

SCIENTIFIC AMERICAN

Building Monthly.

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PORCH OF CASINO.

FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.—See page 47.
MESSRS. LITTLE & BROWN, ARCHITECTS.

SCIENTIFIC AMERICAN BUILDING MONTHLY

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

MONTHLY COMMENT.

THE localization of city buildings—of buildings used by the municipality for municipal purposes, is a feature which has not yet made much progress in this country. Our courts are located in one structure; our police stations in another; our fire departments in a third; the schools are necessarily placed apart. But there seems no good reason why the first three structures should not be grouped together; if not in one building, then in a group of buildings, all in touch with one another, and forming a civic center.

The advantages of administration would doubtless be the first element in bringing about such a coordination of civic buildings, but the civic advantages—the value of localizing public structures, of having, in each district, ward, or division of a city all the public structures at one point—a civic center—would be very great. It would be a very great help in civic progress if the people as a whole would be brought to realize that their immediate government had an outward and visible sign, an outward expression, a definite habitat, observed and known of all men, readily approached and conveniently located. And if such a center were given fine architectural form, as it should, a useful lesson in public art would also be given.

AN almost revolutionary experiment in municipal beautification has been undertaken in Mexico, says the Evening Post, where the people traditionally put off everything till to-morrow. The mayor of the city in question, as if it were the most natural thing in the world, has issued an order that all the houses in the place shall forthwith be painted. Of course, the first aspect of the situation to appeal to a lay reader is its effect on the labor market. The place will certainly become a Mecca for journeyman house and sign painters. One month is allowed for the refurbishing

of the whole community. Under union rules, each man may paint only a certain number of houses a month, and it is a simple calculation to divide the number of houses by this maximum monthly output. This done, the authorities will doubtless count the painters as they come in, and shut the gate after the necessary number are inside. Has the mayor stopped to think what the conditions will be after the month is over? Every house will be spick and span. There will not be a single job of painting to be done, except on newly built houses, for three or four years at least. Can a painter live through that period on the savings of his profitable work this month? Normally, in a well-regulated town, a certain percentage of the houses need painting each year, just as a certain proportion of United States Senators need reelection. In this case, after a few years of equal but gradually diminishing freshness of color, all the houses will again, presumably, need painting at the same time, and so on, *ad infinitum*. No painter will ever again earn moderate but regular wages in that town. Periods of entire stagnation will alternate with periods of hysterical activity. This is the result from the most practical point of view. Considering the thing esthetically, it is a bad precedent for any man to transform a weather-beaten, and possibly picturesque and quaint old town into something staring, prismatic, new, and smelling of turpentine.

THE time for the opening of the St. Louis Exposition is close at hand, and the most remarkable of such undertakings will be in full view. Popular interest does not appear, as yet, to have been keenly excited over this exhibition. The advance advertising, as the preliminary notices are called, has not been well done. There is a very general impression that it will be a St. Louis affair first, and anything else after. That St. Louis is far from being an ideal location for a great international exhibition is undoubtedly true; but stupendous efforts have been put forth to make the coming show a success, and a very brilliant success, and there is no doubt but it will be everything its projectors have hoped it would be. The St. Louis Exposition will be a very great architectural and artistic display, and will be the greatest object lesson in festival architecture this country has yet had.

THE INTEREST OF HOUSES.

EVERYTHING that promotes a thought, excites comment, arouses discussion, or affects the mind of mankind in any way possesses interest. This interest is not always of equal degree; various objects, as various circumstances, arouse varying degrees of interest; every human being is not interested in fine scenery or in good art, or in good taste, or in good houses; but all educated people know of these things, and quite a number are more or less deeply interested in them.

Houses—using the phrase as a generic one to include buildings of all sorts—should be of the utmost possible interest to every intelligible person. Houses are the life-long companions and containers of the human race. Companionship is one of the most human of qualities; we are ever with our houses, for without them we would perish of cold in the winter, or perhaps languish in a burning sun in the summer.

The house, which originated in man's need for shelter, has become one of the most varied and useful and ornamental aids to civilization. The house determines the occupation of one's life; it is either passed within a house or without it, a law so true and definite that the sequence of day and night is no more certain.

Have not houses, then, a rightful interest, and a very pronounced one? That interest is of a most varied and often of the most delightful character. This, indeed, is the chief element in a house's interest, this interest of delight. A house should give joy by its form, its material, its construction, its color, its detail; every part of it should be delightful and speak of pleasure and peace; of restfulness, if it be a restful building; of gaiety, if it be a structure put to frivolous uses; of solemnity, if it be a solemn edifice; of sacred things, if it be put to holy uses. But over and above all these special characteristics, the house should give joy by its general aspect, exactly as every element which determines that aspect—and some of these qualities have just been rehearsed—should have the same quality, must have it, indeed, or the sum total of the parts will fail direly.

Then, again, the interest of houses is apparent in their character. A house, a right kind of a house, has character—personal, individual, definite character—exactly as a man has—or should have. All houses do not express this quality in the same way; even houses built and designed by the same architect have been known to exhibit a character quite distinct from each other, as though they were not the product of the same mind. But a house should at least have an honest, straightforward air, if it can not be beautiful or decked out with the frills of high art. The latter, it is well to note, seldom add to the interest of a house, because

they are generally artificial, and the artificial in a house is exactly as entertaining and as interesting as it is in a human being, no more and not otherwise.

It is a most mistaken notion that the interest of a house increases in proportion to its elaborateness. The architects are not indisposed to support this view, since every one who has had to do with building is aware of the definite fact that the more elaborate the house, the more it costs; and most of those who know this much know also that increased cost means an increased commission for the architect. More brain matter is expended, no doubt, in the making of most elaborate designs, more wear and tear on the architectural conscience; but it is paid for, every cent; much of it is well paid for; and mental activity that is amply compensated for has about as great a reward as it is possible to have.

And this is just the point at which the public, the great public, unlearned in matters of architecture, goes to pieces. It seems impossible to believe that a vast house, built at great cost, designed in a most elaborate style, decorated, it may be imagined, with gables and dormers, with pinnacles and columns, with pediments and cartouches, may be of the smallest art interest—for art interest is, of course, the chief end of building—and not worthy of an honest man's momentary consideration. Yet a simple little structure next to the great fancy house may have a real interest, a true merit, that its more grandiose neighbor can not begin to touch.

Why is it? It is because of the indefinable qualities which tend to success in building. Good taste can not be defined, art itself is difficult of definition, excellence in building can not always be set forth by rule and law; but the finer qualities, the personal touch, the innate knowing of how to do a thing and then doing it, the expression, the method—all count in bringing about a result which yards of ornament, tons of sculpture, heaps of detail, masses of substance can not emulate or so much as give the hint of.

Houses are of interest when they have character, when they have expression, when they display taste in their design, when the design is well composed, when the parts are well proportioned and in scale, when the color is good, when there is suitableness in design, when the environment has been consulted in their erection, when they speak of purpose, and when they proclaim on their exteriors that they have been designed by thinking, careful, well-trained men. Questions of cost, of costly material, of costly ornamentation, of elaborate show, of visible splendor for splendor's sake, have nothing to do with the case, and are absolutely beside the point.

Houses take on a new and special interest when the people who live in them take a real and living interest in them. The untidy garden is a sure test of lack of interest in one's immediate surroundings; a house need not seem untidy to proclaim lack of interest in it—that may be more difficult to demonstrate—but it is at least very certain that real, definite, personal interest on the part of the inmates will soon be apparent without, exactly as it is very early indicated within. It may be manifested in a score of ways, but it is sure to be evident, and in a more or less direct manner.

The mere grouping and erection of houses has a special interest. The interest of a barren field is apt to be of a very rudimentary sort. Sow it with seed and produce a crop, and it takes on a new interest which may be real and special, dependent, in most instances, upon the color, form, and extent of the plant grown. Remove it altogether from agricultural purposes, cut streets through it, grade them, plant them with shade trees, build houses on them, and the whole aspect of the landscape is changed. If it has been a barren tract without natural features, the change has been for the better; if it has been full of natural beauty, the change has been for the worst. But the point to remember is the change which has come over the land. People are drawn to it, primarily, of course, because other people have settled there; but the mere building of the houses is given a fresh note of interest.

Or it should. That it does not do so always, there are countless examples to demonstrate; but there is always the possibility of houses improving. As a matter of fact this improvement has now become very definite. Not that every new house is more artistic than its predecessor; such a statement would be grossly untrue—but people are, more and more and every day, awakening to the increased interest of good houses; they have become aware of the financial value of fine houses; they are realizing more and more the merits of good-looking houses; they are beginning to understand that a good house is a good thing, and that it has an interest that bad houses can never have. Every one is not yet interested in houses, interested in them as works of art, as helps to human betterment, as aids to landscape beauties; but more people feel these things than have felt them in the past. Surely the world is moving in architectural matters, even if that movement seems, at times, erratic, perverse, and twisted.

TALKS WITH ARCHITECTS

BY BARR FERREE.

MR. CHARLES A. PLATT AND THE GARDEN OF FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.

It is a wonderful view that one obtains from the terraces of Faulkner Farms, Mrs. Sprague's beautiful place in Brookline, Mass. It is a view to inspire one—not once, indeed, but many, many times; a view stern and white, yet withal fantastic with the snow of winter; and in summer, alive with, it would truly seem, all the greens that Nature has painted for the delectation of mankind.

There are, of course, many ideal sites in the world, sites which seem ideal once their surpassing beauty has been pointed out; doubtless there are finer situations, more entrancing views, more fascinating scenes than may be observed from the eminence on which the dwelling house of Faulkner Farms has been placed; but the situation is of such rare and unusual beauty,

something quite different from simply photographing the gardens—much intimate personal intercourse with the gardens of Italy, have given him an unusual mastery of the subject.

The designer of an Italian garden needs, perhaps, more than anything else, a thorough appreciation of their wonderful beauty and a penetrating insight into the causes of their splendor. The mind, the thought, must be understood, or the forms—the material, the plants, the shrubs, the trees—will not yield up their entire quota of satisfaction. The readers of Mr. Platt's interesting book on Italian gardens, the art lover familiar with his very fine photographs, must be aware how intimately he has studied these wonderful places, and how thoroughly he has mastered them and their principles.

The problem of creating an Italian garden at Faulkner Farms did not differ, in some respects, from the problem that, in a similar shape, has been presented a number of times in New England. Italian gardens are no longer novelties in America, and even cold, bleak

own personality upon every part of the art work with which he is connected.

I have alluded to Mr. Platt's fine mastery of the Italian garden, and it remains to note, briefly, how he has applied that mastery to the gardens of Faulkner Farms. The estate is a large one, and includes all the paraphernalia of the great country estate. Mr. Platt's work, however, has been solely in relation to the grounds immediately surrounding the house. That, as I have said, was already built before he was called upon to undertake the transformation of the immediate vicinity of the residence.

The general plan is simple. The house is a vast rectangle. A broad drive leads up before one front, where is a great graveled forecourt, that affords ample space for waiting carriages. Beyond it—to one's right as one drives up to the house—is a grove of trees, largely planted by Mr. Platt, and adorned with a fountain at each end. The central path leads up to a beautiful circular temple which stands on a level space on the apex of the hill on which the house is built.



THE POOL BEFORE THE CASINO.—FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.

that it could not but have been a source of special inspiration to the architects who created this beautiful place.

Faulkner Farms, as it is to-day, is the work of several men. The house is an entire rebuilding of an older structure that long occupied this position. Messrs. Little & Brown, the Boston architects, have entirely remade and remodeled it, so that hardly a suggestion of the original structure now remains. It is a stately mansion, generous in dimensions, excellent in scale, and characterized by a quiet sumptuousness quite in keeping with its position as the residence of a great estate, and yet happily devoid of the sometimes gaudy elegance introduced into country houses as large as this one.

The supreme attraction at Faulkner Farms is the garden. This has been entirely due to the skill and taste of Mr. Charles A. Platt, of New York, whose work in landscape design has brought him much fame. Mr. Platt's mastery of the spirit of Italian gardening is, if not complete, at least excelled by none. Much time spent in Italy, much time spent in an intimate study of the best Italian gardens, much time given to photographing them in their most artistic aspects—

New England dares to compete, in its hot, luxurious summer, with the vegetarian splendors of Rome and Florence. There was no element of novelty in the idea, therefore, and some of the conditions were not ideal.

The house had already been built before Mr. Platt was called in and the designing of the gardens begun. A less skilful landscape architect would have found this a well nigh insurmountable drawback. A fundamental canon in landscape work is that the architect and the landscape designer shall work in harmony. For the end and aim of landscape work is harmony, and it is obviously impossible to secure this chief end if the landscape work is clapped on as an afterthought. It is to Mr. Platt's credit that no such suggestion is made by anything at Faulkner Farms. In terraces and retaining walls, in approaches and steps, and in the house itself, the culmination of the whole, he has had to contend with work designed by other minds than his, work intended, perhaps, to be seen in combinations other than those he combined it with. To him, of course, the work lacks that unity that he would have given it had he been called earlier into the matter; but this is no more than the conscientious feeling of the true artist, who naturally wishes to impress his

The formal garden, the Italian garden, the garden, is to the right of the house. It is not too large, the total area being about 200 by 113 feet, but it is of ample dimensions, and here Mr. Platt has lavished all the resources of his fine art, and translated the spirit of the Italian garden, as well as its forms, to this fine New England hillside.

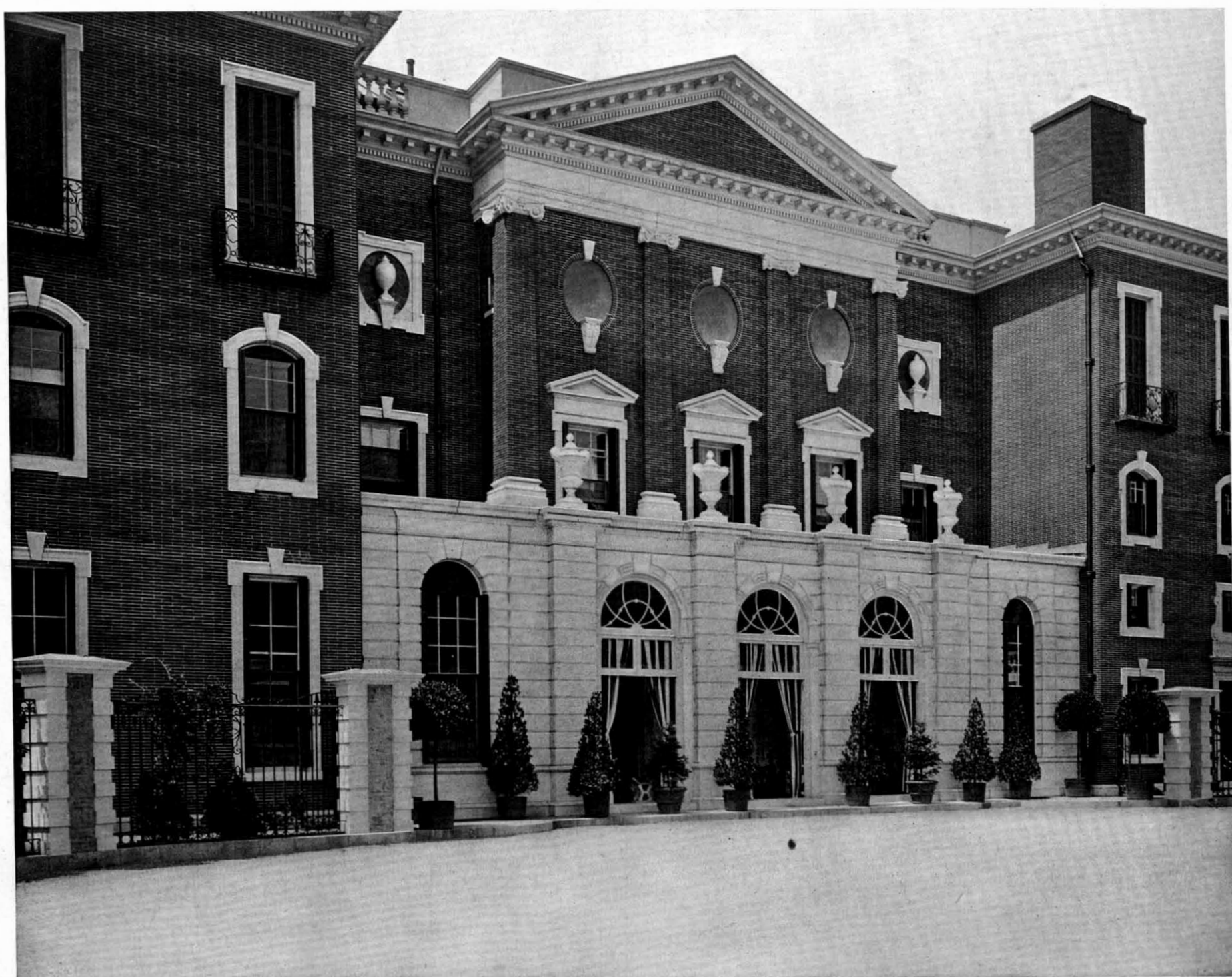
At the furthest point from the house, and marking the limits of the garden, is the Casino, a graceful, charming structure, entirely unenclosed on the garden front, and decorated within in the Pompeian style in colors, a novel and effective piece of decoration. Before it is a pool with a fountain, and on either side stretch the columns and piers of the pergola.

The gardenmaster is supreme here. Architecture comes into use only in the boundary enclosure; but it is employed in strong, graceful lines, in well built walls, in admirably proportioned columns, in sturdy piers. The Casino is at once a summer-house and a retreat, and the climax to the garden as a whole. The pool before it brings the charm of water into the garden, a charm so penetrating and so real, that the waterless garden seems barren and incomplete. The whole

(Concluded on page 60.)

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THE HOUSE, FAULKNER FARMS: ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.

No. 221

MARCH, 1904

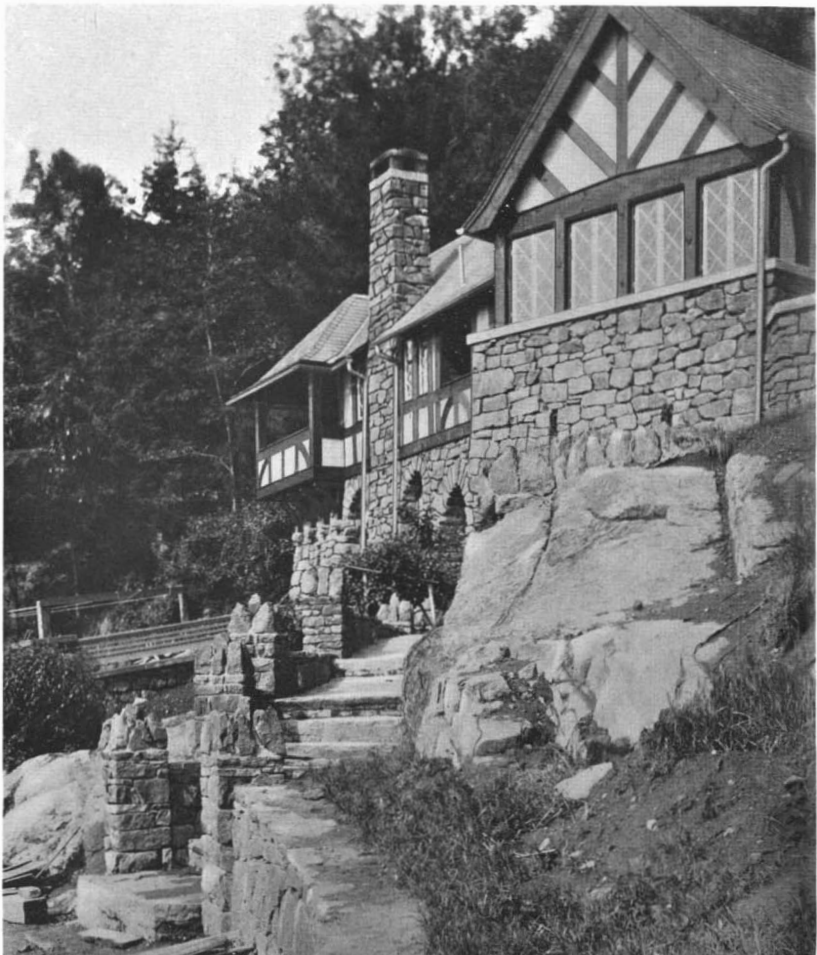
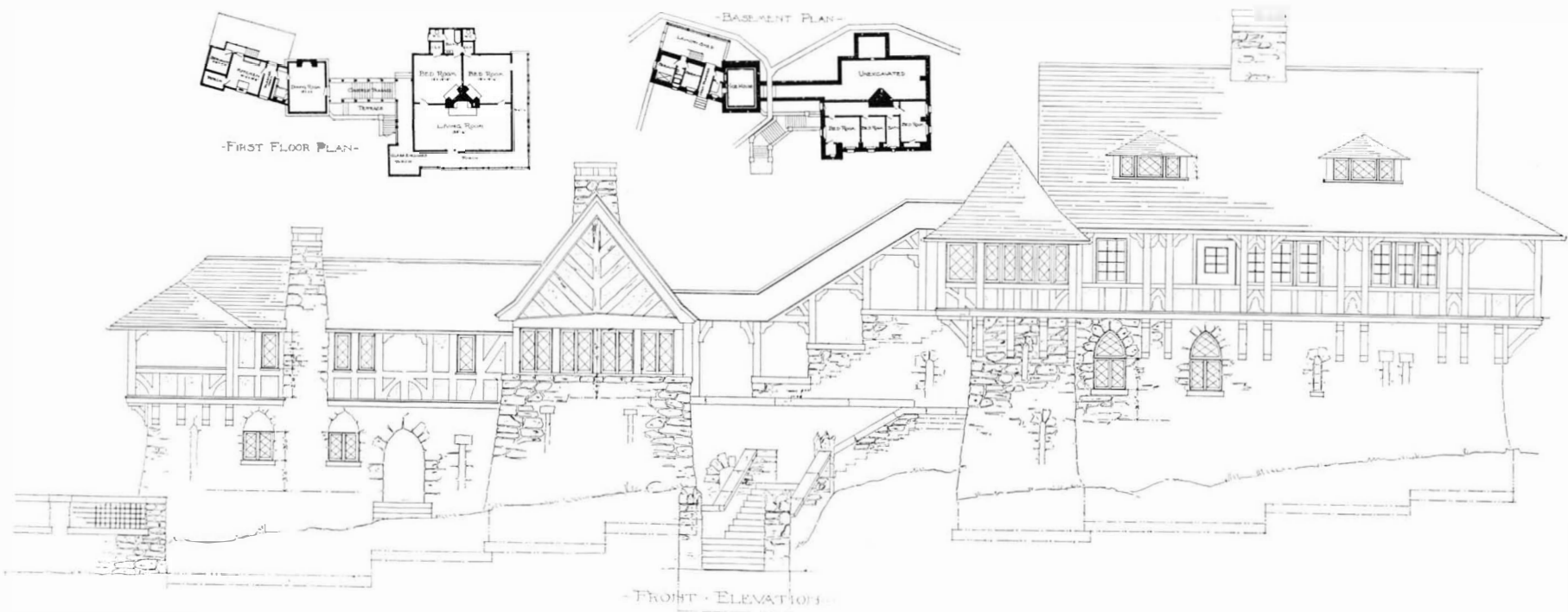
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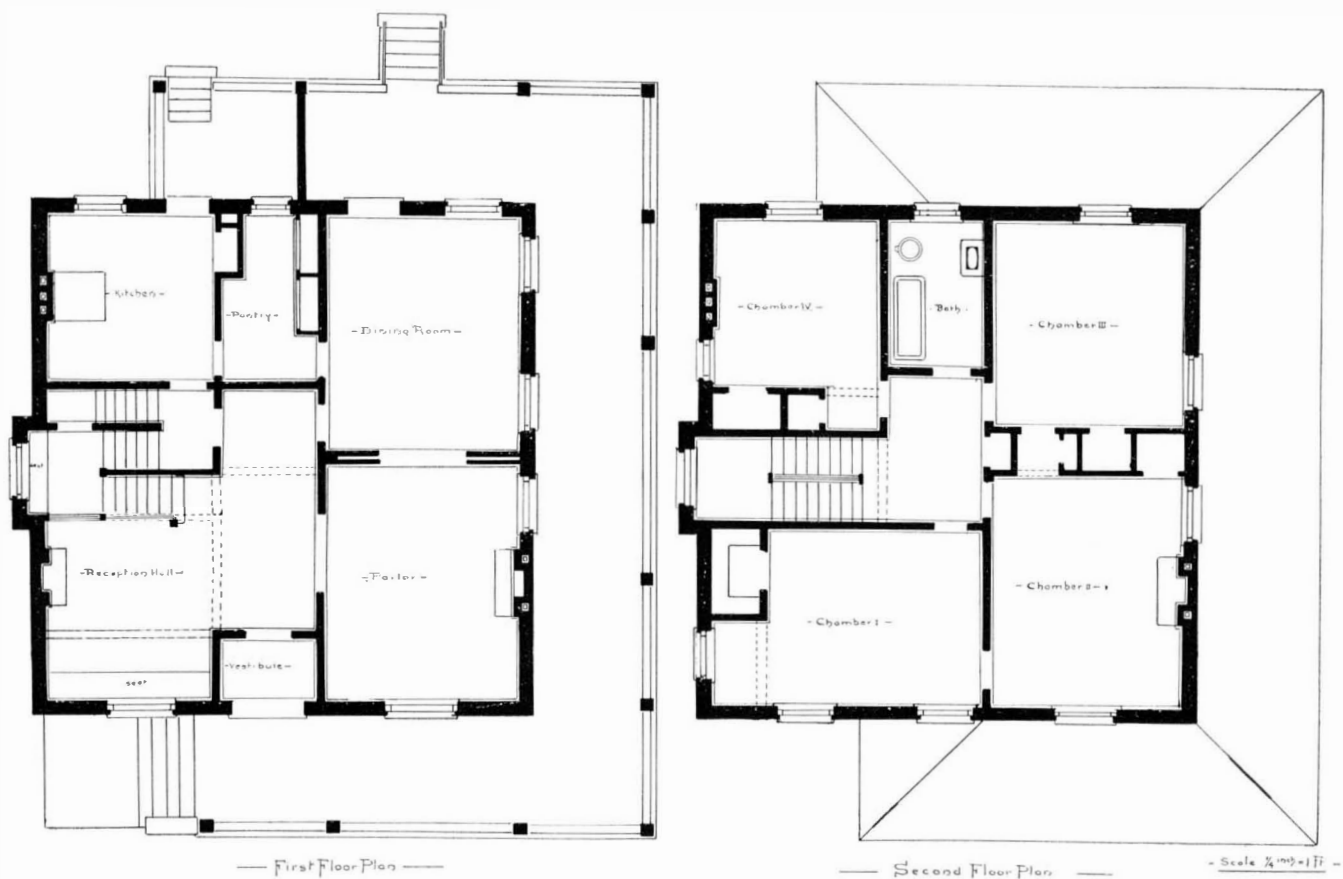
A COLONIAL RESIDENCE AT PLAINFIELD, N. J.—See page 62.
MR. E. G. W. DIETRICH, ARCHITECT.



CHATEAU REXSAMER, A MOUNTAIN HOME IN ELIZABETHTOWN, N. Y.—See page 61.
MESSRS. MANN, MacNEILLE & LINDBERG, ARCHITECTS.

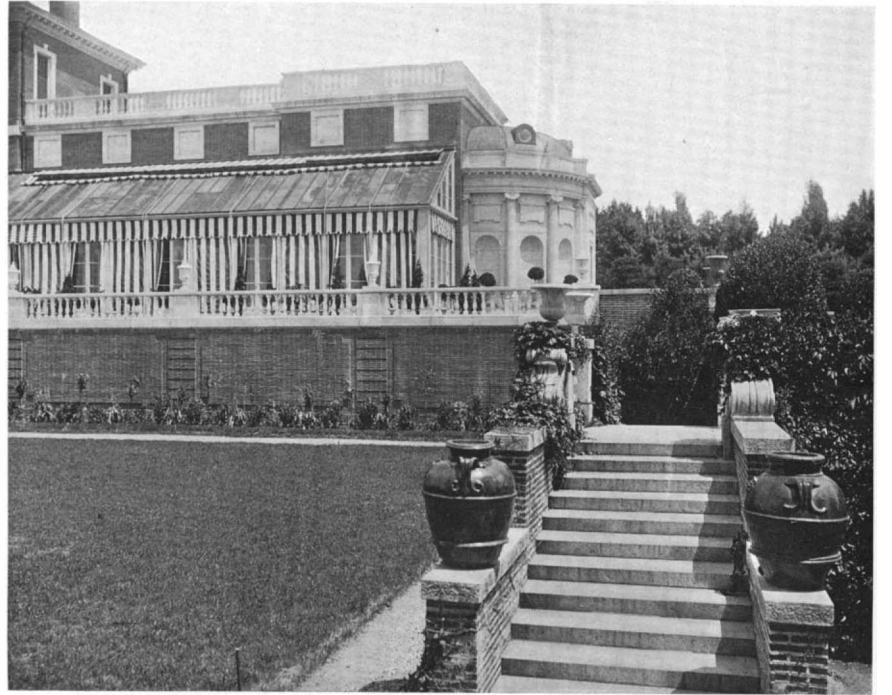


RESIDENCE OF D. W. COOK, ESQ., AT ESSEX FELLS, N. J.—See page 60.
MR. FRANK E. WALLIS, ARCHITECT.



HOUSE IN SOUTH ORANGE
JOHN STEVENS, Owner. CARL FREHMANN, Architect.

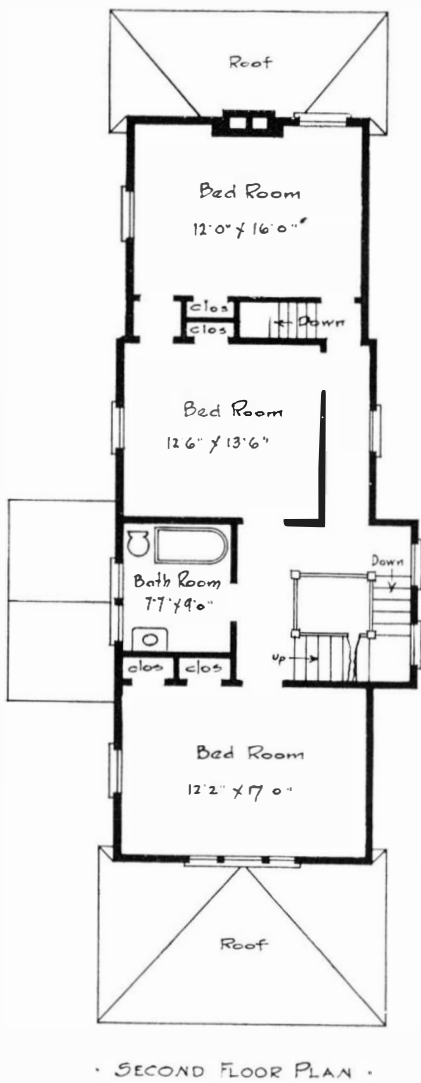
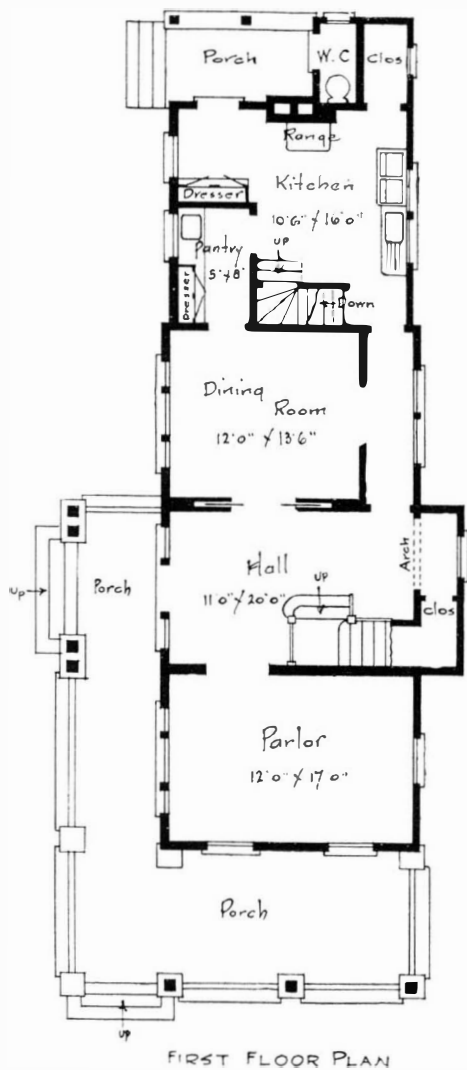
RESIDENCE OF JOHN H. STEVENS, ESQ., SOUTH ORANGE, N. J.—See page 62.
MR. CARL F. REHMAN, ARCHITECT.



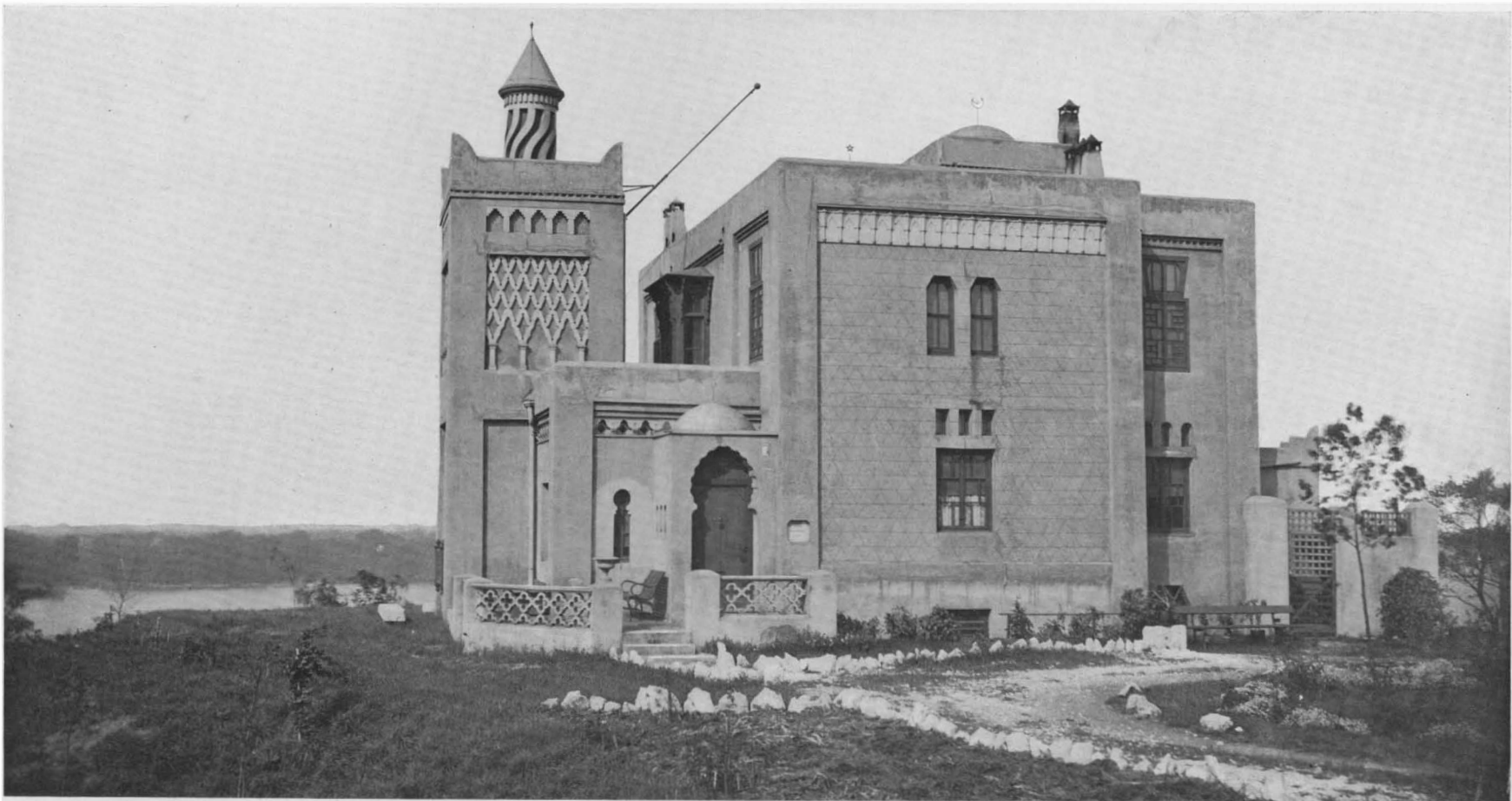
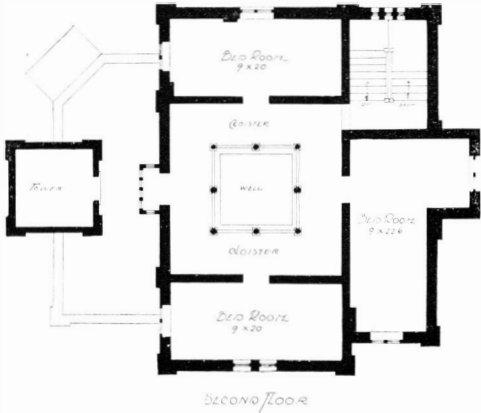
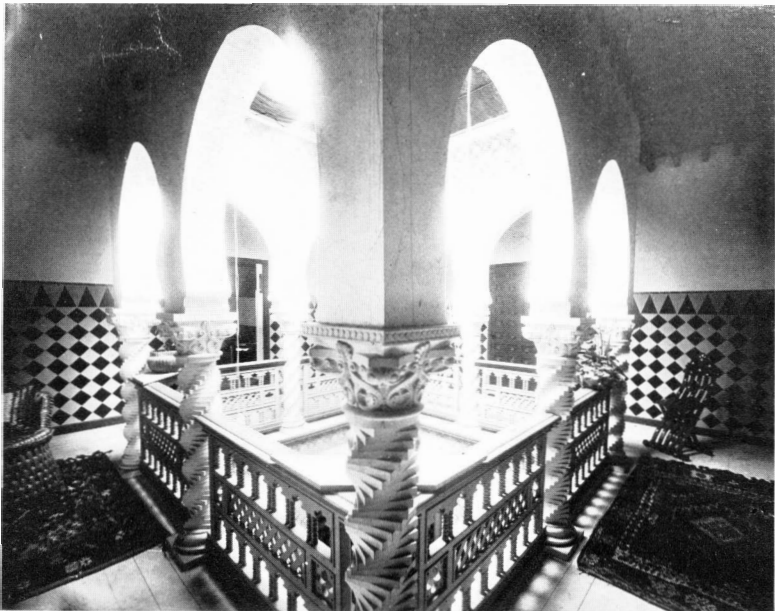
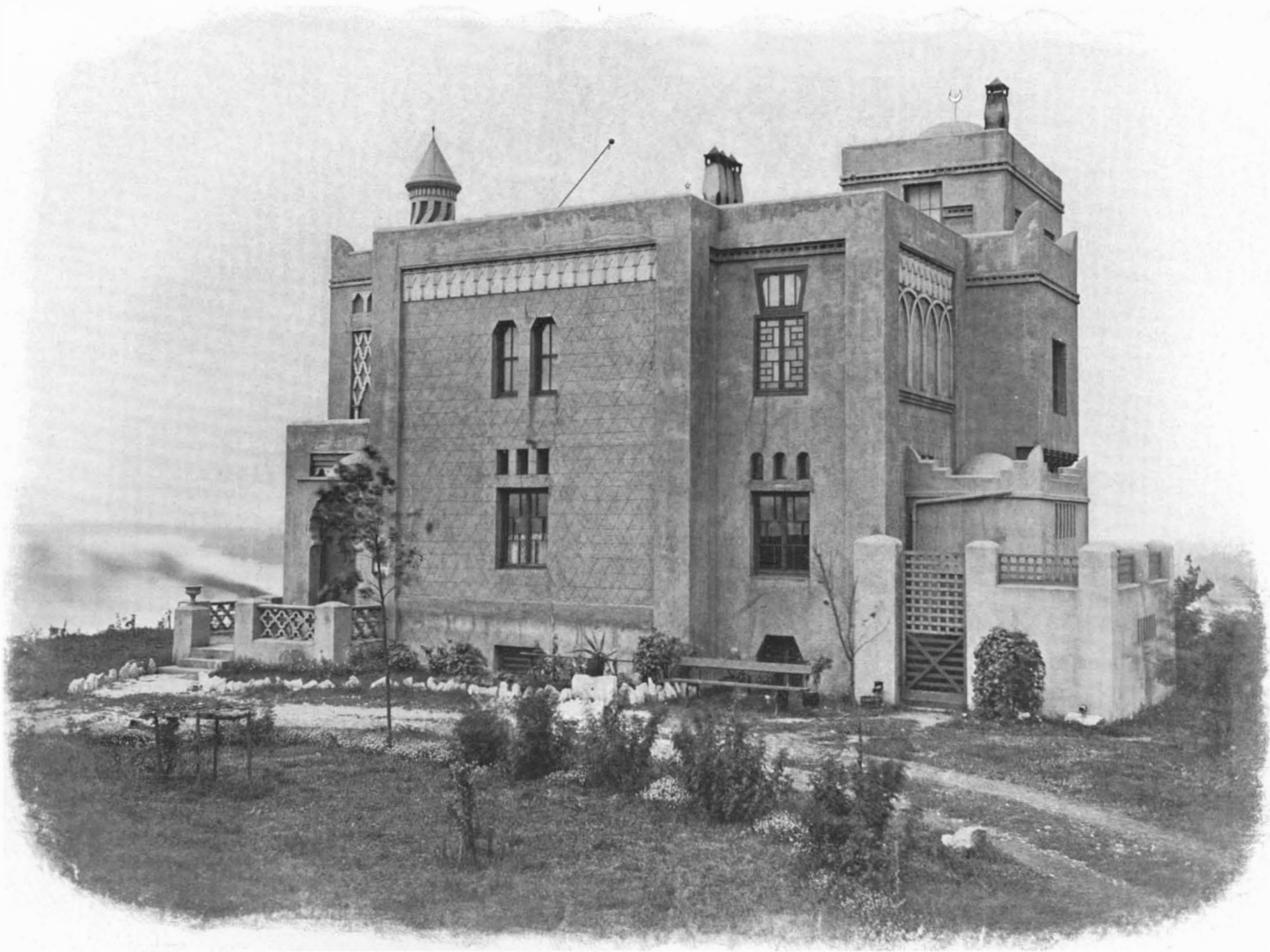
FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.—See page 47.
MESSRS. LITTLE & BROWN, ARCHITECTS; MR. CHARLES A. PLATT, LANDSCAPE ARCHITECT.



FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.—See page 47.
MESSRS. LITTLE & BROWN, ARCHITECTS; MR. CHARLES A. PLATT, LANDSCAPE ARCHITECT.



A HOUSE AT GLENSIDE, PA.—See page 61.
MR. LAURENCE VISSCHER BOYD, ARCHITECT.



VILLA KATHRINE, QUINCY, ILL.—See page 62.



“ATLANTEAU,” RESIDENCE OF FREDERICK L. SAVAGE, ESQ., BAR HARBOR, ME.—See page 60.
MR. FREDERICK L. SAVAGE, ARCHITECT.



RECEPTION-ROOM.

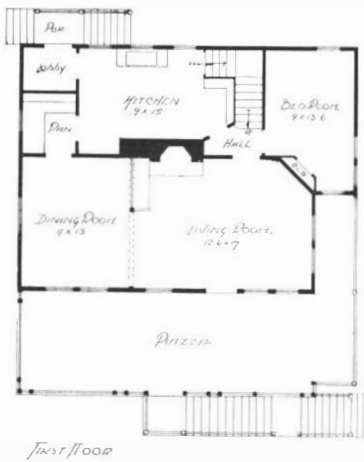


DINING-ROOM.



THE HALL.

"ATLANTEAU," RESIDENCE OF FREDERICK L. SAVAGE, ESQ., BAR HARBOR, ME.—See page 60.
MR. FREDERICK L. SAVAGE, ARCHITECT.



“BIRDS’ NEST.” A SUMMER COTTAGE AT DELANO PARK, CAPE ELIZABETH, ME.—See page 61.
MR. JOHN CALVIN STEVENS, ARCHITECT.



Left Figure, "Arkansas"—Right Figure, "The Signing of the Treaty."—(Louisiana Purchase Exposition.)



Center Figure, "The Workingman," Daniel C. French, Sculptor.
Left Figure, "Montana," Antoine C. Skodik, Sculptor. Right Figure, "North Dakota," Louis B. Zimm, Sculptor.



Central Gallery.—Statues for the Louisiana Purchase Exposition.

THE EXHIBITION OF THE ARCHITECTURAL LEAGUE.—See page 60.

THE EXHIBITION OF THE ARCHITECTURAL LEAGUE.

THE Exhibition of the Architectural League of New York continues to hold its long established rank as the leading architectural exhibition of the year. The Nineteenth Annual Exhibition is in progress as these words are written, and it not only well maintains the average set by previous shows of the kind, but is, in some respects, the most notable of the series. The exhibitions of the League have always been distinguished by a very decided miscellaneous character, which, indeed, appears inseparable from an exhibition of a body consecrated to the art of building and the decorative arts allied to it. The very miscellaneous character of these exhibitions gave them a certain strength and a very decided interest; for if one was not thoroughly interested in building as building, one might find some decorative feature or some minor art that more than repaid the trouble of a visit to the exhibition galleries.

This year an entirely new departure has been taken by the creation of an exhibition jury, with the result that a very large proportion of the exhibits offered were rejected. The exhibition is thus very much smaller in point of numbers than any previous exhibition. Thus there are not only fewer things to see, but the comparatively small number of exhibits maintains an artistic standard of excellence which is very gratifying.

Neither this exhibition nor any previous exhibition of the League is likely to widely interest the public nor help on public appreciation of architecture. This last might well be the chief purpose to which the League could devote itself, and clearly there is no nobler or more important work before it. Its annual exhibitions are for architects and draftsmen, for artists, painters, sculptors. The mere patron of architecture, the client, the seeker after ideas, the home-maker about to build, in quest of information—all these will find little to interest or benefit them in an exhibition such as the Architectural League holds every year.

Architecture is not domestic building, but a very broad subject which includes structures of every type and sort. The League exhibition is at least definite in giving the architect's conception of an architectural exhibition, and a very professional affair it is. It is a gathering of large drawings, of views of notable undertakings. These are, of course, works of the utmost importance, well worthy to be shown, and well deserving of study. But if the average citizen could be induced to enter these exhibition halls it may be questioned if he would find much to interest him, really interest him. It is an exhibition that appeals to the specialist; very good of its kind, filled with large interest, it still has a narrowness of scope unavoidable in an exhibition conducted on such lines.

In accordance with its custom for a number of years past, the BUILDING MONTHLY presents, on page 59, a sheaf of views of the exhibition as a whole. That the walls are not crowded is apparent, and that much sculpture is shown is also clear. The latter fact is quite to be expected this year, since the sculptors have been busy on work for the St. Louis Exposition, and they have, therefore, a good deal that is interesting and novel to show. The most important work of sculpture, however, is not for St. Louis, but for New York—the fine sculptures for the pediment of the Stock Exchange by John G. A. Ward being the largest sculptural work shown, and one of the most important pieces of monumental sculpture undertaken in New York.

KITCHEN ARRANGEMENT.

THE most essential room in the house, says an exchange, is the kitchen. It should be built and furnished with the idea of saving labor. Here, especially, there should be as many windows as possible, all reaching to the top of the room, and, if may be, with sun exposure. There should be an opening in the chimney over the kitchen range and a hood, if possible, to the range, to keep the cooking odors from pervading the house. With an eye to the saving of labor, no floor covering is better than linoleum, and all utensils needed around the stove should be near, within easy reach of the cook. Have plenty of cupboards, a good, large, firm zinc covered table, ample sink room, and the sink itself set on legs, with all its traps and pipes exposed to view, according to best sanitary methods. Sometimes a cozy corner is very desirable.

ATLANTEAU, THE RESIDENCE OF FREDERICK L. SAVAGE, ESQ., BAR HARBOR, ME.

THE illustrations shown on pages 56 and 57 present Atlanteau, the residence of Frederick L. Savage, Esq., at Bar Harbor, Maine. The underpinning and first story are built of Bear Brook granite, with rock-faced ashlar laid in red mortar. The beams of the second and third stories are treated in a natural state with hard oil and stain, and the spaces between the half-timber work are covered with stucco, which is left in its natural silvery gray color. The roof is covered with shingles and is stained a dull shade of moss green. Dimensions: Front, 55 ft.; side, 53 ft., exclusive of porches. Height of ceilings: Cellar, 7 ft.; first story, 9 ft. 6 in.; second, 8 ft. 6 in.; third, 8 ft.

The entrance is into a square central hall, which is trimmed with oak and treated in a Flemish brown. The walls have a plate rack extending around the hall at the height of five feet, from which perpendicular strips descend at various intervals to the base, forming wall spaces which are covered with crimson burlap in an effective manner. The wall space above is tinted to harmonize. The open fireplace is built of red brick, laid in red mortar, with a hearth of same, and a recess containing an ornamental staircase, underneath which



'Alma Mater,' Columbia University.—Daniel C. French, Sculptor
THE EXHIBITION OF THE ARCHITECTURAL LEAGUE.

a short flight of steps descends to the lavatory. The parlor is trimmed with white pine, and is treated with white enamel paint. It contains an open fireplace of brick, and is furnished with a quaint little Colonial mantel.

The dining-room is trimmed with oak that is treated in Flemish brown, and has a corner buffet built in, and an open fireplace built of brick, with the facings and a hearth of the same, and a mantel. The butler's pantry is fitted with sink, drawers, dressers, etc. The kitchen is trimmed with North Carolina pine, and the servants' dining-room is treated the same, and both are fitted complete. The den is treated in forest green, and it has an angle nook containing an open fireplace with mottled green tile hearth and facings and mantel.

The second floor is trimmed with white pine treated with ivory white paint, and contains five bedrooms and two bathrooms; the latter furnished with tiled floor and wainscoting and porcelain fixtures and exposed nickelplated plumbing. Each bedroom is fitted with a large well fitted closet, and open fireplace in each bedroom except the bedroom over the kitchen. The third floor contains five bedrooms and a bathroom and a trunk room. The cemented cellar contains a laundry, fuel and furnace rooms. Mr. Frederick L. Savage, architect, Bar Harbor, Maine.

MR. CHARLES A. PLATT AND THE GARDEN OF FAULKNER FARMS, THE ESTATE OF MRS. CHARLES F. SPRAGUE, BROOKLINE, MASS.

(Concluded from page 47.)

of the space otherwise unoccupied is given to the garden proper, to the plants and shrubs which make it joyous, and to the art works which give it life. The foliage is chiefly that of perennials, but ample space has been left for annual plants, and many brilliant notes of color are won by this combination of natural growth. The garden contains not a few furnishings in the form of old wine jars from Italy, well-heads from Venice, classic busts, carved stonework and balustrades. Yet every one of these objects has been placed with care, and with a result in view that has justified its employment.

Mere words fail in describing a beautiful garden. One needs to walk and linger there, to see it in early morning and in the failing light of twilight. One needs to feel the moods of a garden and feel them sensitively. One can not do that in a single visit or in a single day. One's adjectives fail when one sets forth to describe in any detail the wonderful charm, the exquisite delight, the rare joy of a place like Faulkner Farms. Nature and art reach very high points here.

If Mr. Platt's garden is fine, the natural scenery viewed from the terraces below the house is splendid. Fortunately, they do not come in competition with each other, nor need they be compared. It is simply a happy circumstance that nature and art have lavished so much on this one place.

RESIDENCE OF D. W. COOK, ESQ., AT ESSEX FELS, N. J.

THE engravings shown on page 50 present a residence erected for D. W. Cook, Esq., at Essex Fells, N. J. The first story is built of field stone laid up at random with wide mortar joints. The second and third stories are beamed, and the spaces between are filled with stucco, which is left in its natural silvery gray color. The beams and all trimmings are painted white. The roof is covered with shingles and is stained a moss green. Dimensions: Front, 59 ft.; side, 41 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 10 ft.; second, 9 ft.; third, 8 ft. 6 in.

The vestibule is trimmed with oak, and it has broad doorways with windows on either side. The hall is trimmed with oak and contains an ornamental staircase, at the side of which there is a cluster of windows glazed with stained glass. The reception-room is treated with white enamel and has a bay window with seat, and an archway which forms the separation from the hall. The living-room is trimmed with oak treated in Flemish brown, and contains an angle nook, provided with an open fireplace built of Pompeian brick, with the facings and a hearth of the same, and a mantel to correspond with the trim, and also a bay window with seats. The dining-room is trimmed with oak, and has also an open fireplace built of Pompeian brick, with the facings and a hearth of the same, and a mantel. The butler's pantry and kitchen are treated in an attractive manner; the whole is treated with white enamel, and with an excellent effect. It contains all

the best modern fittings, and the range has a slate hearth and a backing of white enameled tile brick.

The second story is treated with ivory white paint, and it contains a large open hall, four bedrooms, large closets, and a bathroom, the latter furnished with a tiled floor and wainscoting of white enameled tile finished with a border in delicate pink. It is furnished with porcelain fixtures and exposed nickelplated plumbing. The third story contains the servants' quarters and trunk room, reached by a private stairway. Cellar, cemented, contains a well fitted laundry, the heating apparatus, fuel rooms, and cold storage. Mr. Frank E. Wallis, architect, Townsend Building, 1123 Broadway, New York.

A BOY'S ROOM.

A boy's room at school is described by an exchange. It was hardly as large as the ordinary hall bedroom. A delft-blue figured paper was on the walls, the narrow bed was white iron, and a dresser, writing table, and two chairs, quite filled the apartment. Ruffled white dimity curtains were put up at the one window, and a white linen spread over the dresser top. Two blue Wilton strips served as rugs. A white enameled shelf held books, and the walls were hung with favorite pictures.

CHATEAU REXSAMER—A MOUNTAIN HOME IN ELIZABETHTOWN, N. Y.

CHATEAU REXSAMER, illustrations of which are reproduced on page 49, is situated near Elizabethtown in the Adirondack Mountains and is built on a steep mountain side. This feature, which threatened to be a disadvantage, has resulted most fortunately, for much of the charm of the house is a result of the rugged way in which it fits the contour of the hillside. A steep road, prohibitive to city horses, leads from the Keene Valley Turnpike to a terrace formed by a high retaining wall in front of the house. This terrace is large enough to allow the carriages to turn with ease.

A series of steps and inclines leads from this terrace to the covered passage that connects the main portion of the house with the dining-room wing. This open passage, with its stone steps and broad coping, is a delightful place to linger in the sunset hours, and the coping is wide enough to pile sofa pillows upon it and against the upright posts for a comfortable lounging seat.

The peculiar features of the building are the absence of stairs inside the main house, the placing of the living-room above the guest chambers, and the placing of the dining-room and kitchen above the servants' rooms and ice house. A familiarity with the ground is nec-

and as the adjoining trees spread heavy foliage toward it, its seclusion is sufficient to give that privacy which is necessary at the kitchen end of a house.

This chateau is a summer residence, and although there are large fireplaces in all the large rooms, making May and October the most cheery months of the year, yet it is in the hot season that the house is principally used. Under these conditions it is no drawback to reach the guest chambers by way of the covered passage and the terrace, and the shed, open on all sides but protected by a high retaining wall, is a more comfortable place for the laundress to work than a room inside would be. This shed is large enough to store the wood for the kitchen range.

The house is built of stone with stucco superstructure. The stone was dug from the surrounding fields, and has the rough, weather-beaten, and moss-covered faces exposed. The cement joints have been raked back deeply, and this softens the effect. The plumbing fixtures throughout are supplied with hot and cold water, and a hot water circulation pipe running from the most distant fixtures back to the kitchen lessens the time that would otherwise elapse before hot water could be had from the faucets after opening them.

Chateau Rexasmer undertakes to combine the charm of a monastery with the comfort of the present day,

and each is fitted with the best modern conveniences complete.

The second floor contains three bedrooms and a bathroom. The hall is trimmed with chestnut, and the remainder of the rooms are trimmed with pine and treated with white enamel. The bathroom is also treated throughout with white enamel and is furnished with porcelain fixtures and exposed nickelplated plumbing. The floor of this bathroom is paved with tile, and it has a tiled wainscoting four feet in height.

There are three bedrooms and storeroom on the third floor. A cemented cellar contains a furnace, fuel rooms, cold storage room.

BIRDS' NEST, A SUMMER COTTAGE AT DELANO PARK, CAPE ELIZABETH, MAINE.

ON page 58 will be found an illustration of Birds' Nest, a summer cottage erected for Mr. Harvey S. Murray, at Delano Park, Cape Elizabeth, Maine. It is a difficult matter to secure a cottage with the combined appointments, as already stated, at so low a cost as \$1,500, but this the architect has been successful in doing. The building rests on a side of a hill, thus forming an excellent basement, which is enclosed with matched stuff painted a dark bottle green. The re-



A BED OF HYDRANGEAS IN THE GROUNDS OF MRS. KIMBALL, NANTUCKET, MASS.—See page 63.

essary to understand the reason of this apparent upside down construction. The floor upon which the living-room and two masters' bedrooms are situated is level with the ground at the rear of the house. In fact, the mountain rises precipitously from the very walls of the building, so that the only view of the sky from this part of the house is through the dormers of the roof. On this floor the family live, and from the open portions of its surrounding porch in clear weather and from the glass enclosed porch in storms they can enjoy the view of the entire valley with the shadows on the meadows, and far below the winding Boquette that catches and reflects the sunlight, and the black massing clouds on the approach of storms.

The ground falls away from this eagle's perch too rapidly for the dining-room to be on the same level with the living-room. It was very desirable to reduce the number of steps between the two rooms to a minimum, and hence the placing of these rooms in the second story of that building. The ice house is so perfectly insulated that its position is not disadvantageous, and no portion of the servants' rooms is below the level of the ground.

The guest chambers, although on the ground floor, are so elevated that their windows are twelve feet above the ground. The beautiful views from these rooms make them extremely attractive. The servants' porch opens from the kitchen, and is cool and apparently not shut in, but as the railing is of stucco instead of open,

and the very features in which it differs from the accepted style of house make its greatest attraction.

The architects are Messrs. Mann, MacNelle and Lindeberg, No. 2 East Thirty-third Street, New York.

A HOUSE AT GLENSIDE, PA.

THE house illustrated on page 54 has been built at Glenside, Pa., from plans prepared by Laurence Visscher Boyd, architect, Harrison Building, Philadelphia, Pa. It seeks to solve the problem of a single house of moderate cost and suitable for a narrow lot. The porch entrance is on the side and in the center of the house and connected by an open terrace with a covered porch at the end. The underpinning is built of rock-faced stone laid up at random, with wide white pointing. The first story is built of stucco with pebble dashing on the rough cast. The exterior walls above the rough cast are covered with shingles and stained a light tobacco brown. The roof is covered with shingles and is stained a moss green. The trimmings are painted white. Dimensions: Front, 21 ft.; side, 58 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft. 6 in.; second, 8 ft. 9 in.; third, 8 ft.

The first story, except the kitchen, is trimmed with chestnut. The hall contains an ornamental staircase of chestnut, rising to the third story. The parlor and dining-room are well lighted and ventilated. The kitchen and pantries are trimmed with yellow pine,

mainder of the building is covered with matched stuff, and then with white cedar shingles, which are left to finish naturally, while the trimmings are painted a dark bottle green. The roof is also covered with shingles. Dimensions: Front, 33 ft.; side, 24 ft., exclusive of piazza. Height of ceilings: Cellar, 7 ft.; first story, 9 ft.; second, 8 ft. 6 in.

The interior throughout is trimmed with white pine, and the studding, floor joists, and all partitions are dressed and exposed to view. The living-room rises up two stories in height, and the second story hall opens into the well, with a balustrade treated with a pleasing effect. This living-room has an open fireplace built of red brick laid in red mortar, with the facings and a hearth of the same, and a mantel of wood. At the side of the fireplace is a paneled seat, over which there is an opening filled in with spindlework. The spindlework forms the partitions between the living and dining-rooms. The pantries and kitchen are fitted up complete with all the modern conveniences. There is but one staircase in the house, placed in the private hall, which forms an access to the kitchen, and is isolated from the living-room. This floor also contains a bedroom.

The second floor contains three bedrooms and a bathroom; the latter is furnished with porcelain fixtures and exposed plumbing. The cellar contains the servants' room, laundry, and storeroom. Mr. John Calvin Stevens, architect, Oxford Building, Portland, Maine.

VILLA KATHRINE, QUINCY, ILL.

VILLA KATHRINE, owned by W. G. Metz, Esq., Quincy, Ill., illustrated on page 55, is one of the most elaborate examples of the Moorish villa in the United States. It was built after a very careful personal examination of original models in northern Africa, and represents, not only in its general plan but in details as well, the best Moorish ideas of architecture, as applied to this particular class of building.

The villa is approached by an avenue of sycamore trees, and is situated on a high bluff which commands a wonderful view of the Mississippi Valley, particularly to the south, where the shores of Illinois and Missouri extend in stately curves through vast lowlands for fifteen to twenty miles. The scene is one of the loveliest on the river and forms a worthy setting for a unique architectural idea. On approaching the villa one comes in full view of the unique square tower, copied from an old mosque near Tunis. The tower is ornamented on all sides in diamond pattern, and surmounted by a second small tower, which is decorated with oblique waving lines of red and white.

The front entrance is reached by a terrace surrounded by a heavy balustrade in quatrefoil pattern. The entrance itself is a Moorish arch, above which is a small iron grated window, and this again is surmounted by a dome, with its characteristic crescent on the summit. The hand of Allah is set above the doorway, and is sup-

magnificence. A huge stove affair of blue tiling lends color to its particular corner of the room. A short stairway leads from the drawing-room to the court, which is the soul and center of a Moorish villa.

The court is surrounded by a gallery, which is supported by Moorish arches resting on eight twisted pillars, whose capitals are exact copies from the Alhambra. The effect of the court is splendid. The floor is of stone, the central part inside the columns being sunken several inches. The arches are decorated in tiling.

The court is the real living-room of the villa, and is furnished in rugs, chairs, settees, tabourets, etc. The court is surmounted by a glass dome which can be removed at will. It is lighted by a large brass lamp containing twenty-nine lights. Around the court are the dining-room, kitchen, bathroom, and smoking-room. The stairs ascend from the court, and have balustrades painted sea green with dark brown hand rails; the balustrades are of latticework, star shaped. The gallery is surrounded by a handsome railing in latticework and turned pins, painted green and dark brown. Around the gallery are located the bedrooms, with their doors of many small panels decorated with carved rosettes. The entire effect of this villa is one of artistic beauty combined with perfect comfort, and the owner has realized the difficult ideal of a house which is at once curious and beautiful.

The dining-room is treated with white enamel, and is furnished with a paneled wainscoting, ceiling beams, an alcove for buffet, and a large open fireplace, provided with a tiled hearth and facings and a mantel with a pilaster effect. The butler's pantry is fitted with a bowl, a cupboard, and a dresser complete. The kitchen is trimmed with ash and provided with all the best modern improvements.

The second floor is treated with white enamel, and it contains five bedrooms, with ample closet space, two dressing-rooms, linen closet, three bathrooms, besides two maids' rooms, with private stairway. The bathrooms have enameled tiled wainscotings and encaustic tiled floors, and are furnished with porcelain fixtures and exposed nickelplated plumbing. The third floor contains the servant quarters and bath, drying rooms, storage rooms, etc. The cellar extends under the entire house, and is divided into cold storage, vegetable, general cellar and furnace room, coal and wood bins, laundry and servants' closet. Mr. E. G. W. Dietrich, architect, 320 Broadway, New York.

RESIDENCE OF JOHN H. STEVENS, ESQ., SOUTH ORANGE, N. J.

On page 51 will be found the residence of John H. Stevens, Esq., at South Orange, N. J. The building is a very good example for a modern comfortable compact house. It is constructed of brick laid in Flemish



THE HALL, RESIDENCE OF S. L. SCHOONMAKER, ESQ., PLAINFIELD, N. J.

posed to give divine protection to the inmates of the house. The wooden door is painted dark brown, and is ornamented with original antique brass door trimmings brought from an old Moorish house in Algiers. On the north side of the house is the "mouch Arabe," a characteristic feature of almost every Moorish house, being a projection overhanging the second story supported by wooden braces embedded at their lower ends in the solid masonry of the wall. Here and there are small windows in groups of three, and the large windows are enriched by grilles of Moorish pattern. The villa is built of heavy brick walls, plastered. The vestibule lies transversely to the entrance. An old Moorish lamp of brass stands conspicuously in a corner. Beyond the vestibule is the drawing-room. One enters through gridded glass doors. The attention is immediately struck by the row of small square orange-colored glass openings which form an illuminated frieze around this room, the effect being brilliant and startling. To the right as one enters is a unique wall seat, the back of which is tiled, and above the seat is a long ornamented shelf containing antique Moorish pottery. The ceiling is of cypress, showing the beams and finished in natural color. There are corner brackets with pottery, and two niches in the form of compound Moorish arches containing old Moorish mirrors. There is a profusion of Moorish chairs, some of rush, some carved and inlaid, while inlaid brackets, rich hangings and rugs, tables gorgeously painted, and grillework cabinets complete a picture of truly Eastern

A COLONIAL RESIDENCE AT PLAINFIELD, N. J.

THE Colonial residence illustrated above and on page 48 has been erected for S. L. Schoonmaker, Esq., Plainfield, N. J. The building is treated in a modified Colonial style of architecture, and an attractive feature of the exterior of the building is the large veranda extending across the front and returning at the two sides. The underpinning is constructed of rock-faced red sandstone. The superstructure, which is of wood, is covered on the exterior framework with matched sheathing and clapboards. The body is painted a deep Colonial yellow, and the trimmings are painted white. The roof is covered with shingles and stained a dark green. Dimensions: Front, 68 ft.; side, 55 ft., not including porch. Height of ceilings: Cellar, 8 ft.; first story, 10 ft. 6 in.; second, 10 ft.; third, 8 ft.

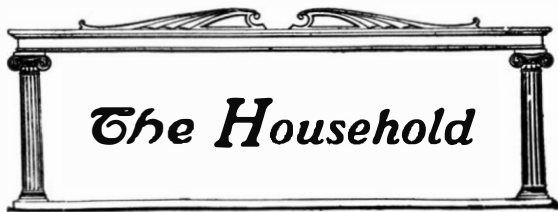
The interior is trimmed with white wood throughout, and is painted with white enamel. The hall has a vestibule with nooks on either side and a group of three elliptical arches supported on Colonial columns, from the center of which rises a broad staircase provided with spindle balusters and a mahogany rail. The parlor is treated with white enamel, and it contains an open fireplace furnished with tiled facings and a hearth and mantel. The library is finished in a nut brown color and is treated in a dull finish. It has bookcases built in with leaded-glass doors, and an open fireplace. The billiard-room is trimmed with ash stained green. It has a paneled wainscoting four feet six inches in height.

bond with limestone trimmings. The roof is covered with slate. The piazza and all exterior woodwork are painted bronze green.

The vestibule, which is paneled, is trimmed with oak treated with an antique finish. The reception hall is also trimmed with oak and treated similar, and is furnished with paneled wainscoting, and a paneled ceiling with a cornice supported on carved brackets. The fireplace has a tiled hearth and facings and a mantel. The cozy nook has a paneled seat, and the staircase is of an ornamental character. The parlor is treated with white and gold, and it has an open fireplace furnished with tiled facings and hearth, and a mantel to correspond with the trim. The dining-room is trimmed with antique oak. The butler's pantry is fitted with drawers, dressers, and cupboard. The kitchen is furnished with sink, pot closet, dresser, and a range.

The second floor is trimmed with cypress, and it contains four bedrooms with large closets, and a bathroom; the latter is provided with a tiled floor and a wainscoting, and is furnished with porcelain fixtures and exposed nickelplated plumbing. There are two servant bedrooms and two trunk rooms on the third floor. A cellar, cemented, contains a furnace, fuel rooms, laundry, etc. Cost, \$8,522 complete. Mr. Carl F. Rehman, architect, 756 Broad Street, Newark, N. J.

Good flowers, grown in a good way, are the most beautiful adjuncts of the country house. A good plant always repays good culture.



The Household

A FIFTH AVENUE ENTRANCE HALL.

To enter the door of a beautiful new house on upper Fifth Avenue, says a contemporary, is to find oneself transported magically from a country of bare trees and nipping frost to a land of Oriental luxury and greenness. Wealth, taste, and culture could hardly go further, it would seem, than in creating the vista which greets the visitor's eyes. Architects and decorators long ago drew attention to the value of the hall in the general decorative scheme of a house. They showed how some halls might be described as barely civil, others as inviting, while still others were positively friendly and cordial in the impression they made on the stranger. The hall, they maintained, was not a mere passageway, or a vestibule, or simply a connecting link between the various rooms, necessary as a means of entrance and exit, but otherwise unimportant. They used in their public lectures and classes to teach that the hall should be beautified as much as any other part of the house—more, perhaps, since many people never get beyond the hall.

In the house in question, the conservatory meets the visitor at the very door. The effect is unique, almost startling, reminding one of Burnham Wood. The advantage, however, lies with the Fifth Avenue house, as Shakespeare's trees were only branches of trees, while these are plants growing lustily. Extending back nearly to Madison Avenue, as the hall does, there is room for the tall palms, the shrubs, and the blooming flowers to form an avenue, with here and there a gleaming, graceful figure in white marble. A suggestion of unlimited space is given by this arrangement, which might be copied to advantage in many a smaller, less luxurious house.

A large fireplace, with big logs ablaze, and a comfortable settle drawn up at right angles with it, are another charming feature.

TO CLEAN BATHROOM FIXTURES.

To clean the nickelplate of the bathroom, remarks a recent writer, a mixture of washing soda and emmonia may be used for the cleaning part, with a little thin whiting paste when it comes to the polishing. These fitments are easily kept clean and bright if treated once a week, but the surface once thoroughly clouded through neglect, it will take many repeated rubbings to restore the original polish and brightness.

INK AND FINGER MARKS ON FURNITURE.

INK spots on furniture may be removed by an application of niter. Mix one teaspoonful of water and six drops of niter and apply to the stain with a feather. As soon as the ink disappears rub the spot with a damp cloth to remove the niter, which will otherwise leave a white spot behind it. A saturated solution of oxalic acid is sometimes used in the same manner to rid furniture of ink stains.

Finger marks may be removed from furniture by the use of a little olive oil applied with a bit of flannel. Never put the oil directly upon the wood, but rather upon the flannel and the flannel upon the wood. This same remark applies in the case of any of the furniture polishes. Apply very little at a time and that little never directly upon the surfaces to be improved.—Exchange.

THE GUEST CHAMBER.

THAT the bed must be comfortable goes without saying, remarks the Sun. It should be a bed of snowy white coverlet and cool linen pillows, smelling of lavender; a bed upon which one can stretch tired limbs, or into which one can creep without ceremony. Put a comfortable couch in the room, if possible. Beside the bed's head put a small table, and on it matches, a candle, a tiny tray holding a covered water bottle or pitcher and glass. If there isn't an electric light from which a bulb may be suspended near the pillow, put a good lamp on the little table.

Have dainty, serviceable wash covers for dresser and pincushion and put out all necessary toilet articles, in case the guest may have forgotten something essential. Let there be at least one mirror in which a woman can see something below her waist line. A long mirror may be set in the back of a door, at comparatively little expense.

If a bath and a dressing-room are not at hand, provide a roomy washstand, plenty of towels, soap of two kinds, scented and plain; almond meal, pumice stone, and good cold cream. A hot water bag should be in a convenient place. A duvet or light blanket should be ready for use when the guest wants to lie down and throw something over her. A footstool is an essential. A waste paper basket is another.



Fire Protection

ASBESTOS BRICKS, PLASTER, AND SLATES.

SINCE the terrible catastrophe of the Iroquois Theater fire, in Chicago, the attention of the public has been concentrated on the danger of fire to an extent seldom before manifested. The subject is so important and so ever present that it would seem as though that dreadful event should not have been necessary to arouse interest in such a matter. The general indifference of the people to matters affecting their safety is, however, so marked that nothing short of the severest object lesson seems able to arouse general attention.

Fireproofing material and appliances are now viewed with fresh interest, and everything relating to this subject has a special timeliness. Some applications of asbestos to building materials were recently shown in Paris, and some mention of them should be made in these pages.

Asbestos bricks are called "briques amiantines ou amiantolithes," and can now be made at a moderate cost. They have the great advantage of being absolutely incombustible and unattackable by acids, while at the same time being bad conductors of sound, heat, cold, and electricity. They are composed entirely of asbestos, lime, and silica in strictly defined proportions; and the substances, intimately mixed by special machines, are compressed in the form of ordinary bricks by powerful presses. The bricks are afterward subjected to the chemical action of high-pressure steam, by which means a double silicate of lime and magnesia is formed. These new building bricks, the structure of which is perfectly homogeneous, are said to be equal to the best clay bricks as regards resistance to crushing stress. They are easily cut with the trowel, and take mortar well, while the thickness of joint is reduced to a minimum, owing to the perfectly regular form of the brick. The external appearance is that of dressed stone; and as the bricks can be colored unalterably while in a plastic state, they lend themselves admirably to polychrome decoration.

In asbestos plaster the asbestos is mixed in equal proportions with cement or hydraulic lime for an outside coat, and mixed in the proportion of 2 to 1 of plaster of paris for inside plastering, the only change in these operations being that the coat sets more quickly than usual; but it is necessary to mix the substances, dry, very intimately before the water is added. The advantages claimed are incombustibility (including the protection of rolled joists and iron floors from expansion and consequent lateral thrust), deadening of sound, absence of cracks and maintenance of temperature so as to preserve the inside warmth in winter and protect from outside heat in summer. One weight unit of asbestic covers the same surface as 1.354 of plaster; and the additional cost, as compared with ordinary plastering, is very slight, considering the advantages offered.

A third application of asbestos to building takes the form of a tissue, and also of "slates," as they are termed, or rigid plates of very hard surface, employed for roofing and also for outside coating or inside lining. In the first-named case it is stated that the durability is equal to that of zinc, at one-third the cost; and the plates are also lighter, weighing about four pounds to the square yard, while air, dust, and snow are kept out better than by any other substance. The aspect of a roof or wall covered with these plates in lozenge or diamond form is said to be decidedly pleasing; and being flexible, the plates lend themselves readily to covering an arched roof.

NEW DEVICES FOR FIGHTING FIRE.

AMONG new German devices for fighting fire is an automobile fire train, consisting of an engine, fireman's wagon, and an ambulance. The steam that propels the engine drives the pump when the engine stops. By a pressure of 150 pounds it furnishes 550 gallons of water per minute. A mechanical tower, or revolving ladder, is operated by compressed air. Four long tubes put together telescopically are driven out, and with them the four ladders attached to the heads of the tubes. After it is lifted the entire ladder and its working force can be revolved without turning the truck.

Fireproof outfits for firemen include an apparatus for protecting from smoke and providing oxygen. Another model has a tube for breathing. Another device is a water helmet which throws a protecting spray over its wearer, and enables him to penetrate dense smoke with little inconvenience and affords at the same time protection from flame.

CHEAP woods are helped by staining, which relieves them of their cheap look.



The Garden

A BED OF HYDRANGEAS.

THE illustration on page 61 of a bed of hydrangeas in the grounds of Mrs. Kimball, Nantucket Island, Mass., is of interest both for the fine condition of the plants and the size of the bed, which is twenty-five feet in diameter. The hydrangea is one of the most valuable and beautiful of flowering shrubs, but it is seldom that so large a clump of them is planted. That they make a brave show is very evident from the photograph, which was taken expressly for the BUILDING MONTHLY.

ROCKERY PLANTS.

It may be useful to print a word of warning on some of the incongruities common in the planting of rockeries. Rockeries, at their best, are often extremely artificial; there is seldom any delusion about them, for both in situation and in planting they bear all the ear marks of artificiality. That they have their place, and a very excellent and happy place, is quite well known, and when properly located and properly planted they are often garden decorations of real beauty. Very often, however, a rockery is arranged simply to diversify a landscape which may need no such diversification; and when, in addition to their unnatural origin, they are planted with plants which do not naturally grow with or among rocks, they become positive eyesores, even if the plants be beautiful and the rocks of the best possible assortment. A rockery should only be planted with plants and shrubs that grow naturally in association with rocks. A very good plan, and by far the safest one, is to avoid the rockery altogether. It is only in the occasional garden that it can find proper development.

GARDEN ORNAMENTS.

A GARDEN is a place for flowers and shrubs; it should never, under any circumstances, be turned into a museum, or filled up with vases, statuary, and garden furniture. The utmost horror, of course, is the cast-iron statue. It does not matter whether it is of man or beast, it is something which has no place in a garden planned and cultivated with taste. The mere fact that one has these things, that they may be in place when one comes into possession of the garden, that they may have been had cheap, or even if one has a liking for them, is quite beside the question. They are simply impossible, and should be avoided.

Garden ornaments have, of course, their uses and their beauty; but the first requirement is that they should be beautiful in themselves. A garden filled with ugly, ill-kempt plants is no garden at all; it is equally impossible when it is filled with artificial objects of no beauty. Mere arrangement and multiplication of such objects will not make a beautiful whole, for beauty is impossible where ugliness obtains.

SPANISH GARDENS.

QUITE a new subject in garden literature is opened in the article on Spanish gardens by Helena Rutherford Ely, in Scribner's Magazine for February. The gardens of England, France, and Italy, while never hackneyed—since when is beauty tiresome?—are tolerably familiar; but Spanish gardens are almost unknown in this country.

The climate of Spain, says the writer, during the summer months, is dry and burning; little or no rain falls; streams and brooks become entirely dry, and many rivers flow only in a narrow channel. Except among the mountains, water seems to be scarce everywhere, and yet the gardens are watered with great painstaking. Often the water is carted from a long distance. The larger and finer gardens are usually irrigated. Sometimes the water for this purpose flows from a mountain lake, or from a reservoir built by the industrious Moors. Often it is pumped from wells by a patient donkey who walks blindfolded for hours around a narrow circle. Or again, the primitive pump is worked by two men. Everywhere houses are made gay by window-boxes filled with growing plants. Carnations seem to be the favorite flower for this purpose.

FLOWER-POT COVERS.

WITH green or any other colored straw canvas, sold by the yard, are made uncommon flowerpot covers. Affecting the shape of a round bag, the mouth is pleated into goffers. A somewhat finer canvas with frayed edges is employed, as formerly foolscap paper, to wrap round bouquets when placed in a jardiniere or pretty wicker basket, the straw canvas projecting all round in rustic and informal folds.

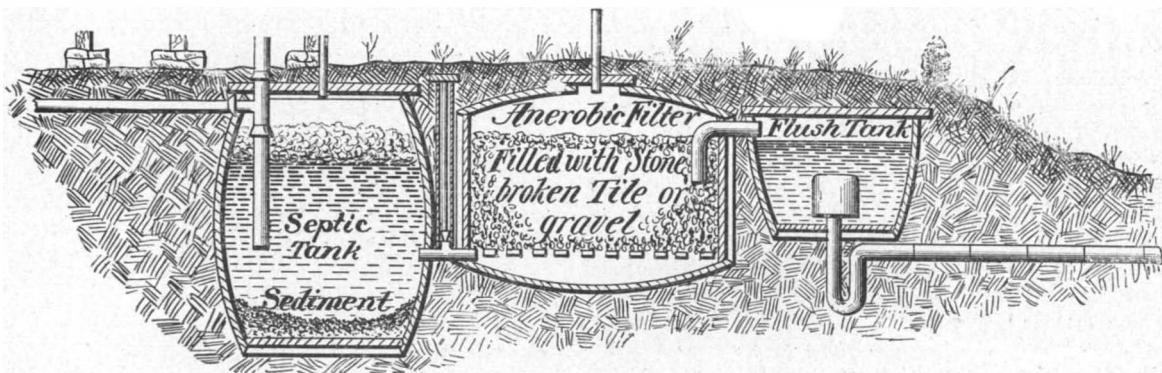
Sanitation

SEWAGE PURIFICATION PLANTS FOR SUMMER COTTAGES.

MR. JOHN W. ALVORD recently contributed to the Scientific American Supplement a timely article on sewage purification for summer cottages, from which the following extracts are taken:

It is with the idea that modern improvements in the septic tank and subsequent filtration can be adapted for summer resort cottages, where sewer systems are impracticable and the soil of a porous nature, he writes, that the accompanying design has been made.

The flush closet may be situated within the cottage or in a building attached to it, as may be desired. It is not a part of the design, except to show its general arrangement. The plant proper is arranged so as to utilize materials which may readily come to hand as far as possible. Three oak casks, such as are ordinarily used for vinegar, may be purchased at second-hand, and when arranged as shown in the drawings will form the septic tank, the anerobic filter, and the flush tank. The inlet to the septic tank should terminate at about the center of the septic tank as shown, and should be ventilated with a one-inch pipe conveniently located. From the septic tank the sewage will flow through a short connection to the anerobic filter, which should consist of an oaken cask buried with its side down. Across the bottom of the cask should be laid a grating of sticks of sufficient strength, so that the filtering material may rest upon them, leaving a free opening below for the circulation of the incoming flow. The materials with which the anerobic filter should be filled should be fairly coarse at the bottom, growing finer toward the outlet from the filter. A gradation from egg to chestnut size would be desirable. The outlet from the anerobic filter should be of a piece of elbow pipe near the top of the cask, so set that it will control the level of the liquid both in the septic tank and the anerobic filter. Provision should be made between the septic



tank and the anerobic filter for emptying the larger portion of their contents at the end of the season. The device shown in the drawing consists of a tee in which a wooden plug fits, which is removed by being fastened to a stick coming to the surface of the ground. This will drain the casks below the level of the cast-iron pipe and prevent any trouble from freezing during the winter.

The flush tank consists of a cask sawn in half and covered with plank as shown. A good three-inch cast-iron siphon should be set in its bottom. This is really the most expensive item connected with the plant, and upon its regular action will largely depend the success which the plant will show. The flush tank will fill and empty in proportion as the closet is used, and probably will be discharged at least twice a day in ordinary cases. The outlet of the siphon is connected with a line of ordinary farm tile, the grade of which in porous soils should be away from the flush tank at the rate of about 0.2 foot in a hundred feet. If laid in fine sand the joints of the farm tile should be surrounded with coarse gravel or tar paper to prevent the sand from entering the tile. In localities where the ground is not sufficiently porous, greater length of tile should be laid, but in fairly porous soils about one foot of tile ought to be laid for every gallon of sewage passing through the plant in twenty-four hours.

In very stiff and impervious soils a trench should be dug two or three feet below the level of the tile, and underdrained to some outlet in the vicinity. The trench should then be filled with coarse sand and gravel, beginning with the gravel at the bottom. The discharging tile should then be carefully laid as heretofore described. The top of the trench may be then covered with soil, and no difficulty ought to be experienced with oversaturation.

The total expense of the plant here shown, not including the closet or closet bowl, will be about \$25, although this will vary in different localities.

The Kitchen

AN IDEAL KITCHEN.

A WRITER in the New York Tribune writes at some length on the ideal kitchen and its arrangement. Every woman, she says, appreciates a dainty parlor and a neat dining-room, but comparatively few housekeepers realize the value and beauty of a properly furnished kitchen. From the standpoint of health it is even more important that the kitchen be neat than the parlor. The dust and cobwebs of a neglected parlor contain no essentially evil germs, but the greatest menace to the health of a family lies in kitchen neglect; and no one can expect a servant to take an interest in keeping a dingy, dark room, furnished with broken down furniture, in perfect order.

The ideal kitchen should have large windows, through which plenty of light and fresh air can enter. It should have an oiled hardwood floor or one covered with linoleum. Oilcloth will not answer the same purpose. Linoleum is a warm floor covering, and, though not so bright as oilcloth, it is much more durable. The walls may be painted, they may be papered with enameled tile paper, or they may be whitened or whitewashed. The old fashioned whitewashed wall has a great deal to commend it. The whitewash acts as a disinfectant and thoroughly purifies the wall each time it is applied; but it can scarcely be renewed oftener than once a year, and can not be cleaned except by a fresh coat. A painted wall can be scrubbed, but this is a laborious process and is not likely to be attended to as often as necessary. But a wall papered with enameled tile paper can be washed off as frequently as necessary with clean cold water, and does not have to be revarnished often. Enameled paper does not absorb odors or smoky moisture as ordinary paper does, and, next to the tiles themselves, which, of course, make the ideal kitchen wall, but are too expensive for ordinary houses, is the best wall covering for a kitchen. Some housewives object to enameled tile paper on the ground that it is an

imitation of the genuine tiled wall, and that imitations are in bad taste. But, while there is reason in this view, the enameled paper is so clean and wholesome and so much better than anything else, that it seems to be the only thing to be considered for the average kitchen. Enameled paper can be procured in designs that do not resemble tiles very closely, and some of them are most artistic.

A pretty kitchen was recently papered with enameled paper, decorated with a simple design of fleur de lis in delicate blue against a cream ground. Ordinary paper, it seems needless to say, should never be used in a kitchen.

All the furniture in a kitchen should be of solid wood. Tables with hardwood tops, covered with white oilcloth, save the daily scrubbing of pine top tables. An old fashioned kitchen dresser fitted into the wall is always a useful and picturesque bit of furniture. The American fashion of keeping pots, kettles, and other kitchen utensils in a closet by themselves, instead of hanging them on hooks about the kitchen, is a sensible one, provided it is not taken advantage of to conceal half washed kettles and saucepans. The advantage of the European fashion is that the articles hung in broad light must be kept scrupulously clean; but, though they add to the picturesque effect of the kitchen, they also collect dust. Wire screens at the windows and doors are necessary in the summer and autumn to keep away flies, and dark shades are desirable to keep out the intense sunshine of summer. Simplest muslin curtains, which can be laundered every other week or once a month, may be hung at the windows.

Although it is desirable to have the kitchen picturesque, no housekeeper with common sense will put in it anything of ornamental value only, with the exception of a few plants, which will thrive better here in winter, provided they have plenty of sunshine, than in any other part of the house, as they will be moistened almost continually by the steam from the cooking.

The Flat

FLAT HOUSEKEEPING.

FORMERLY for a woman to do her own work, says a contemporary, meant that she must tussle with buckets of coal and tubs of ashes, and must constantly handle cooking utensils that were only cleaned to become grimy and unlovely again from the smudge of coal dust. The accommodating gas stove has eliminated all this. With heat that can be kindled in a jiffy, regulated to just the requisite degree, with no care for the after clearing out and cleaning, the volunteer cook can bake, broil, and stew to her heart's content without getting scorched or flustered.

A cheerful kitchen is the rule under the new conditions, for very serviceable, durable saucepans and kettles in the new enameled wares show out in dainty colors, old blue, shrimp pink, terra cotta. Even the bread and cake boxes and the caddies for coffee and tea are brightened with pretty designs and apt mottoes. The ladles, the stirring spoons, turning forks, and measuring cups are all more shapely and lighter in weight and hue than formerly. And all manner of cunning, attractive conveniences for expediting the different branches of culinary work are provided. Magic powders and stuffs for cleaning enable the housewife to banish grease and dirt with the smallest expenditure of labor, and only such damage to the hands as can be removed with a little care. The superior quality and the increased variety of the canned meats and vegetables now available make an appetizing meal procurable with very little work. Many nourishing dishes that need only the proper heating and seasoning to be palatable are at the housewife's command.

CHEAP APARTMENT HOTELS.

THE most conspicuous feature of the building activity in the residence districts in New York during the last three years and a half, says a real estate authority, has been the great increase in the production of apartment hotels. Particularly since the tenement house law now in force was enacted, apartments of the hotel type have largely superseded housekeeping apartments in new construction work. More capital is being invested in the former class of housing than in the latter.

Architects and builders are now aiming to produce apartment hotels in which rents may be made to average \$25 a room a month. The principal problem which they have to solve is to secure land at less than \$1,500 a front foot in a central and fairly attractive location. This would not have been difficult to do a couple of years ago, but land values in such locations have for the most part gone beyond that figure, chiefly through the recent activity in apartment hotel construction. Even at \$30 a room, however, it is as cheap to live in an apartment hotel as in a good boarding house, if one cares to invest a couple of hundred dollars in furniture.

FLATS IN PHILADELPHIA.

THE popularity of the Philadelphia apartment house has been so great since the first one was opened for business several years ago that many others have been erected in all parts of the city, and in the winter months most of them are filled. Generally speaking, these houses are large enough to accommodate from 100 to 400 persons, and at least one in the city could provide for many more than 400. They are divided mainly into apartments of two, three, and four rooms, with a bathroom for each apartment, and sandwiched in between are a few single rooms with baths for single men and single women, who generally like this kind of living pretty well, because apartment house folks are sociable and no one who is with them need be lonesome.

Rents vary greatly, from single rooms at \$20 a month to big apartments at \$200 a month, and in some cases much more than \$200. The dining-rooms are large and generally attractive, and the charge for board is either \$7 or \$9 a week for each person, with a reduction of \$1 for those who eat only two meals a day in the house.

Housekeeping under such circumstances is easy. Most of it is done by the women of the family, who make their own beds and do their own dusting, and once or twice a week have a maid, engaged from the staff of the house, to do the heavy sweeping and cleaning, a process which is known in housemaid parlance as tearing out, probably from the vigor with which it is conducted.

New Building patents

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.

BUILDING BLOCK. F. B. Henry, Philadelphia, Pa. January 5 748,603

INTERLOCKING BUILDING TILES. J. Schall, Evergreen Park, Ill. January 5 748,989

BUILDING BLOCK. O. H. Bolen, Denver, Col. January 5 749,020

ROOFING TILE. W. P. Grath, St. Louis, Mo. January 12 749,182

BUILDING BLOCK AND WALL. F. E. Kidder, Denver, Col. January 19 749,796

COMPOSITE BUILDING MATERIAL. R. Hartman, Madison, Wis. January 26 750,456

BUILDING BLOCK AND WALL. C. N. Allerding, Mansfield, Ohio. January 26 750,562

INTERLOCKING TILE FOR FLOOR OR WALL COVERINGS. A. W. Nilsson, New York, N. Y. January 26 750,779

TILING. A. A. Spadone, New York, N. Y. January 26 Design 36,761

CARPENTRY.

FASTENING MEANS FOR PARQUET FLOORS, PANELING OR THE LIKE. W. S. Kelsey, Meriden, Conn. January 5 748,746

WINDOW PARTING STRIP. C. W. Wright, Cleveland, Ohio. January 5 748,905

REVOLUBLE WINDOW. E. C. Somers, Corning, N. Y. January 5 749,109

DOOR OR WINDOW TRIMMING. F. C. Walbridge, Hornellsville, N. Y. January 5 749,118

WINDOW. O. Frotscher, Philadelphia, Pa. January 12 749,608

WEATHER STRIP. F. Fournier, Pontiac, Mich. January 19 749,897

STAIR STRUCTURE. N. Bois, New York, N. Y. January 19 750,156

WEATHER STRIP. S. Lenzner, Detroit, Mich. January 26 750,662

CONSTRUCTION.

METAL WINDOW FRAME AND SASH. J. A. Knisely, Chicago, Ill. January 12 749,201

ATTACHMENT FOR UNITING METAL BARS AND BEAMS. Purdy and Lane, Jersey City, N. J. January 12 749,222

FLOOR, SIDEWALK, ROOF OR LIKE SUPPORT. P. H. Jackson, San Francisco, Cal. January 12 749,440

TEMPORARY SUPPORTING FORM FOR MASONRY STRUCTURES. G. W. Jackson, Chicago, Ill. January 12 749,735

SECTION FOR BUILDINGS. W. A. Warner, Bridgeport, Conn. January 19 749,762

METALLIC STUD OR THE LIKE. M. Hegborn, Chicago, Ill. January 19 749,862

SHEET METAL ROOF JOINT. J. H. McEvoy, Dallas, Texas. January 19 749,943

IRON BEARER FOR CONCRETE STRUCTURES. T. Franke, Berlin, Germany. January 19 749,987

ELEVATORS.

ELEVATOR. N. Hiss, New York, N. Y. January 12 749,193

ELEVATOR BRAKE. G. E. Carnes, St. Louis, Mo. January 26 750,597

FIREPROOFING AND FIRE EXTINGUISHMENT.

FIREPROOF BUILDING CONSTRUCTION. C. F. Buente, Pittsburg, Pa. January 19 749,812

FIREPROOF FLOOR CONSTRUCTION. J. Schall, Evergreen Park, Ill. January 19 750,066

HARDWARE.

LOCK. E. Muhlinghaus, Mettmann, Germany. January 5 748,772

WINDOW LOCK. W. Dzink, Duquesne, Pa. January 5 749,041

DOOR HINGE. J. R. Hartman, Davenport, Iowa. January 12 749,379

SASH FASTENER. A. Assorati, New York, N. Y. January 12 749,469

FASTENING DEVICE FOR DOORS AND SASHES. V. Bail, Holyoke, Mass. January 12 749,515

SASH-LOCK FOR WINDOWS. T. J. Sutton, New York, N. Y. January 12 749,641

SASH FASTENER. J. Anderson, Seattle, Wash. January 26 750,420

SASH HOLDER. W. Lencke, Camden, N. J. January 26 750,469

WINDOW BLIND LOCK. W. F. Stough, Prattsville, Ala. January 26 750,730

HEATING AND VENTILATION.

VENTILATOR FOR WATER CLOSETS. C. H. Muckenhirn, Detroit, Mich. January 19 749,875

HEATING SYSTEM. F. C. Goff, Denver, Col. January 26 750,358

RADIATOR CONNECTION. J. S. Brennan, Milwaukee, Wis. January 26 750,582

MISCELLANEOUS.

METHOD OF TREATING WOOD. K. Wadamori, Orange, N. J. January 5 749,004

PAINT SPRAYER. H. R. Cooper, Sr., Butler, Pa. January 19 749,774

PLUMBING.

PIPE FITTING. P. J. Madden, Chicago, Ill. January 12 749,309

HYDRANT SYSTEM FOR COUNTRY HOUSES. Johnson and Hitz, St. Louis, Mo. January 12 749,563

STRAINER ATTACHMENT FOR WASHBASINS. D. B. Allen, San Francisco, Cal. January 19 750,043

FLUSH TANK APPARATUS. Seager and Kelly, Flushing, N. Y. January 19 750,228

TOOLS.

CARPENTERS' FOLDING SQUARE. W. Steers, Sr., Chicago, Ill. January 5 749,112

HAND PLANE. E. Haydock, Manchester, England. January 19 750,189

Heating Talk

A NEW SYSTEM OF HOT WATER HEATING.

AN Austrian firm has placed on the market a quick circulating hot water heating system that really has some new and interesting points. The fundamental idea is to increase the velocity of the water to such an extent as to permit a material reduction in the size of the piping, besides placing the radiators, piping, and even the boiler, in places where it was deemed impossible heretofore.

This increase in velocity is secured, partly, by raising the temperature of the water in the boiler above 212 degrees, thus causing the upper end of the rising main to be filled with a mixture of very hot water and steam particles, whereas the descending column is a solid body of water very much lower in temperature. So far the thought or idea itself may not be new, for others have tried, by the introduction of steam directly into the water, to attain the same results; but although rewarded with a measure of success, their arrangements were too complicated to command the confidence necessary to make their system universally popular.

Every engineer who has had experience with hot water heating knows, says a writer in the Metal Worker, that the velocity increases with the temperature, and will have noticed that as soon as the temperature of the water was raised much above the normal temperature the noise and trembling in the entire system made high temperatures impractical. To obviate this noise there is inserted in the rising main pipe a cylinder termed the regulator, which must be of a certain larger diameter than the main pipe and of a certain length, and is calculated especially for each particular system, the extent and size of the heating job determining its size. It amounts, really, to an increase in the size of the rising main at a certain point between the boiler and the expansion tank.

MOISTURE IN HEATED HOUSES.

A NOTABLE paper on moisture in heated houses was read by Mr. R. C. Carpenter at the recent meeting of the American Society of Heating and Ventilating Engineers in New York.

The amount of moisture, said the writer, required to maintain the relative humidity the same as the outside air may be of considerable amount. Thus, supposing saturated air at 10 degrees Fahrenheit be introduced into a room at the rate of 1,000 cubic feet per hour, we find by consulting tables that in order to maintain the air at the saturated condition we shall need to introduce, if the air be warmed to 70 degrees, about 6.8 grains of water for each cubic foot, or for the 1,000 cubic feet we would need 6,800 grains, or practically one pound per hour. It, however, is probably never desirable to maintain the air at a condition of absolute saturation, but it is generally thought to be desirable to maintain its relative humidity at a point approximating 50 per cent. of saturation, or within 10 to 15 points of the ordinary relative humidity of the outside air. If this condition were produced, about 50 per cent. as much water would be needed as indicated in the previous calculation—namely, about one-half pound of water per 1,000 cubic feet of space per hour. A building containing 10,000 cubic feet of space would, by this calculation, need to have something like 5 pounds of water, or say 2½ quarts, evaporated per hour in order to maintain the degree of humidity somewhat near that usually found in the outside air. This calculation is interesting as showing that large amounts of water may be needed to preserve the relative humidity the same as that of the outside air during the processes of heating.

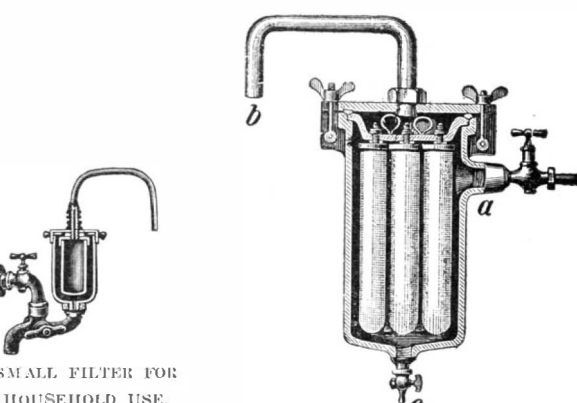
I am of the opinion that popularly the hot-air furnace is credited with removing more moisture from the air which it warms than is the case with the steam or hot-water radiator. From the effects, however, which I have frequently observed as to the drying out of furniture and the shrinkage of woodwork generally, I am inclined to believe that this opinion is somewhat in error, and I think that accurate measurements will fail to prove the hot-air furnace to be a greater sinner in this respect than our other systems of heating. The hot-air furnace is usually provided with a water pan so located that an opportunity is presented for the air to absorb moisture; but the experience with the pan, as usually constructed, has in most cases proved that it was entirely inadequate to accomplish any useful result. It is very seldom that any attempt is made in the case of steam or hot water heating to supply the necessary moisture required to keep the air at a uniform degree of humidity, although it may often be necessary.

It should be noted that very frequently the air in the houses is not over 12 to 15 per cent. saturated.

Publishers' Department

FILTRATION OF DRINKING WATER.

NOTWITHSTANDING the fact that the filter illustrated herewith is known to be thoroughly efficient in doing its work under all guaranteed conditions, it would fail if placed in the posture it accidentally assumed in our last issue. We herewith present it in the correct position.



SMALL FILTER FOR HOUSEHOLD USE.

LARGE SUPPLY FILTER.

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

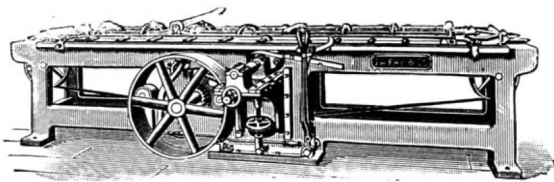
METAL ROOFING.

THROUGH special patented features, the roofing under consideration in this article automatically expands or contracts without the slightest injury to the material or to its absolute storm-proof tightness. This metal roofing is made of separate pieces, called shingles or sheets, cut from heavy sheets of tin, stamped into shapes and patterns that have become standard. The kind just mentioned is manufactured by the Cortright Metal Roofing Company, and the patented feature is the device by which the shingles or slates are locked together. The secret of its efficient weather-proof qualities lies in the patent side-lock, a perfect lock, which can not become unhooked after being laid, and can not be pulled apart, at the same time providing amply for the shrinking and expanding changes of the metal. In locking them there is no danger of leaving them unhooked at any point, the lock being always in view, and so constructed as to throw the slate or shingle square with the preceding one. The duty of a roof is to keep out rain, snow, sleet, and wind, to make an ornamental finish to a building, and to wear as long as the structure itself without frequently needing repairs. When this covering performs these functions which secure protection, appearance and stability, it guards the interest-bearing capital invested in the building, beautifies the exterior, and insures the living refinements and comforts that make for indoor health and pleasure. A roof furnished with Cortright shingles will not let in snow, wind, or rain, and dampness getting into sills and rotting the joists is impossible. Such a cover allows no splitting or curling of shingles, no cracking or flying off of material resulting from an adjacent fire, and no rattling of the whole or any part in a stiff gale of wind. The roofing, being very light, requires light framing, and can be successfully laid by any mechanic who will follow the furnished instructions. An advantageous feature resides in the fact that it can be taken off and relaid on another roof without damage or waste. Other favorable points consist of its transportability to any place without injury, its being as suitable and valuable for fireproof siding as for roofing, and its quality of taking any desired appearance by the color of the paint used. The character of metal that enters into making a roofing determines how long it will render good service. Totally apart from the merit of the patented features of the Cortright slates, the tin the firm uses gives its roofing the wearing property. The roofing is made from what is known to the trade as I. C. Prime Charcoal Roofing Tin, the very best manufactured, being selected thin sheets of steel, heavily and evenly coated. The sheets weigh 216 pounds to every box of 112 sheets, 20 x 28 inches, the standard weight of "Prime" plates. The company supply special or private brands of tin, but recommends its own standard grade to answer the most exacting conditions. It makes metal slates or Victoria shingles from copper, and furnishes

galvanized shingles. The sheets are first coated with tin, and after the slates or shingles are stamped they are galvanized, thus securing practically a double coating, leaving no raw or cracked edges exposed. Whether the roofing should be painted or galvanized is a question necessarily to be answered by the architect, builder, roofer, or owner, but generally all are consulted. The firm has always used the same paint, and made under its own formula of oxide of iron, pure boiled linseed oil, and other special ingredients. The painting is done by dipping each piece in a vat of paint, and the goods are allowed to stand several days before shipment. Another coat of paint is recommended soon after the roof is laid, and after that every four or five years will be sufficient to give indefinite life to the roof. Galvanizing is done by dipping each plate separately into a bath of melted zinc, which adds a second coat of fifteen pounds on each square (100 square feet) of goods. This heavy coating increases the durability. In applying the roofing all that is needed is a pair of hands, a pair of shears, hammer and nails. There are no seams to make, and every shingle fits into its counterpart, making its own joints; a couple of hammer taps, and the work is accomplished. The company furnishes a roof complete, including trimmings; that is, ridge-coping, hip-covering, valleys, etc.; also corner finish and gable end finish, steel barbed wire nails, and the best quality of sheathing paper. The Cortright Metal Roofing Company has offices at No. 50 North Twenty-third Street, Philadelphia, Pa., and No. 134 Van Buren Street, Chicago, Ill.

GLUE JOINER.

It gives us pleasure to show our readers the accompanying illustration of a machine for glue jointing—a machine embodying many improvements for insuring good work. Attention is called to the most important of these. It is made in sizes to joint six and one-half to eighteen and one-half feet in length, and stock from one-eighth to three inches thick, while any kind of wood can be worked to advantage. It does not require an expert to operate the mechanism, as all the different adjustments are easily and accurately made, and the machine is simple in construction and rapid and efficient in operation. Two or more pieces are worked at once, making an accurate joint, and perfectly preserving the face side of the material. The frame is solid and substantial, insuring steady run-



AUTOMATIC GLUE JOINER.

ning at high speed. The mandrels are of improved construction for matching a joint of any shape with more gluing surface, and making a stronger joint than can be accomplished on any other machine made by the J. A. Fay & Egan Company. The spindles have angular adjustments and there is no overhang to the table. The table clamps two boards of uneven thickness at once. The feed is noiseless and automatic, under instant control of the operator, and the return movement is easy and rapid. By an ingenious device the mandrel drops below the cut, so that stock has its surface free of the cutters on the return movement, and there is no jar of throw and very little vibration. The machine will make tight joints on staves for tank and other such work, heretofore considered impossible. The J. A. Fay & Egan Company, Nos. 209 to 229 West Front Street, Cincinnati, Ohio, will send free, to those requesting it, its new catalogue of woodworking machinery.

PORCELAIN ENAMELED BATHS AND LAVATORIES.

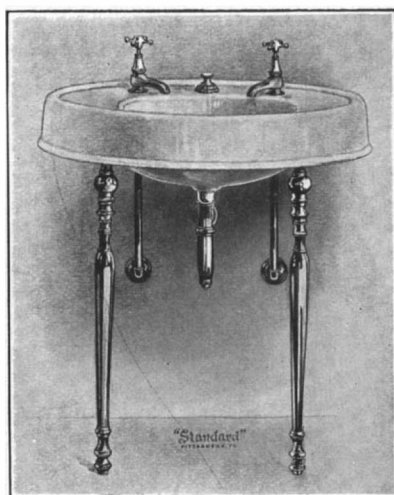
THE simple accomplishment of a toilet or a bath is of course secured by the user of the cumbersome and unsightly tub and the ill-ordered fixings of the old style bathroom. But the desire for the progressive refinements of living has produced a need of such constructive features in the modern bath and toilet rooms that will include hygienic, artistic, and luxurious improvements in proportion to the means of the installer. That the development has come more quickly than expected any one will realize by looking over the lavatories of the recent catalogues, and to a very marked extent, for instance, in the one issued by the Standard Sanitary Manufacturing Company, which we consider bears the stamped impression of representing absolutely perfect work. The appearance of the articles and their accessories manufactured by this firm is commendatory from the point of view of any side of plumbing, whether the work is on the lines of beauty, health, utility, or final economy, and should be sufficient to produce entire confidence in any builder or remodeler desiring to study the question of adaptability of such goods for the places intended. That

the issue is as important to homes, institutions, or general buildings as any that arises is now admitted, and no doubt the sanitary and ornamental success in the science and art of plumbing as achieved in the newest patterns and systems shown by the best makers is now only a matter of how the finishing or local plumber does his work. The "Standard" porcelain enameled baths and lavatories manufactured by the Standard Sanitary Manufacturing Company, of Pittsburgh, Pa., are gracefully and artistically designed in one piece, without cracks or plaster paris joints, thereby insuring perfect sanitation and entire avoidance of leakage, inconveniences, and dangers. Their pure whiteness, dainty appearance, and strength of workmanship make them desirable on sight. To illus-



LAVATORY WITH PEDESTAL BASE.

trate this with reference to the lavatories we insert herewith two engravings, taken from advance sheets of the new catalogue "P," which is to be published about the first of March. The first is called the "Standard Copley," plate 1035 G., porcelain enameled, with oval slab, bowl and apron all cast in one piece, porcelain enameled pedestal, "Torrance" pattern nickel-plated Fuller faucets, with china handles and indices, and nickel-plated imperial waste with china index. The other represents the "Standard Copley," plate 1036 G., with oval slab, bowl and apron cast as the above, nickel-plated legs with wall supports, low pattern compression faucets with china indices, imperial waste with china index, three-eighths inch I. P. size supply pipes and vented "P" trap. These are only minor examples of the work shown in the remarkable catalogue now about to be issued. As an artistic and scientific presentation of the higher order of goods this elaborate book rivals any catalogue in its line ever published, and in many respects it may claim to be "hors concours." The definition of even the most delicate outlines of minutest gear is simply perfect in all the illustrations, and the ensemble is as realistic as the best photography can secure. This new catalogue will of course be in advance keeping with the company's previous successes in artistic work, and with its improvements will keep step with the splendid increase in range and styles of the output of the great works at Pittsburgh. It will contain about five hundred and twenty-five pages and over seven hundred illustrations in half-tones. The patterned grace,



LAVATORY WITH LEGS.

the enameled brightness, and the favorable backgrounds of the illustrations give those desirable contrasts that make these pictures gems of color and interpretation. It would almost seem that artistic excellence in a book is in a measure an interference with mechanical accuracy of lesser details, such, for instance, as those obtaining in the plumber's craft, but in this case the results show that the tone and outline means employed have vividly aided the exposition of the manufactured articles. In the make up the best materials are being used throughout the entire book. The paper is one hundred pound double coated, made specially for it, and the cover and binding will be such

that it is not likely to be surpassed. The printing and engraving are being executed by the Chasmar-Winchell Press, of New York. The new catalogue will greatly facilitate the sale of "Standard" goods, and be appreciated not only by the plumbers and architects who obtain copies, but by the building public as well.

UTILIZING THE KICK TO GENERATE POWER.

A VERY simple and ingenious device designed for application to light machinery which is to be driven by foot-power, and offering many advantages over the usual treadle, is sold by Slotkin & Praglin, No. 210 Canal Street, New York. Mounted on the driving shaft is a fly-wheel, a simple clutch, and a pinion. This segment may be swung forward by kicking a foot-plate attached to a lever, which is rigidly attached to the segment. When the lever is kicked forward by the operator, it communicates the motion to the pinion, which causes the clutch to grasp the shaft and revolve it, thus setting the fly-wheel in motion. When the forward pressure on the lever is discontinued, the clutch releases the shaft, whose motion is continued by the energy stored in the fly-wheel, and allows the lever to swing back like a pendulum. An occasional kick keeps the machine running, the speed depending upon the frequency and force of the impetus given to the swinging lever. The device has been on the market for ten years and has been successfully applied to sewing machines, light lathes, sensitive drills, grinding and buffing machinery, routing machines, circular saws, etc. The above firm is about ready to introduce portable forges equipped with this efficient device.

SMOKELESS CITIES.

NOT the least interesting feature of the St. Louis Exposition of 1904, says the Tribune, will be the attempt to show the country how easily smoke may be dispensed with when soft coal is used. The managers intend that, in the generation of the twenty thousand or twenty-five thousand horse-power which they will require, coal should be so burned as to emit no visible fumes. Furthermore, they will urge all railway companies running trains to the grounds to affix smoke suppressing devices to their locomotives. This policy has been adopted at the instigation of a local nuisance abating society, and there is much reason for faith in its feasibility. In fact, both on railways and in stationary power plants it has of late been repeatedly demonstrated that the evil in question can be overcome by careful stoking, and without the use of special appliances to promote combustion.

The American Machinist remarks that if the St. Louis plan can be carried out strictly, a service will be rendered to the country greater than such exhibitions are usually credited with. And the lesson is particularly needed in the West, which is unable to obtain anthracite except at prohibitive prices.

But there is another way to free a large community from smoke. All the power required for factories and the operation of street railways might be developed at a central station outside the city limits and be transmitted to consumers in the form of electricity. One of the great movements of the age is toward the employment of electric motors to drive machinery of all kinds, in order to get rid of belts and shafting, and thus to save both space and power. Another advantage of the system is that the power may be conveniently brought from distant places where circumstances favor its cheap development, like Niagara or the slopes of the Sierra. Some of the electricity which San Francisco now uses is generated in the Yuba Valley, more than two hundred miles away. But all the streams in this country together are not sufficient to generate a tenth of the power actually needed. Hence fuel is an absolute necessity.

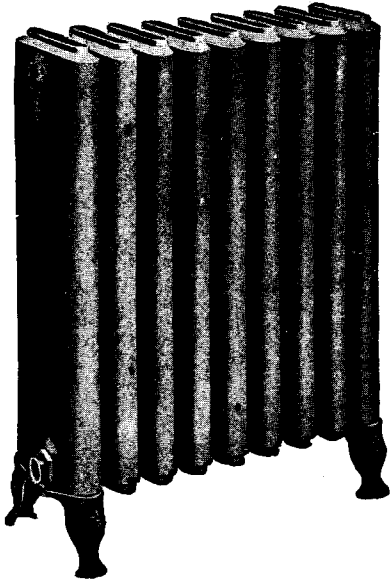
When small consumers of power obtain it, like gas, water, or current for lighting and driving electric fans, from a big producer, it should be much less expensive than when developed on the premises. Power costs less when generated on a large scale than on a small one.

THE latest novelty in house building is one of beer bottles! Empty, of course, for a house built of filled beer bottles is plainly an absurdity and an impossibility. The lone State of Nevada claims this latest contribution, to architectural skill, and the utter paucity of building materials is the excuse given. The house is said to be sixteen feet by twenty, to contain two rooms, and to be eight feet high. An air of probability is given to this account by the statement that a family of four have passed a winter in this dwelling.

New types of stoves of either the "slow combustion" or "well fire" classes should not be fixed in old houses, unless a thorough examination of the hearth and its surroundings is made, numerous fires having been caused from timbers being in close proximity to chimney breasts, quite unknown to the people who fixed new and powerful stoves in old openings.

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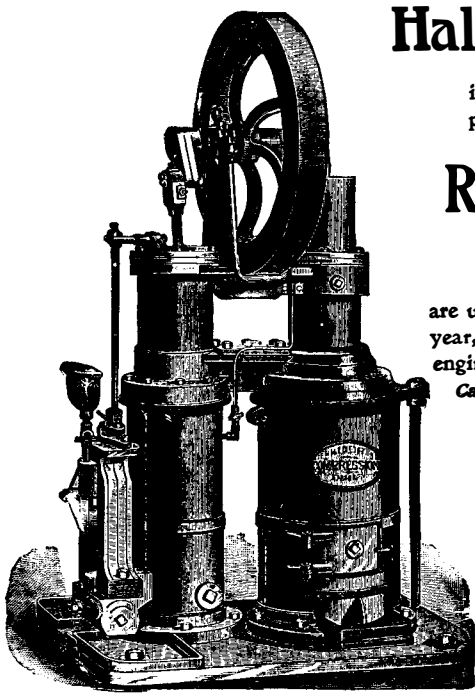
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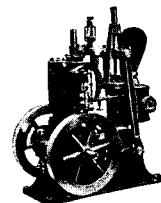
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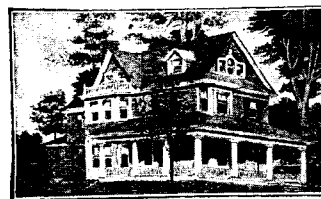
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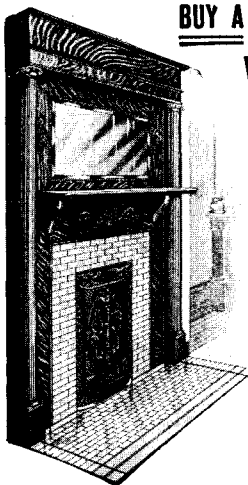
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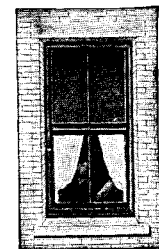
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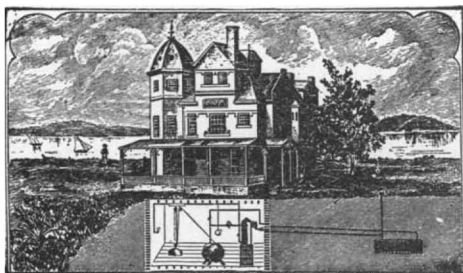
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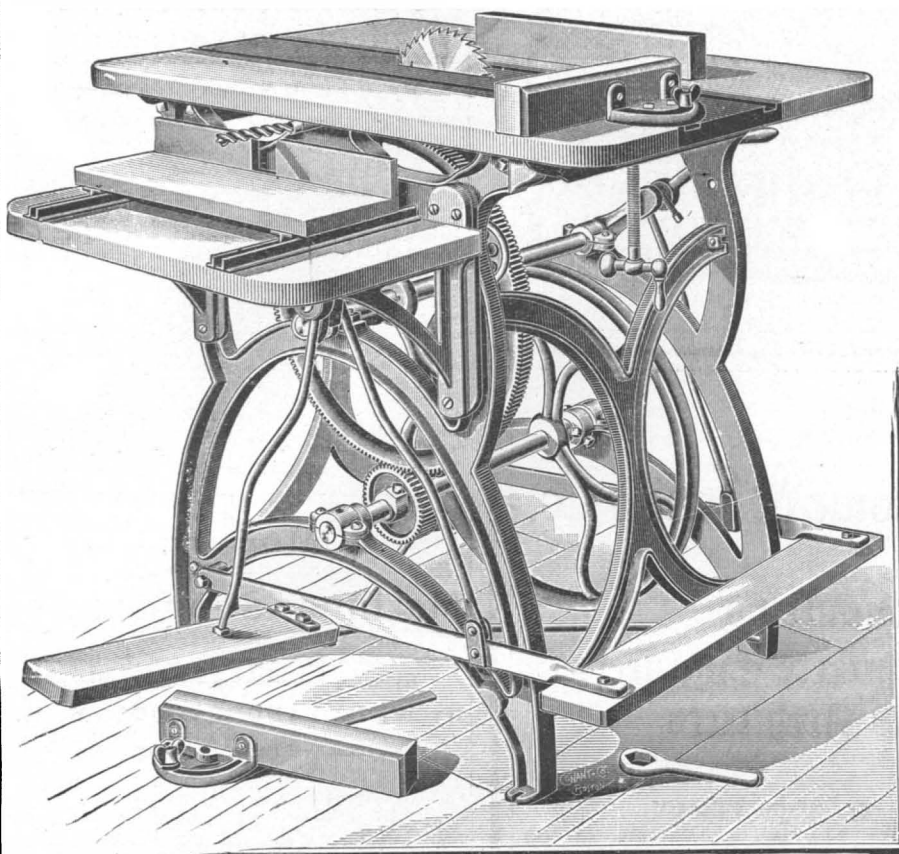
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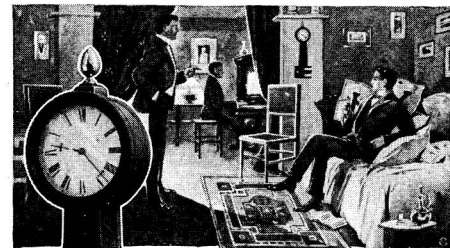
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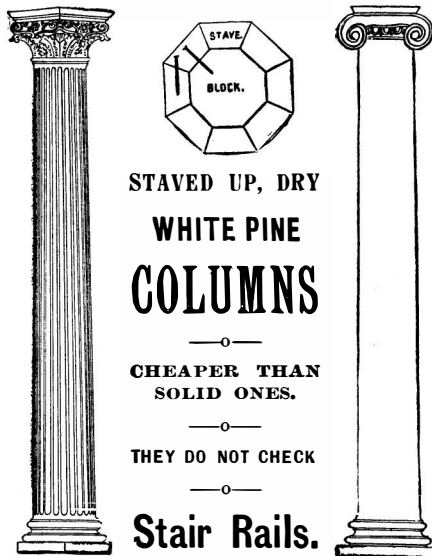
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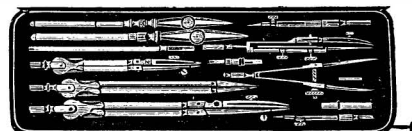


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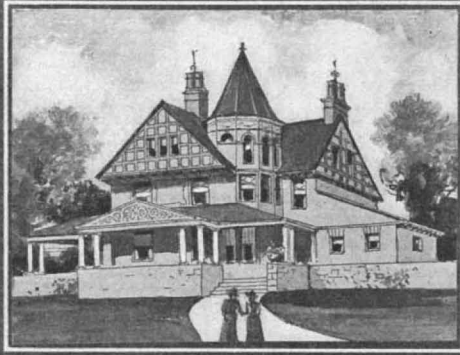
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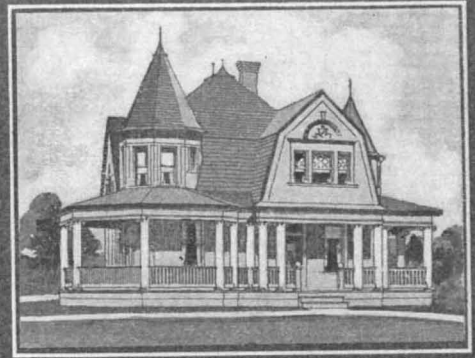
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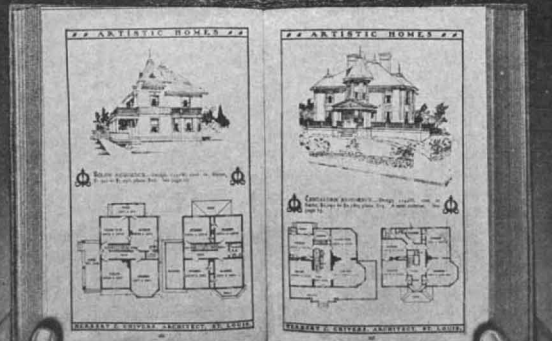
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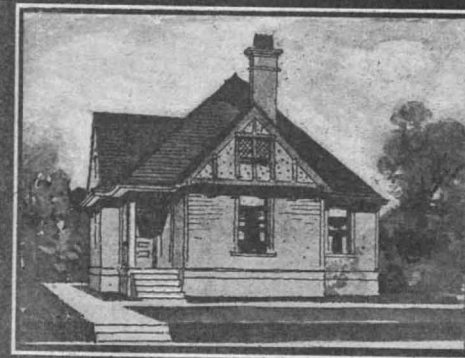
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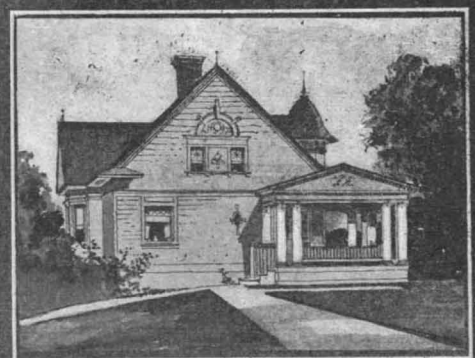
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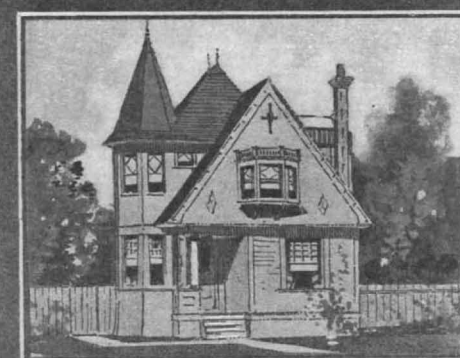
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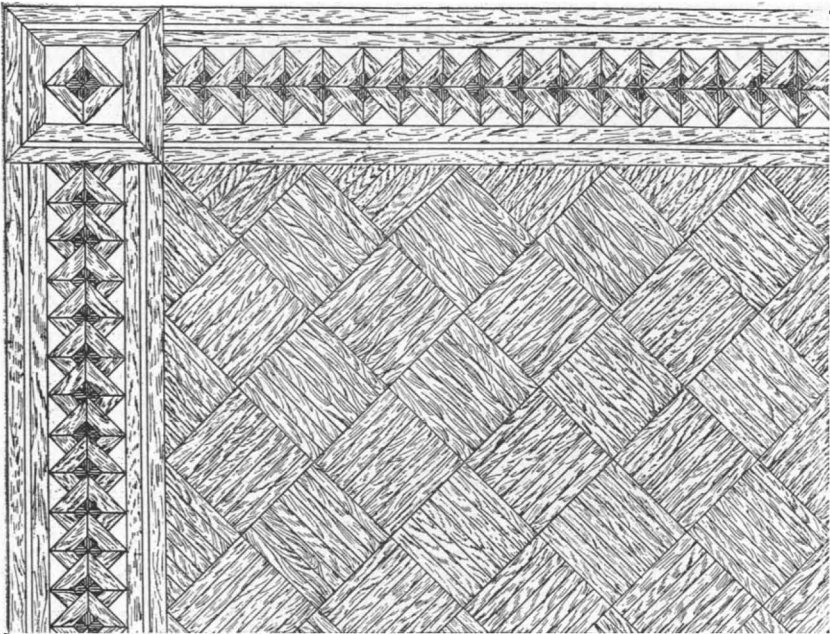


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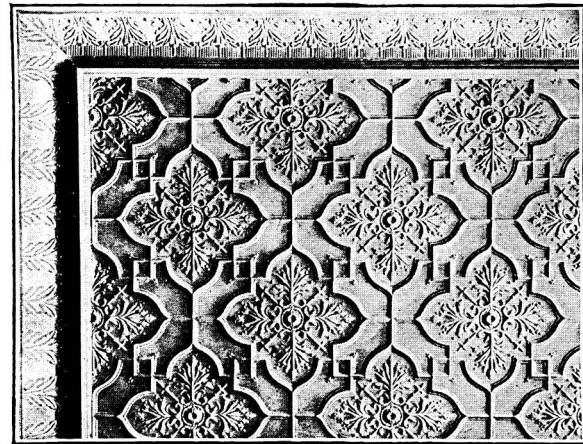
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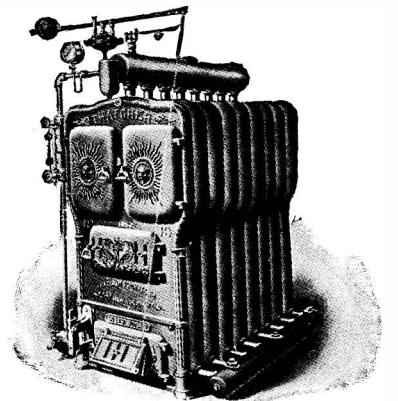
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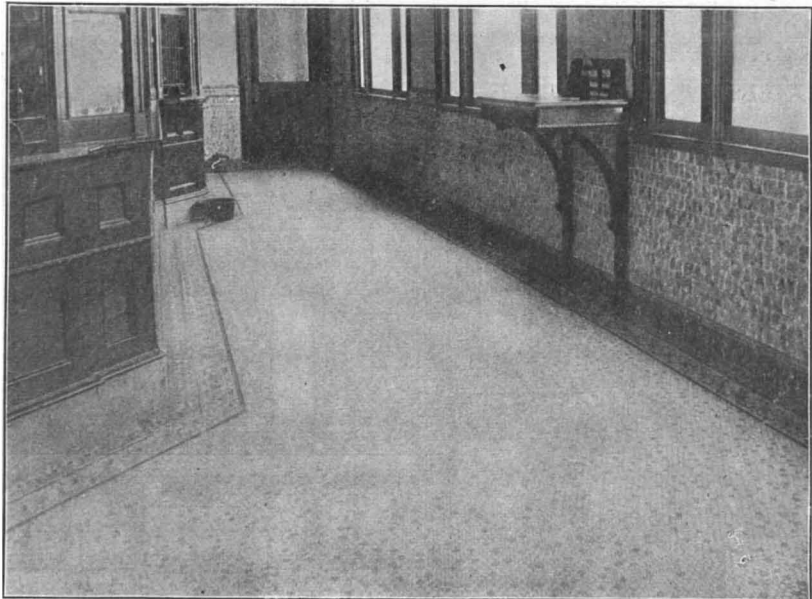
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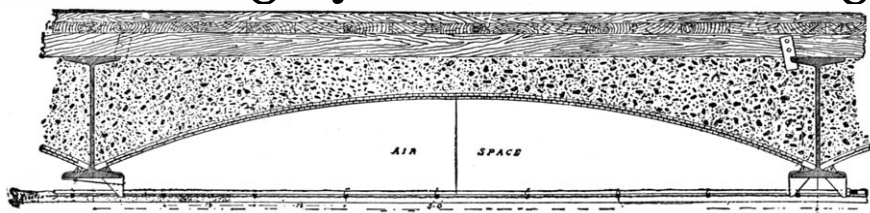
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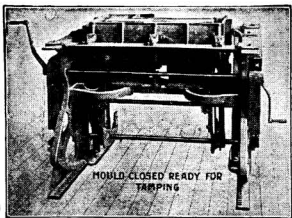
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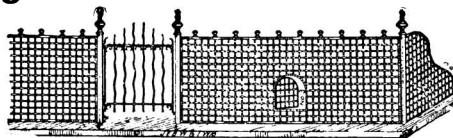
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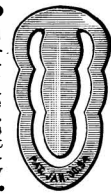


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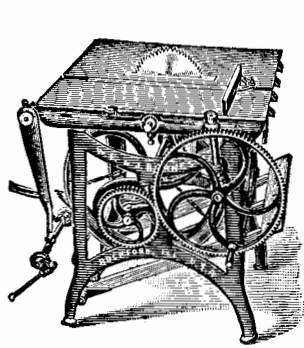


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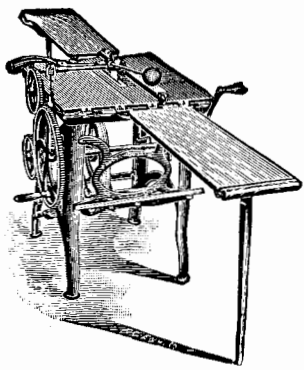
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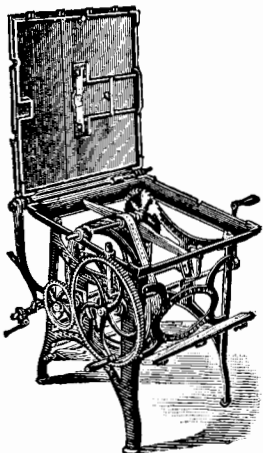
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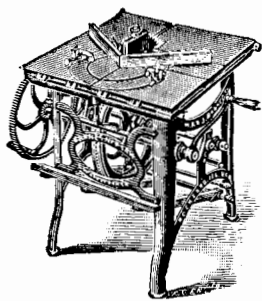
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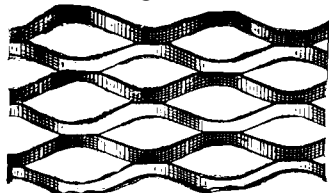
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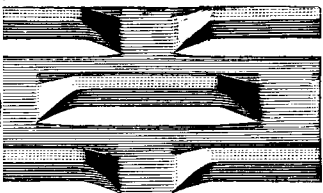
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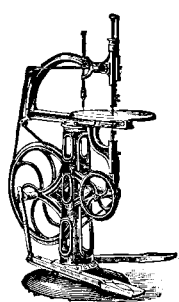


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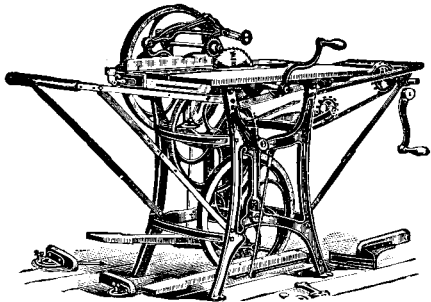
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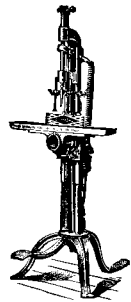
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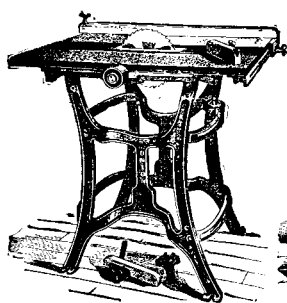
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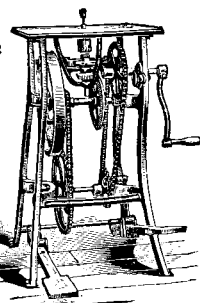
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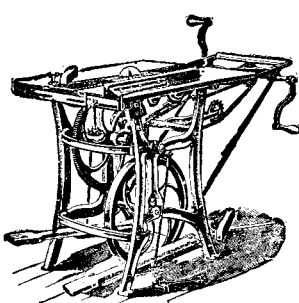
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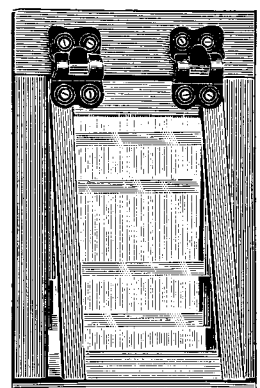
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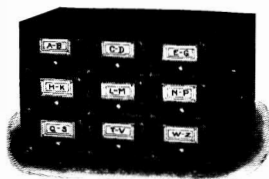
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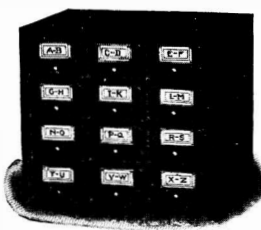
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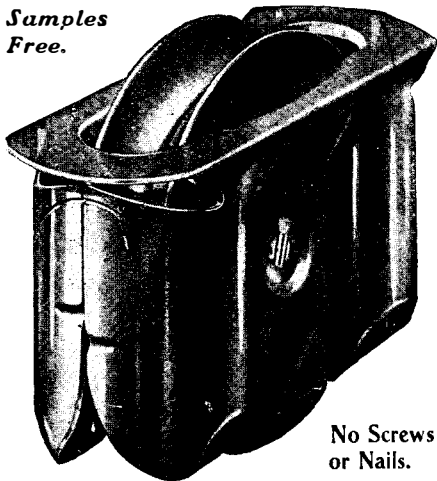


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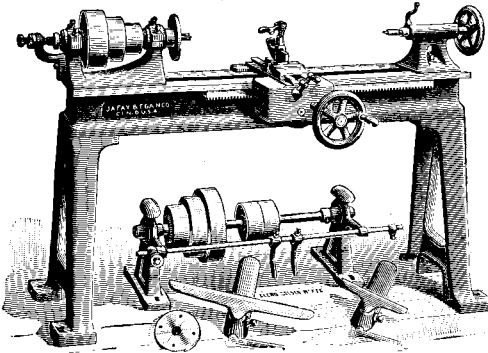
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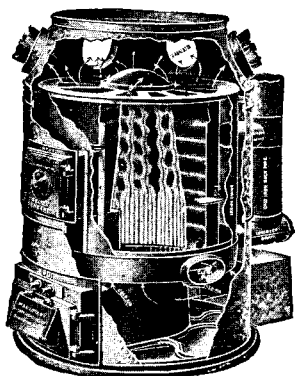
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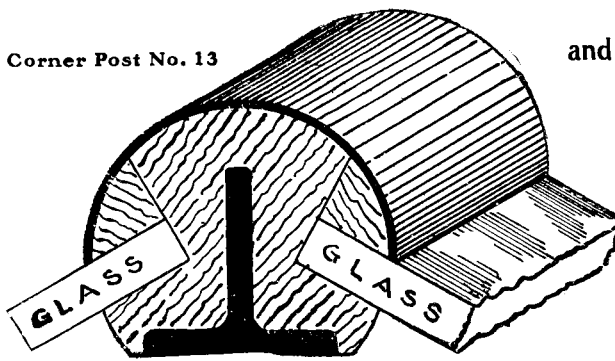
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