor contains the servant quarters and a trunk room. A cemented cellar contains a laundry, fuel bins, heating apparatus, etc. Mr. George Kramer Thompson, architect, 66 Broadway, New York.

HOW WELLS ARE POLLUTED.

By a series of experiments which proved how readily deep wells and springs could experience pollution, the town of Quitman, Ga., has doubtless been saved from the danger of an epidemic of disease. In this place, says Harper's Weekly, the water supply of the town is derived from wells, and in planning a sewerage system it was proposed to dispose of the public sewage by discharging through a bore-hole into an underground stream. Two tons of salt were placed in the well where it was planned to empty the sewage, and the water from the various wells, which had been previously examined, especially as to their chlorine contents, was again analyzed, samples being taken at intervals during and some time after the experiment. It was found that the salt had permeated all of the wells in the town, demonstrating conclusively that disease germs could be readily communicated to the drinking water.



Civic Betterment

AN ENGLISH GARDEN CITY.

A GREAT deal of interest has been manifested in England in the last few years over proposals for civic betterment, for which the generic term, "The Garden City," has been used. A plan for a new city, laid out on the lines of the new movement, has been proposed near Letchworth, in Hertfordshire. It affords an interesting study in town planning.

For the central square of the town a level plateau has been chosen near the existing railroad station. From this plateau the ground slopes gently down on all sides, except toward Letchworth. The roads radiating from the central square, which will give ready access to all parts of the town, have been so planned that glimpses of the open country will be obtainable along them from the heart of the town, while they will afford good views of the central buildings to those approaching from the outskirts. Leading from the central square is the main avenue, on each side of which streets have been planned for heavy traffic or trucks; and on the island spaces thus left it is intended the main shops shall be built. The width of the roads will probably vary from 40 feet to 60 feet, with the exception of the main avenue, which will vary from 100 feet to 150 feet wide. During the earlier stages of development the roads will not be made the full width, but the directors will preserve ample space for future widening, and so avoid the necessity of repurchasing land for that purpose. The site for factories has been arranged adjacent to the railroad on the east side of the town, where there is a large area of level land, so that direct access to the railroad can be given to all factories that may require it. This area will be screened from the town by belts of trees, and the prevailing wind will carry the noise, dust, or any little smoke there may be away from the town. By planting the railroad banks and cuttings with trees and shrubs, it will be possible to greatly beautify the track through the town and considerably soften the noise of the trains.

The total area of the town as likely to be developed is, approximately, 1,200 acres, inclusive of Norton Common and roads, and to this has to be added the land which will be used for residential developments around Letchworth Park, namely, about 100 acres. Of the above total, about 110 acres are reserved for factories, railroad sidings, gas works and similar development. So, by adding 100 acres of Letchworth Park to the above area of 1,300 acres, it will be seen that considerably over one-third of the estate will be occupied by the town and the public parks, leaving the remainder for agricultural purposes. Provision is made for a population of 30,000 persons, or about 35,000, inclusive of the villages outside the town and the population engaged in agricultural pursuits.

HOW ONE MAY HELP.

Do you live in the city? Let people in your block put out trees; plant shrubbery between the walk and the street; cultivate a love for flowers; take all tags off trees and poles in the block; make the children a police force to care for and protect these things, and you will be training them for future usefulness, giving an object lesson to people in adjoining blocks and improving your own surroundings. Do you live in a village? Then you have a greater opportunity for work than elsewhere. If trees are needed, plant them for such persons as will promise to care for them and replace them if they die. Are the telephone and telegraph poles, the trees and fences within the corporation limits covered with bills? Get the village board to pass an ordinance forbidding it, and then take off those already on. If the papers and rags thrown around give your street an untidy appearance, place wire baskets labeled, "Please put waste paper here," at needed points. After these are in place ask the board to allow the street commissioner to empty them when full. It will generally do so, and you are educating the members. Are your depot grounds untidy? Set out trees and ask the help of the railroad company. If you have three or four women who will undertake to form an organization, form it, and you will succeed. Form it of women rather than men, for they are more economical and more willing to work with small beginnings, but do not reject the men if they offer to help; the united effort of men and women is the ideal combination for effective work, and if the children want to have a hand in it, give them their small tasks, bless them!"—Louise J. Pearson, in Park and Cemetery.

The Flat

New Building Patents

Publishers' Department

A NEW KIND OF APARTMENT HOUSE.

ALMOST every sort of apartment house would seem to have been invented and put into practical operation in New York, but a real estate journal has discovered a class of city inmate who is not yet accommodated with his special building, and proposes an apartment house of a new type for people of this sort—the “roomers,” the multitude who neither live in apartment houses nor hotels, but who simply rent rooms. The proposal, which is made with some detail, has an attractive air of profitability.

The plan, in brief, is to erect a six-story building on a lot 50 x 100 feet. The structure must be planned to meet the requirements of the hotel provisions of the building law. This necessitates fireproofing; but then, as a compensation, ninety per cent. of the lot can be covered, as against sixty-two per cent. under the stricter requirements of the tenement-house law. On each floor of the proposed building there will be twenty rooms, each room 9 x 15 feet, equipped with closets and hot and cold running water, and, of course, steam heat. A bathroom will be provided for each three rooms, so that, as the apartments will intercommunicate, it will always be possible to rent to a tenant that may require so much accommodation, three rooms and a bathroom as a single unit. Finally, an elevator will be installed.

This plan permits, in a building of the size mentioned, one hundred and twenty rooms, all of which, presumably, may be rented furnished for four or five dollars per room per week. It is calculated that a house of this character can be leased by the owner unfurnished to a lessee at the rate of about one dollar and twenty-five cents per week per room—the difference of three dollars and seventy-five cents being the amount assigned to the latter for the cost of furniture, and to meet running charges and provide profit, etc. Supposing the furniture of each room to be worth one hundred dollars, then the necessary outlay for the equipment of the house will be \$12,000. But not all of this amount will be required in cash. Perhaps not more than \$5,000 down will be needed, and the lessee's equity in the furniture will provide a security for the lease.

As to the owner's investment, it is supposed that he will pay \$50,000 for the land and \$65,000 for the construction of the building, \$115,000 in all, upon which he will carry a mortgage of \$75,000 at 4½ per cent., or better, if possible. And figured in this way, he expects a net return on his actual investment of \$40,000 somewhat as follows:

	Dr.	Cr.
Rent per annum, say.....		\$8,000
Interest on \$75,000 at 4½ per cent....	\$3,375	
Taxes, say	1,400	
Water rent, say	200	
Insurance, say	100	
	\$5,075	
Balance	2,925	
	\$8,000	\$8,000

Showing a profit of about 7.3 per cent.

A GORGEOUS APARTMENT.

THE reporter of a New York daily paper recently visited a lady who had installed her household goods in an apartment, the rent of which might be anywhere from \$25,000 to \$30,000 per year. As is naively remarked, a visit to such a place gives a glimpse of hotel life new to most people. A private elevator leading directly to the apartment to be visited brought the visitor to a hallway radiant with crimson electric lights, bronze busts, and tinted cupids. The reception-room was in white and gold. This room is described as filled with costly bric-a-brac—Dresden shepherdesses, naiads in Parian marble, bits of bronze, rare Dresden fans hung in gilded frames, pictures, delicate blue draperies, and ceiling decorated with flying doves that looked furtively down on chairs and tables that had the appearance of being constructed of solid gold.

Then followed a visit to the workroom of the occupant who, it appears, employed her time in the composition of hymn tunes. Then came a visit to the bedroom, where the lights disclosed a flash of iridescent Egyptian flowers of golden brown shading into crimson at every nook and cranny, above pier glass and mantel; for this was an Egyptian bedroom all gold and brown, the beautiful bed on a dais, very rich inlaid ebony, covered with cloth of gold embroidered in a soft dull brown Egyptian pattern. Above the bed, around it, and below bas-reliefs of marble Cupids held baskets of poppies, while on the ceiling more Cupids in mural decoration disported themselves.

The following list of New Patents relating to Building and Sanitary Science is prepared expressly for the SCIENTIFIC AMERICAN BUILDING MONTHLY by MUNN & Co., Solicitors of American and foreign Patents.

A PRINTED COPY of the specification and drawing of any patent in this list, or any patent in print issued since 1863, will be furnished from this office for 10 cents, if exact date or number is furnished. Remit to MUNN & Co., 361 Broadway, New York.

BRICK, STONE AND TILE.

GLASS FACED BRICK, TILE, ETC. E. Kaye, Monaca, Pa. May 3 758,973

HOLLOW BUILDING BLOCK. H. S. Palmer, Washington, D. C. May 3 759,010

TILING FOR FLOOR AND WALL COVERINGS. A. W. Nilsson, New York, N. Y. May 3 Design 36,906

TILING. J. A. Sloan, Trenton, N. J. May 17. Design 36,920

BUILDING BLOCK. F. W. Blakeslee, Ashtabula, Ohio. May 24 760,774

FIRE BRICK. F. W. Shupert, Hillyard, Wash. May 31. 761,418

CARPENTRY.

WEATHER STRIP. Dowden & Robb, Brooklyn, N. Y. May 3 758,626

HORIZONTALLY PIVOTED WINDOW. J. E. McGinness, Pittsburg, Pa. May 17 760,140

AUTOMATIC WEATHER STRIP. L. Rottler, St. Louis, Mo. May 17 760,254

WINDOW. Hausfeld & Luken, Cincinnati, Ohio. May 24 760,624

WEATHER STRIP. W. J. Perry, Red Cloud, Neb. May 31 761,395

CONSTRUCTION.

BUILDING SECTION. S. Hanson, Lambertton, Minn. May 3 758,645

FLOOR AND PROCESS OF BUILDING SAME. Wight & Townsend, New York, N. Y. May 3 758,728

ILLUMINATING STRUCTURE. F. L. O. Wadsworth, Williams Bay, Wis. May 3 758,877

COLUMN. J. C. Petersen, Racine, Wis. May 17..... 760,347

GRIDER AND JOIST CONNECTION FOR POST. Alschuler & Adler, Chicago, Ill. May 24..... 760,511

POST CAP. A. S. Alschuler, Chicago, Ill. May 24..... 760,512

WINDOW CONSTRUCTION. Hausfeld & Luken, Cincinnati, Ohio. May 24 760,626

BUILDING CONSTRUCTION. A. Haag, New York, N. Y. May 24 760,688

SHUTTER. C. D. Spalding, Baltimore, Md. May 24.. 760,764

SCAFFOLD BRACKET HANGER. E. Fegert, Cedar Falls, Iowa. May 31 761,156

CONCRETE AND METAL STRUCTURE. R. A. Cummings, Beaver, Pa. May 31 761,287, 761,288

STEEL BUILDING CONSTRUCTION. H. G. Hedgkins, Chicago, Ill. May 31 761,297

FIRE RESISTING CONSTRUCTION. O. Hanson, Seattle, Wash. May 31 761,375

ELEVATORS.

ELEVATOR. P. F. Foley, New York, N. Y. May 3.... 759,087

SAFETY CATCH FOR ELEVATOR DOORS. C. F. Stevens, Worcester, Mass. May 10 759,485

AUTOMATIC CLOSURE FOR ELEVATOR HATCHWAYS. J. W. McGhee, Arkansas City, Kan. May 17..... 760,139

ELEVATOR. J. J. Schwob, St. Louis, Mo. May 24.... 761,011

FIREPROOFING AND FIRE EXTINGUISHMENT.

HEAT ACTUATED ALARM SYSTEM. C. E. Buell, Camden, N. J. May 31..... 761,198

ELECTRIC FIRE AND BURGLAR ALARM. W. C. Barger, Mammoth, W. Va. May 31..... 761,572

AUXILIARY FIRE ALARM SYSTEM. W. L. Denio, Rochester, N. Y. May 31 761,636

HARDWARE.

LOCK. A. Meyers, Lyons, Iowa. May 3 758,676

SASH LOCK. A. J. Meljehee, Jackson, Tenn. May 3.. 758,679

LOCK. S. W. Peregrine, Trenton, Canada. May 3.... 758,849

SASH FASTENER. R. Baxter, Milton, New Zealand. May 3 758,952

SASH LOCK. Lorenzo H. Sparks, Warren, Ohio. May 11 759,642

SASH HOLDER. J. M. Bailey, Otto, Texas. May 17... 759,847

SASH BALANCE. C. Harris, Providence, R. I. May 24. 760,788

DOOR FASTENER. William Box, Yankton, S. D. May 24. 760,951

SPRING HINGE. E. Bommer, New York, N. Y. May 31. 761,057

SHUTTER FASTENER. H. E. Goodman, Dundee Lake, N. J. May 31 761,473

HEATING AND VENTILATION.

VENTILATOR. C. P. Tanner, Macon, Ga. May 3..... 758,720

VENTILATOR. T. M. Thompson, East Liverpool, Ohio. May 17 759,940

VENTILATING DEVICE. Chapman & Osborn, Watsonville, Cal. May 17 760,182

VENTILATING SYSTEM. W. S. Rogers, Cleveland, Ohio. May 31 761,405

VENTILATING, HEATING, AND COOLING APPARATUS. C. Cluthe, New York, N. Y. May 31 761,581

MISCELLANEOUS.

COMPOUND FOR COATING BRICK, PLASTERING, ETC. C. Jacobs, New York, N. Y. May 3 758,658

PLUMBING.

URINAL. D. Craig, Melrose, Mass. May 3..... 759,078

FAUCET. J. J. Delany, New York, N. Y. May 10.... 759,246

SINK. R. J. Meloney, Allegheny, Pa. May 10..... 759,457

WATER CLOSET. E. Rousseau, Montreal, Canada. May 10 759,473

CLOSET JOINT. W. E. Hinsdale, New York, N. Y. May 24 760,863

CLOSET CONNECTION. D. Keohane, New York, N. Y. May 24 760,874

URINAL. H. M. Williams, Fort Wayne, Ind. May 31. 761,278

VALVE OR FAUCET. W. T. Welsh, Cincinnati, Ohio. May 31 761,433

FAUCET CONNECTION. B. D. Knickerbocker, Chicago, Ill. May 31 761,505

TOOLS.

PLANE. A. F. Schade, New Britain, Conn. May 3.... 758,698

PLANE. H. M. Wood, Denver, Col. May 3 758,948

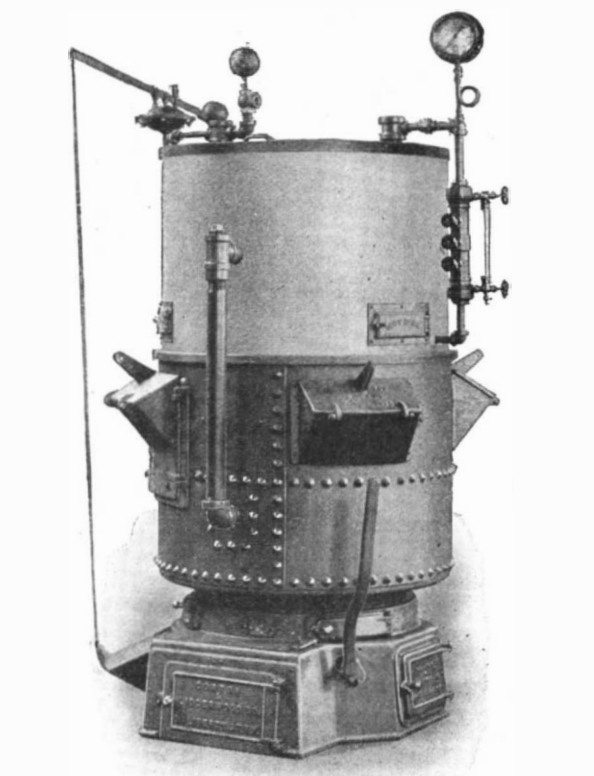
TROWEL. H. G. Meyer, Indianapolis, Ind. May 24... 760,466

SCREW DRIVER. O. Ohlson, Newton, Mass. May 31.. 761,391

SIDE FEED BOILERS.

THE engravings show the latest pattern steam and hot water boilers, manufactured by the Gorton & Lidgerwood Co., New York, Boston, and Chicago.

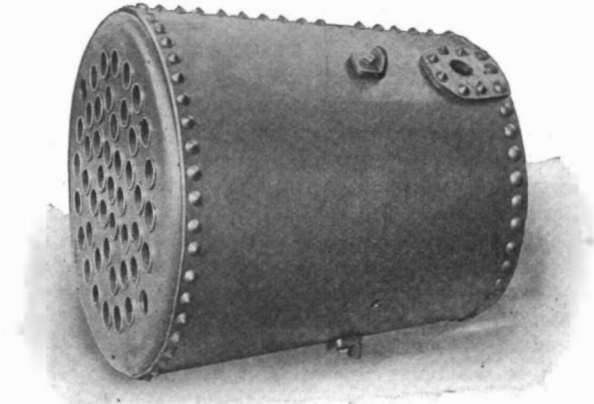
The Gorton side feed boiler is made in two parts, the tubular part, or the boiler shell, being directly over



THE GORTON SIDE FEED STEAM HEATING BOILER.

the fire, and the lower part, or the water leg, surrounds it. The two parts are connected by circulating pipes, one in front and one at the back, except in the four largest sizes, which have four of these circulation pipes.

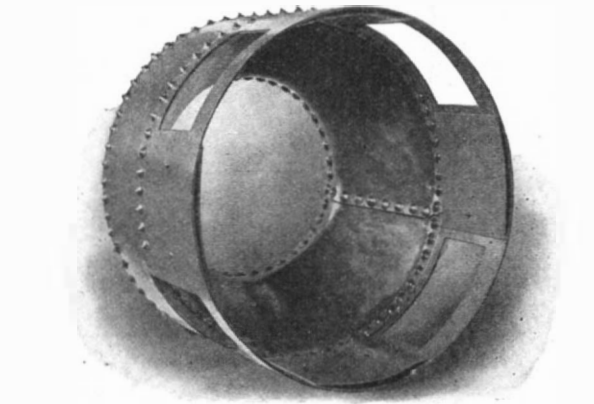
The boiler shell is supported by the lower jacket ring, which rests on the upper part of the water leg, and it is surrounded by a galvanized iron jacket. The



THE BOILER SHELL.

lower part of the shell extends down into the upper part of the water leg, and the space between the shell and the water leg is utilized for the coal reservoir.

The coal pockets are bolted to the upper part of the water leg and are equally spaced, so that in filling the reservoir the coal is evenly distributed. One pocket

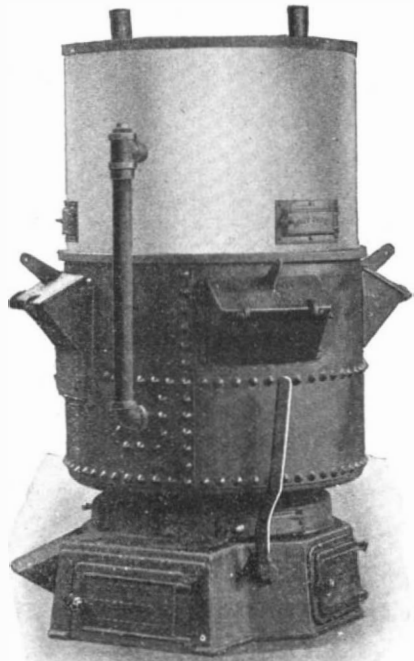


THE WATER LEG.

is larger than the other, and is hinged on so that it can be opened for getting at and cleaning the fire.

The inside of the water leg is cone shaped. The coal in the reservoir feeds down below the lower edge of

the boiler shell at an angle of forty-five degrees, toward the center, as needed for consumption, thus keeping an even depth of coal over the entire surface of the grate at all times. The boiler is at the proper distance above the grate to allow ample space between the top of the fire and the boiler for perfect combustion of the gases, which gives the greatest economy in fuel.



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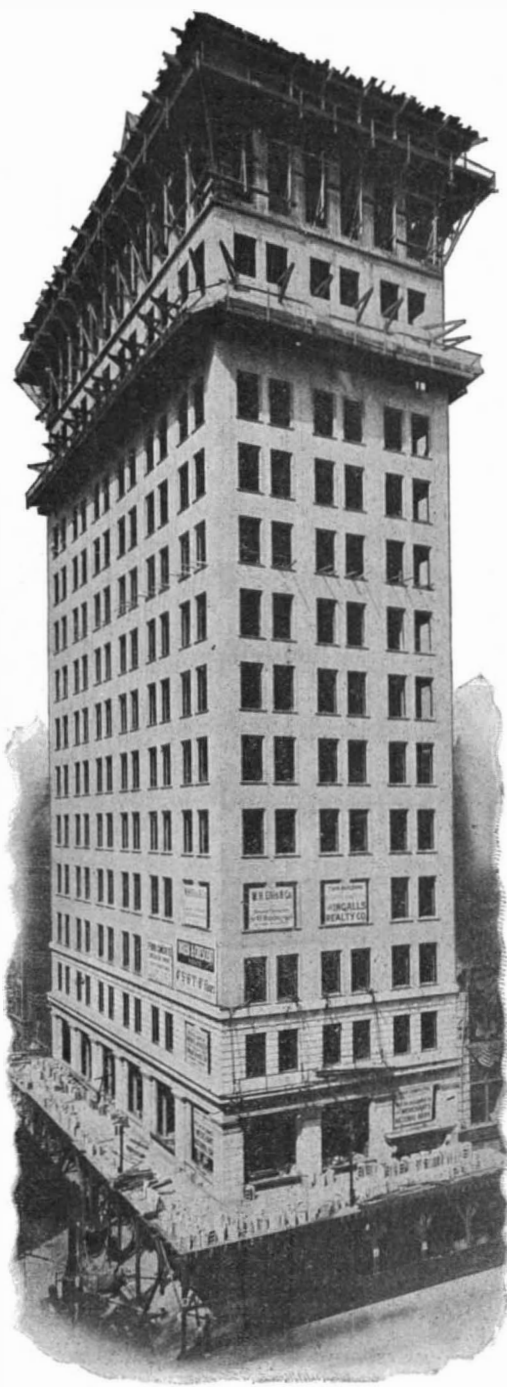
A METAL BOOTH

THE booth of The Berger Manufacturing Company, of Canton, Ohio, at the St. Louis Exposition, is located in the Varied Industries building, block 9, and is in the care of Walter W. Stevens, an able representative of this well known firm. The booth is constructed entirely of metal, and was produced in its entirety in the shops of the Company. It is in the Doric style of architecture, having columns, etc. The interior of the booth is handsomely finished in ivory white, and the columns in imitation of Italian marble, with the capitals in silver. The general scheme of the interior finish is for the purpose of setting off the beautiful and harmonious decorative possibilities in colors secured through the use of Berger's classified designs in metal ceilings and sidewalls. The extensive output of sheet-metal productions of this firm is well shown in the booth, including a line from its steel furniture department, showing up-to-date and skilful construction. The attractive appearance of the booth will doubtless draw the attention of thousands of visitors during the fair, and this firm will thereby accomplish a well planned scheme for information on and advancement of its productions.

A CEMENT BUILDING.

A NEW creation in building, and one so successful as to excite extreme interest among the building public, is shown in the accompanying illustration. The structure marks the highest flight of plastic material into architectural use, and stands for "what is practically a monolith of reinforced concrete." It was recently erected in Cincinnati, Ohio, by M. E. Ingalls, President of the Big Four Railroad, from plans of architects Elzner and Anderson, and is of more than the usual concern to expert builders; both because it is the first tall structure ever attempted in concrete, and also for the reason that "Tiffany" satin (dull) finish enameled bricks were used for the main part of the two fronts, from the third to the fifteenth story, the lower three stories being constructed of stone, and the upper two of ornamental glazed terra cotta. Mr. E. C. Shankland, in summing up his expert engineering report, in *Fireproof Magazine*, relative to his investigation of the Baltimore fire, says: "Granite and other stone will continue to be used for lower stories, but should not be put in any above the second or third." "Ornamental terra cotta has shown

itself to be much inferior to brick, and the latter should be used as far as possible." That enameled brick is a suitable material for exteriors, as well as interiors, is shown by its having been selected for such other buildings as the Third Church of Christ, Chicago, the Tribune Building, Minneapolis, Shukert Office Building, Kansas City, and the Sims Library, Waxahachie, Texas. The cost is not as high as granite or stone generally, nor as that of terra cotta; and its fireproof qualities, beauty and cleanliness should especially recommend it to builders. The wide popularity which this material enjoys is due to the facts that it does not craze or scale, that it withstands all climatic excesses, and that it is adaptable to various tastes, as it is made either in the bright, highly glazed, or satin (dull) finish. The latter does away with any glare, and gives a soft and pleasing effect in the wall. High-grade Portland cement, clean sand, with grains of unequal size, and crushed stone constitute the body of the concrete, and to show the extent of its use in this new edifice, and its particular features, we take the following statement from the *Architectural Record*: "The Ingalls Building occupies the entire area of a corner lot, 50 by 100 feet, and is fifteen stories and a full attic, practically sixteen stories, rising to a height of 210 feet above the sidewalks. The one-half of the basement is the usual twelve feet deep; but the other half, containing the power plant, is twenty feet deep. The foundations extend five feet below this, so that the entire height of the structure from the bottom of the foundation is 235 feet, entirely concrete-steel. In fact, it is a concrete box of eight-inch walls, with concrete floors and roof, concrete beams, concrete columns, concrete stairs; the whole entirely devoid of the usual I-beams, Z-bars, angle irons, plates, rivets, and bolts. It consists merely of bars embedded in concrete, with the ends interlaced, making actually a complete concrete monolith of the entire building, covered on the exterior with a veneer from four to six inches thick of white marble for the lower three stories, glazed gray brick for the next eleven, and glazed white terra cotta for the top story and cornice." As the new



INGALLS OFFICE BUILDING.

venture rose story by story, predictions were made of failure at important points. On this subject, a recent editorial on the building, in the *New York Times*, says: "During the progress of the work of construction grave doubts were expressed by persons assumed to be

competent critics as to the success of the experiment. They said it would never reach the height prescribed in the design; that if it did it would disintegrate and fall to pieces by shrinkage cracks, and that it could not possibly withstand wind pressure. But it was completed without difficulty or delay, it did not develop shrinkage cracks, and in the heaviest winds to which it has been subjected it has not shown a perceptible tremor." Praise can go no further. It shows the responsibility of the manufacturers, the Tiffany Enameled Brick Company, of Mokena, Illinois, and that of the architects, in completing this "skyscraper," has been courageously and scientifically taken. Valuable information on the subject will be sent free on request by the Company.

COUNTRY AND SUBURBAN HOUSES.

INTENDING builders, confident in their capacity to know just what is wanted as a country or suburban house, often have their conceits punctured by the early reminder, that, if building again, they would do it in



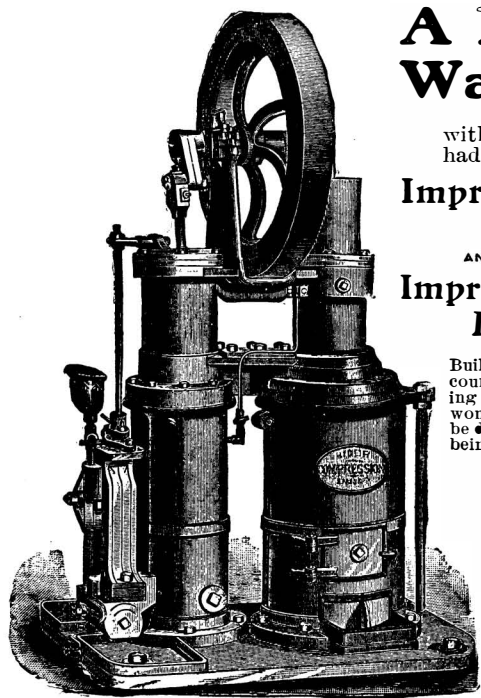
DUTCH COLONIAL HOUSE.

some different way. Not to be placed in this position, requires the advice of those experienced in all the methods of the allied building trades, and practical men connected therewith. This is secured in the services of an architect, and in a way pointed out in a very instructive publication on country and suburban houses, by William Dewsnap. It is in the form of a collection of interior and exterior perspective sketches and floor plans for up to date houses in the Colonial, artistic, English half timber and other styles; with introductory, general specifications, interior suggestions and advisory chapter to intending builders. As there is no art more concretely a part of our daily life, more strongly a means toward modern civilization, or more embracing the work of all artisans, it is a wise preparation of a home builder to have the aid of its professors. Whether the house be one of beauty of lines and proportions, of elegance of material, or one built in simpler or more economic manner, the spacing, lighting, heating, ventilating, and many appliances that add to comfort and pleasure, should be modeled on fixed principles of good design. Only in this manner, is the layman sure of avoiding an architectural outrage, a pitfall of discomfort, and securing convenience in arrangement, economy in planning and construction, ease, pleasing and harmonizing color effects, and furnishings. How often a fairly presentable frame is seen, of which the interior is laid out like stalls, or reversely, an inside plan of average appearance and convenience, handicapped with an exterior fashioned like a box. The portfolio under notice will not permit these architectural solecisms, but teaches the art of accommodation between exterior form, which gives style and proportion, and interior plan, which has vista and axis, that several rooms may be thrown into suite, that the impression given on entering is not a room of so many feet height or breadth, but of several rooms arranged in such a way as to give a good view from one into and through another, and perhaps over the grounds and landscape beyond. In treating on interior suggestions and general specifications, the architect, by fine illustrations and descriptions of the rooms of American homes, thoroughly demonstrates that it is an easy matter to build a satisfactory house if you have complete, accurately drawn plans, specifications and details. He reinforces this by a splendid presentation of a page of half-tone engraving and plans to each style of house, thirty in number, and including bungalow, English, Californian, Colonial, city, suburban, old English Colonial, Elizabethan, artistic, Dutch Colonial, English half timber, Southern Colonial, and double house styles. Besides the first and second floor plans, and the finished exteriors, there are separate illustrations of parts running from a china closet to a reception hall, a cozy corner to the large library, etc., and cost and specifications. The accompanying illustration shows a Dutch Colonial style of house, reduced about four times in size compared to those in the Dewsnap Portfolio, published at the American Tract Society Building, No. 150 Nassau Street New York, N. Y.

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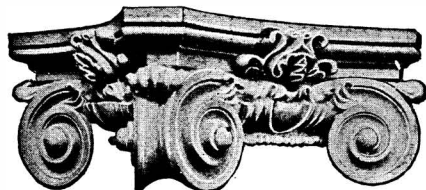
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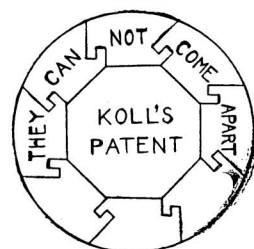


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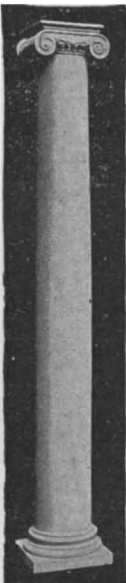


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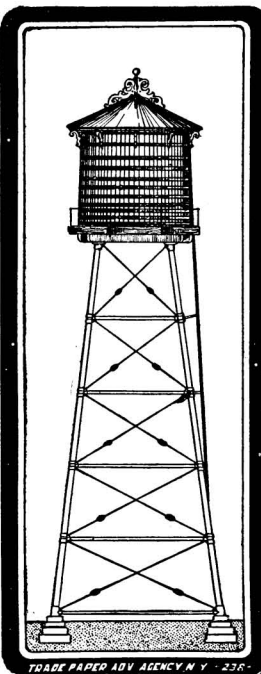
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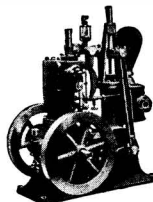
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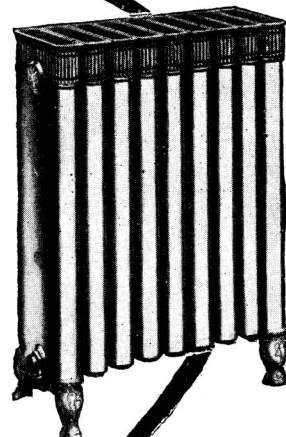
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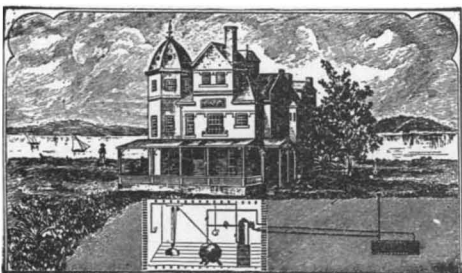
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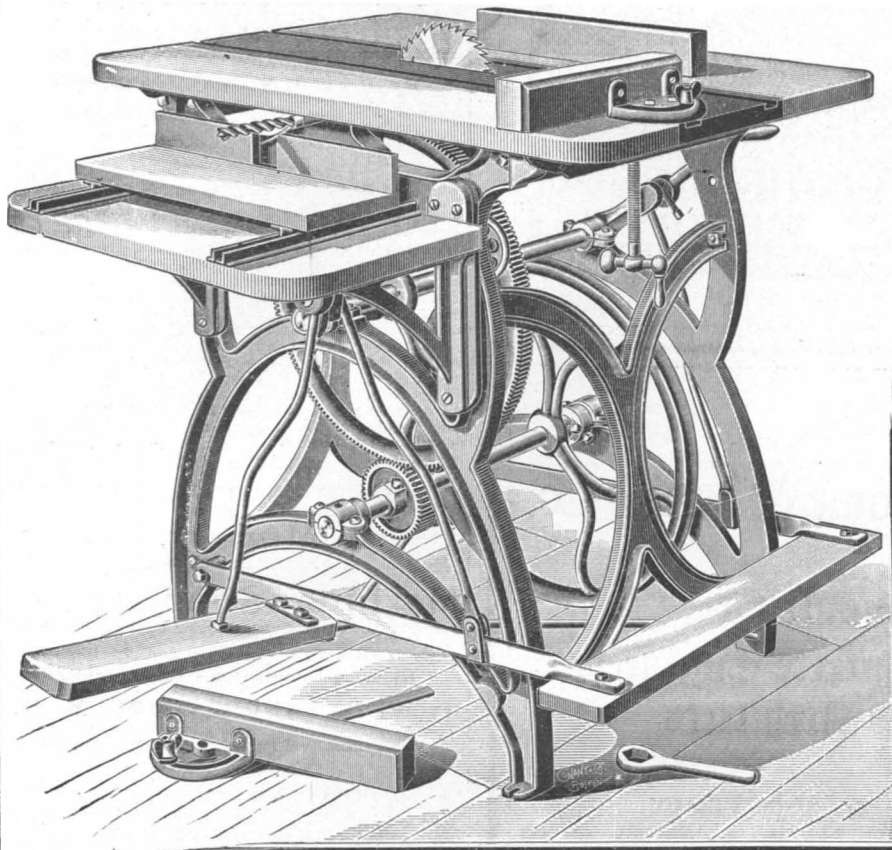


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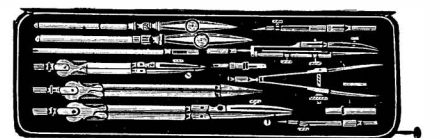


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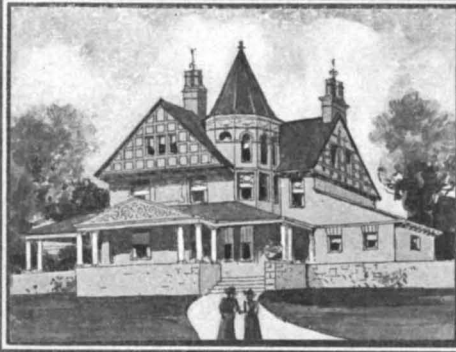
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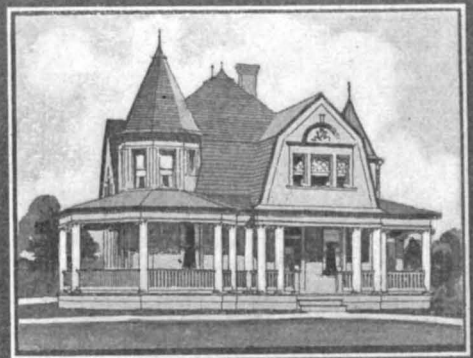
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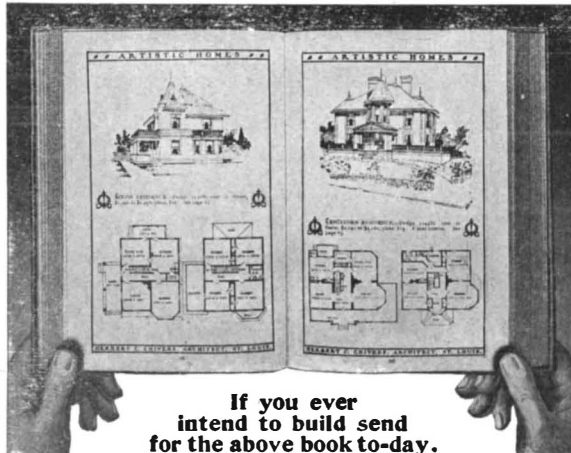
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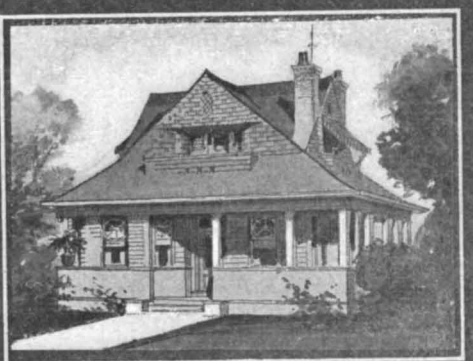
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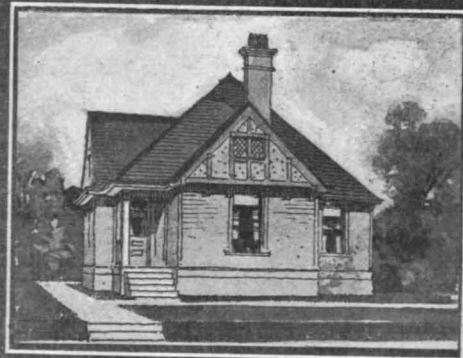
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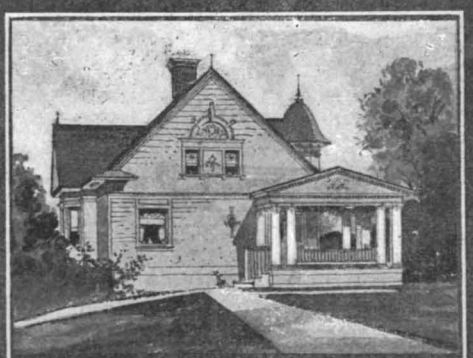
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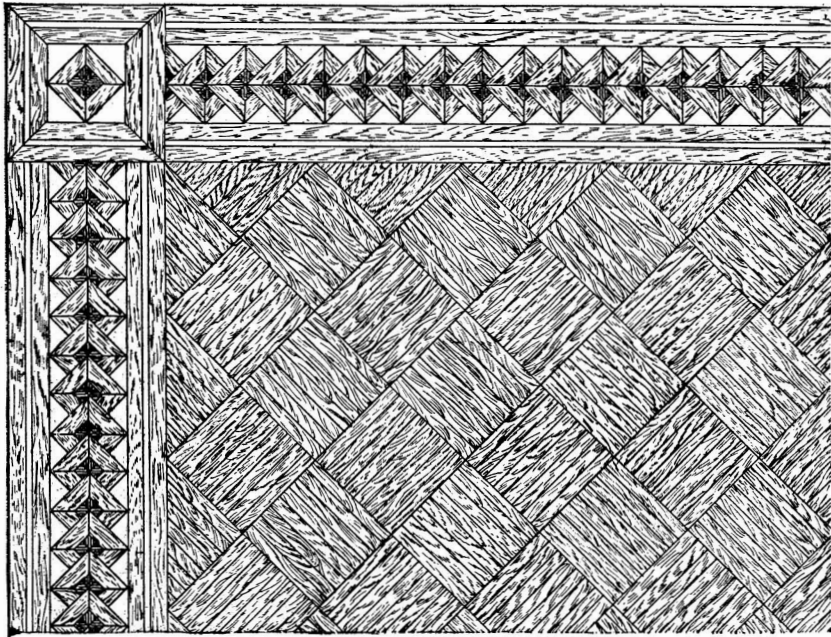


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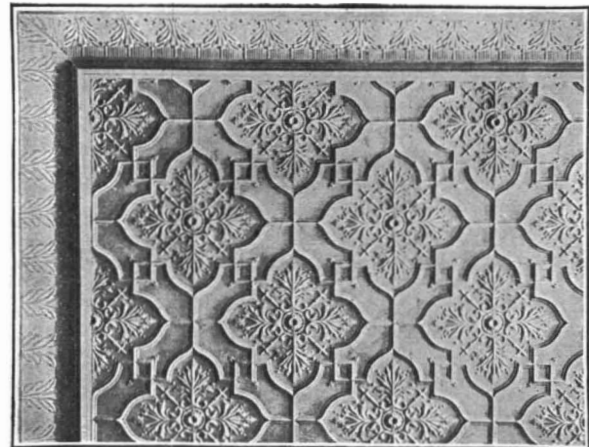
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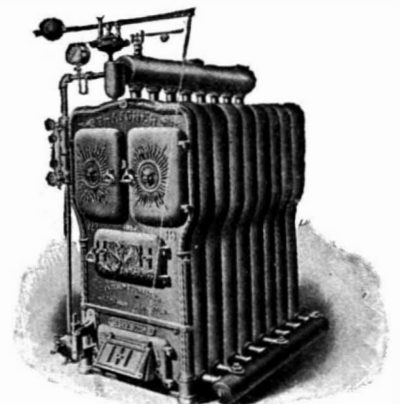
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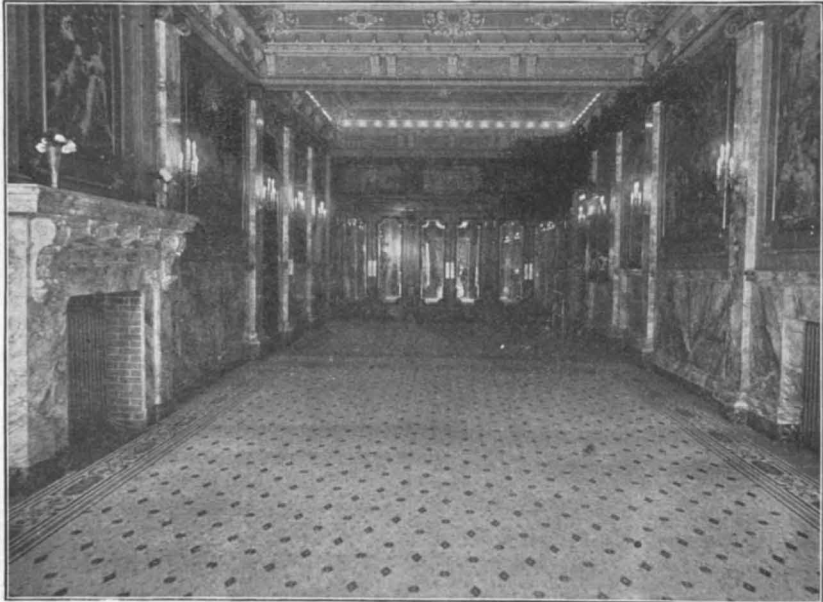
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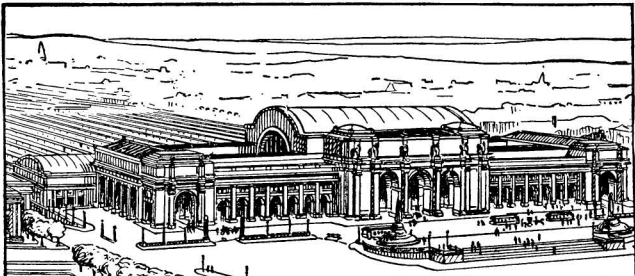
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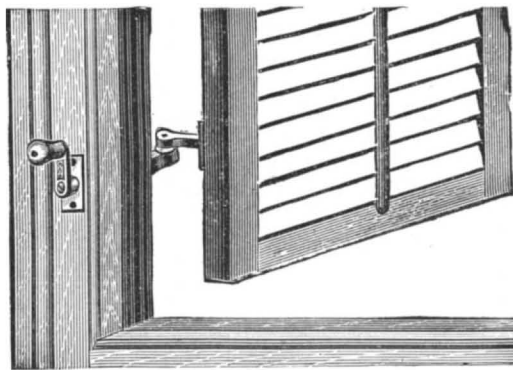
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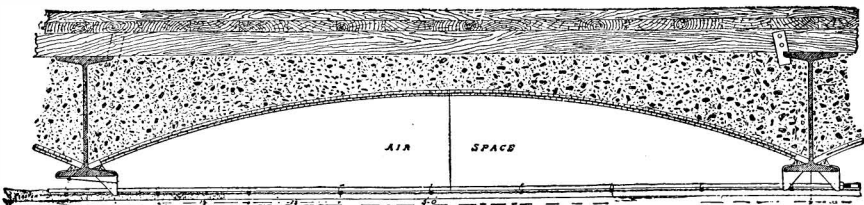
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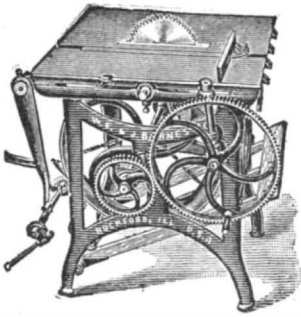
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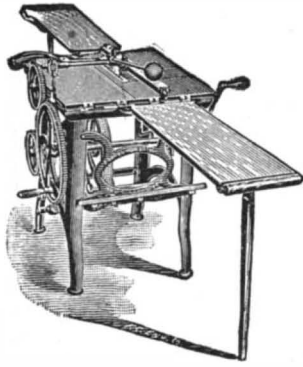
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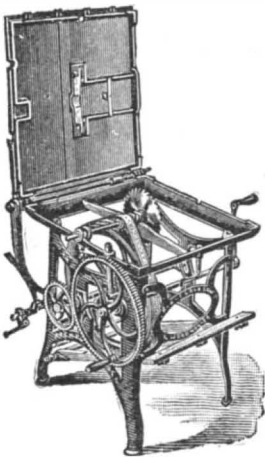
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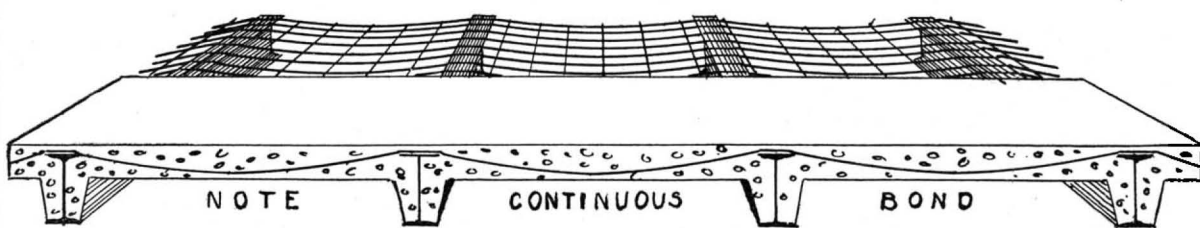


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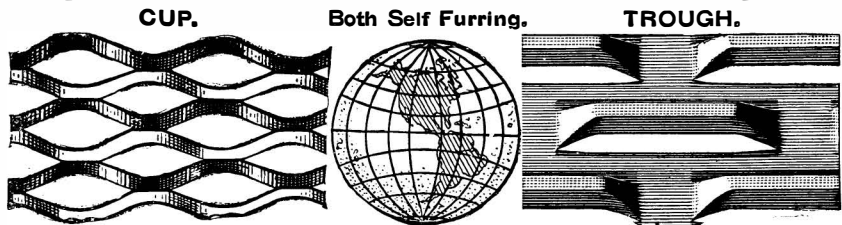
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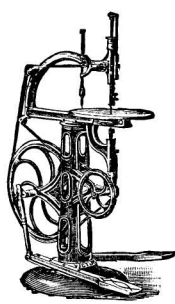


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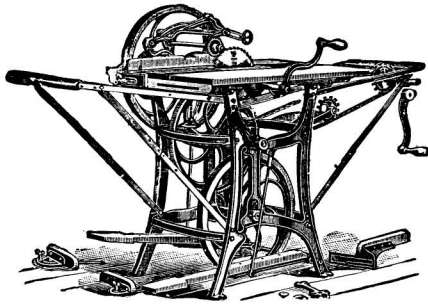
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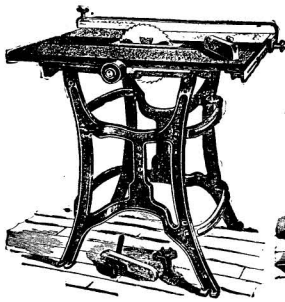
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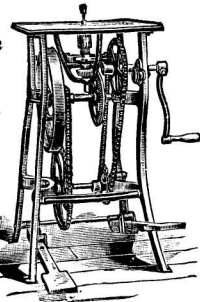
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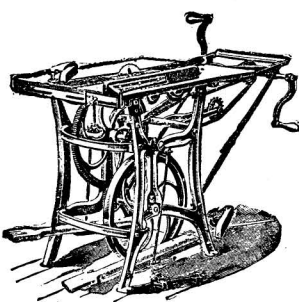
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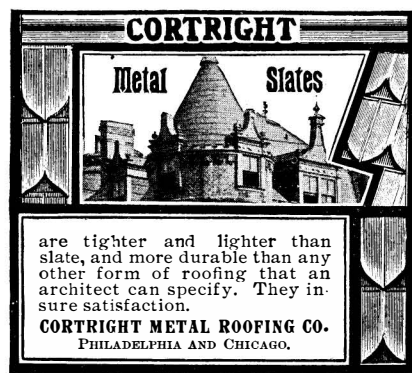
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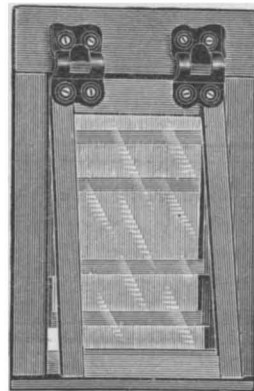
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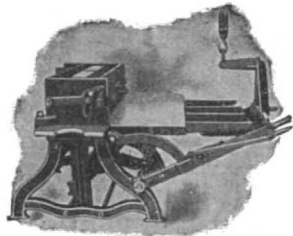
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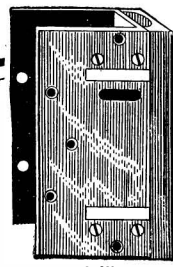
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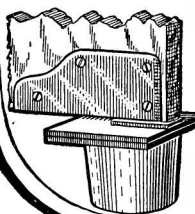
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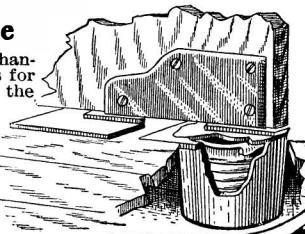
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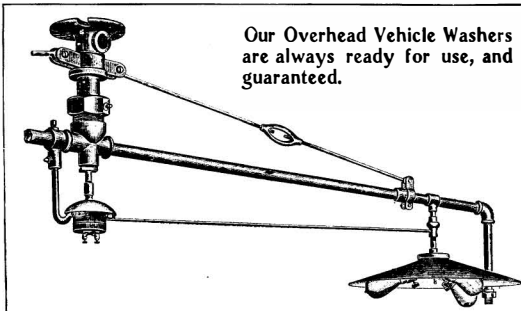
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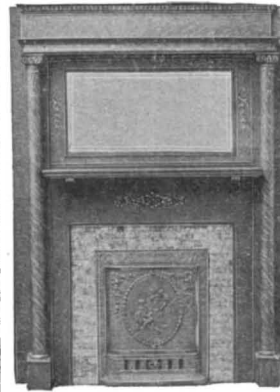
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JULY NUMBER

contains, among five plates in colour, reproductions of Whistler's "Bead Stringers of Venice" and Thomas Collier's "Sussex Common," with an appreciation of Collier's art by Frederick Wedmore, and a review of the Royal Academy Exhibition.

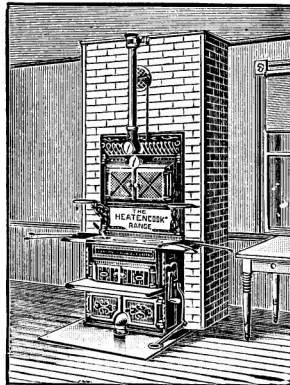
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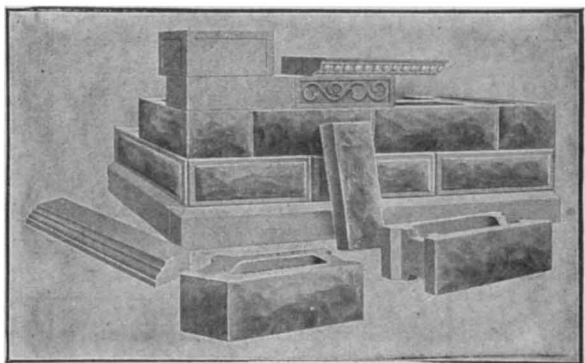
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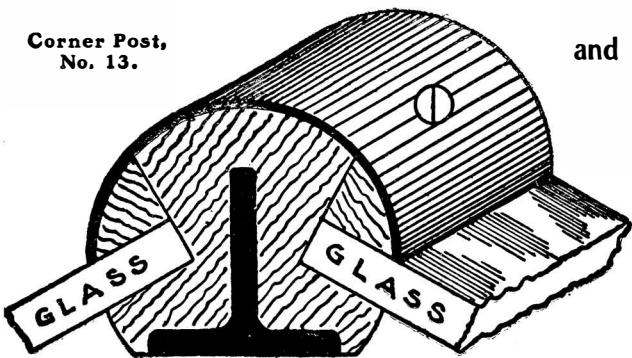
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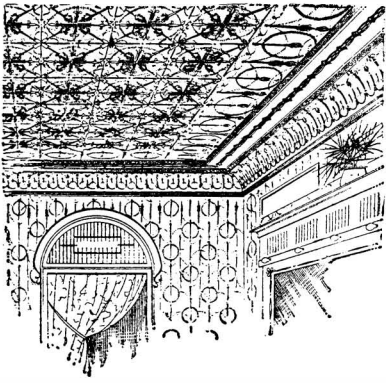
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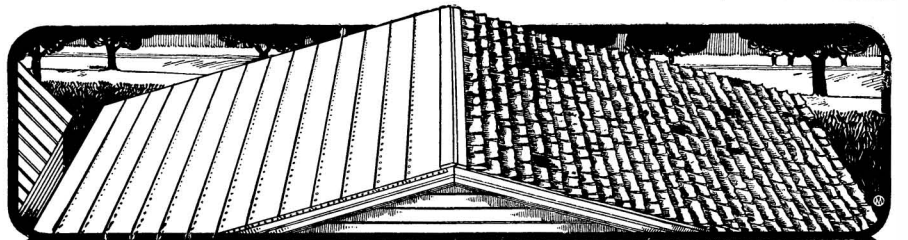
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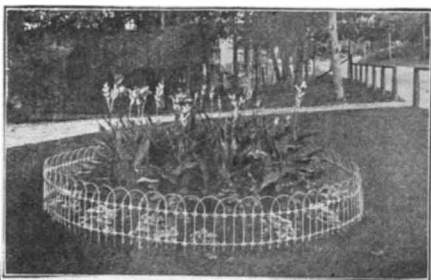
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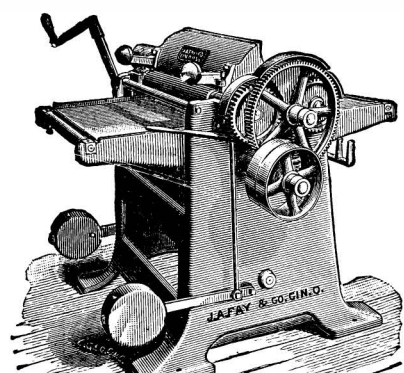
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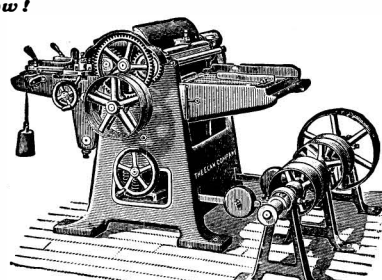
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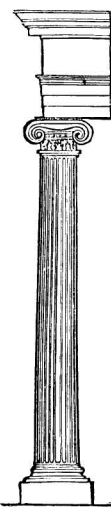
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