

December 15, 1889]

THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

Me Wo. store. No. 10 Juan street, \$850.
M. P. Beck, dwelling. Corner Eleventh and Sentous, \$300.
Ole Hall, dwelling. Kelley street, \$660.
Edward Hildreth, stable. No. 245 South Hope street, \$675.
Total, \$72,435.
Fred Haniman, dwelling. Adams street, between Main and Grand avenue, \$2,500.
W. W. Holcom, dwelling. Rodney street, between Los Angeles and Main streets, \$300.
Dennis Henness, store. No. 609 Grand avenue, \$1,200.
Guadalupe Perez and others, brick store. Spring street, between Second and Third streets, \$10,000.
William Wright, dwelling. Flower street, near Washington street, \$2,500.
S. M. Cool, stores and dwelling. Corner Jefferson and Wesley avenues, \$6,375.
M. J. Rich, dwelling. Workman street, near Downey avenue, \$300.
E. Pinney, dwelling. Corner Mignonette and Beaudry streets, \$800.
P. H. Bodkin, dwelling. Corner Adams and Trinity streets, \$1,000.
J. S. Shellert, dwelling. Eleventh street, between Main and Hill streets, \$5,000.
Orphans Home. Boyle Heights, \$117,030.
J. Thompson, addition to store. No. 26 East First street, \$30.
M. A. Whissen, repairs to residence. No. 339 Figueroa street, \$500.
John Schurer, dwelling. No. 515 Macy street, \$2,500.
Aggregate value of improvements, \$223,500.

ALHAMBRA. (Los Angeles.)

Two new frames are being erected.

LIVERMORE.

Mr. J. Johnson is building an addition, 20x30 feet, to his hotel property, on Main street.
Newton Gray is building an addition to his residence, cor. Fourth and K streets.

STOCKTON.

Residence. N. C. Hilke, owner, cost, \$3,000. Public school, cost, \$15,000. Store, owner, Dr. Walter Todd, cost, \$10,000. Residence, owner, Alex. Galt, cost, \$3,500. Residence, owner, Frank Berwick, cost, \$28,000. Building, owner, Chas. Christian, cost, \$30,000. Residence, owner, Wm. Smith, cost, \$4,000. Architect, Chas. Beasley.

MERCED.

Residence. Owner, J. K. Laws, cost, \$8,000; architect, Chas. Beasley.

OAKDALE.

Hotel, John Hubble, owner, cost, \$10,000. Residence, owner, A. T. Stewart, cost, \$35,000. Architect, Chas. Beasley.

EUREKA.

First Congregational church. Cost of church, without seating, or heating furnaces, \$13,000; architect, James E. Wolfe.

SAN LEANDRO.

Hayward Avenue. Two dwellings: owner, Mrs. J. G. Hall; contractors, Quigley & Kilgore; time, Jan. 15, '90; cost, \$3,400; signed, Nov. 16; filed, Nov. 20; payments, \$1,000, materials on ground; \$1,000, foundation done; \$550, plastering done; \$850, 35 days.

KLINKNERVILLE.

Idaho and Butler. 1-story cottage: owner, C. A. Klinkner; architects, J. J. and T. D. Newsom; contractors, Sturgeon & Son; cost, \$3,600; signed, Dec. 5; filed, Dec. 7; payments, \$140, frame up, roof on; \$140, shingled, rustic and chimney built; \$440, rough plumbing done, brown mortared and first coat of paint outside; \$440, plastered and second coat of paint; \$940, completed; \$900, 35 days.

ALAMEDA.

Para near San Antonio Avenue. 2-story frame: owner, Albert Vickers; contractor, A. R. Denke; cost, \$3,800; signed, Nov. 27; filed, Dec. 4; payments, \$800, frame up; \$1,000, first coat of plaster on; \$1,000, finished; \$1,000, 35 days.

OAKLAND.

Twenty-sixth Avenue, between East Ninth and Tenth streets. 2-story frame: owner, C. B. Rice; contractor, Wm. F. Wise; cost, \$2,000; signed, Oct. 28; filed, Nov. 21; time, Jan., '90; payments, \$50 monthly; balance, mortgage.

Washington and Twelfth. Lathing brick building: owner, M. K. Blake; architect, W. J. Matthews; contractors, Bradley & Sturrock; cost, \$1,600; signed, Nov. 20; filed, Nov. 22; payments, \$1,000, lathed; \$1,000, brown coated; \$1,450, white coated; \$1,150, 35 days.

Piedmont. Painting: owner, C. W. Randall; architect, Chas. Mau; contractors, Sloan & Brown; signed and filed, Nov. 18; cost, \$350; quarterly payments, ending 35 days after completion; interior painting; contractors, Dooly & Hooley; signed and filed, Nov. 20; cost, \$600; payments, one-fourth, varnish on; one-half, completed; balance, 35 days.

Bray Tract, Brooklyn Tp. Dwelling: owner, P. H. Blake; architect, S. Hatfield; contractors, A. B. Moody & O. F. Hunt; cost, \$1,700; signed, Nov. 29; filed, Nov. 30; payments, \$318.75, shingled; same, window frames set; same, plastering done; same, completed; \$428, 35 days.

Block 45, Clinton. Frame: owner, B. J. Richter; contractors, Deike & Enos; cost, \$2,112.50; signed, Nov. 4; filed, Nov. 25; time, Feb., '90; payments, one-third, enclosed; one-third, first coat of plaster on; one-third, completed.

Market and Fourteenth. Additions: owner, W. S. Pogue; architect, Wm. Kirk; sureties, A. Wood and Mrs. C. E. Clement; cost, \$2,000; contractor, E. S. Fisher; cost, \$3,088.50; signed, Nov. 11; filed, Nov. 26; payments, 75 per cent. as work progresses.

Leonard Tract. Lot 6, block B: owner, Mrs. Margaret Dunn; contractors, Higgins, Davidson & Co.; cost, \$2,425; signed, Nov. 23; filed, Nov. 26; payments, \$600.25, frame up; same, enclosed and shingled; same, brown mortared; same, 35 days completed; time, 12 weeks.

PLEASANTON.

Extensive repairs are being made on the residence of Count Valensin.

MISSION. (San Jose.)

P. McKenna is building a large twelve-roomed house on his ranch, near Mission Peak. T. H. Downie is the contractor.

GOLDEN GATE.

G. Paladeau will build a house at a cost of \$3,500.

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Water Closets, Glenn Brown.....1.00
Hand Railing and Stair Caseing, Creswell.....1.50
American Stair Builders' Guide, Gould.....2.50
Shavings and Sawdust, Kane.....1.50
Public Buildings, Bicknell.....2.50
Artisan, Riddell.....5.00
Mechanics' Geometry, Riddell.....4.00
Lessons in Carpentry by Slide Rule, Riddell.....3.00
Modern Low Cost Houses, Shoppell.....50
Monckton's Practical Geometry.....1.00
Manual of Industrial Drawing for Carpenters.....2.00
Decker.....2.00
Steam Engine Catechism, Grimshaw.....1.00
Supplement to Saws, Grimshaw.....1.00
Grimshaw on Saws, Grimshaw.....4.06
Principle of House Drainage, Putnam.....1.00
Drawing for Stone Mason, Davidson.....1.50
Practical Prospective, Davidson.....1.50
Cutting Tools, Smith.....1.50
Sewer Gas and Its Dangers, Brown.....1.25
Lumberman's Handbook, Judson.....2.00
Appleton's Home Garden, Church.....60
Legendry and Mythological Art, Clements.....3.00
Picturesque California Homes, Newsom, Cloth.....3.50
Picturesque California Homes, Newsom Paper.....3.00
Painter's Foreman, Shephard.....50
Cottages, Gerard.....1.00
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Paper Hangers' Companion, Smith.....1.00
Architectural Designs and Book of Ornamental Drawings, Burns.....1.00
Treatise on Acoustics, Salitzer's.....2.00
National Carpenter and Joiner, Monckton.....5.00
Vodge's Pocket Companion, Full Bound.....2.00
Muslin.....1.50
Kidder's Architects and Builders, Pocket Book.....3.50
Sensible Low Cost Modern Houses.....1.00
Copley's Alphabet.....3.00
Woodward's Graperies.....1.00
Cottages and Farm Houses, Woodward.....1.50
Country Homes, Woodward.....1.50
Rural Homes, Wheeler.....1.50
Steel Square, and Its Uses, Hodgson.....1.00
Perspective Cone.....1.00
Masonry Construction, Baker.....5.00
Manual of Machine Construction, Richards.....5.00
Wright's Perspective.....3.00
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tion to this journal for one year, if sent direct to this office, will entitle the subscriber to a rebate of \$1.00 on any one of these works.

ANY book not on above list we can supply at regular rates.

A perfect model of the "Monarch" Bear has been presented to our Editor by R. Schmid, the sculptor, studio 17 Ridley St. It is a remarkable figure as it quietly lies on our table in plastic form and though labelled the "Monarch," we "bar" in mind there is no harm in it.

THE NORRIS PULLEY.

The desire to draw the attention of our many subscribers to the advertisement of the Norris Pulley page V.

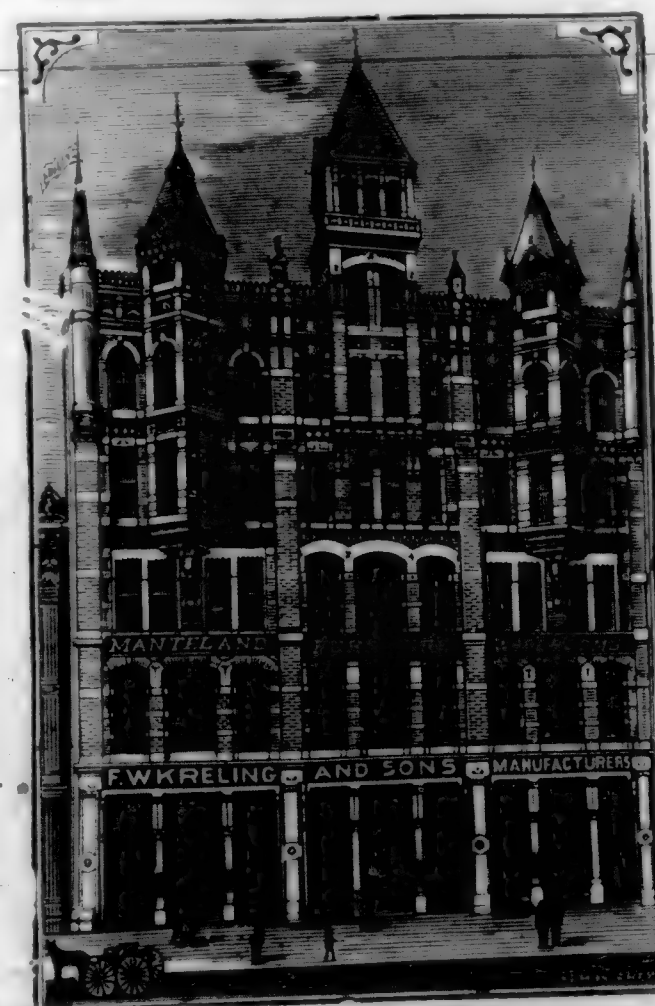
The Pulley you can readily see is the only pulley made that does not depend upon the screws to hold it in the frame. The pin being back of the bevel on lower end of Pulley causes the weight of both sash and weight to pull back, therefore the more weight the more firmly the pulley imbeds itself in the frame.

Norris & Co. manufacture the largest variety of pulleys of any firm in the country. Their business extends all over the United States. They are the oldest or one of the oldest hardware houses in the country.

In the last few years the majority of the fine buildings erected have the Norris Pulley in the frames. The architects and builders generally concede that the Norris Pulley is the best on the market, their pulleys range in price from 15 cents to \$60 per dozen, and they make pulleys with 3/4-in. to 4-in. wheels. All their pulleys are numbered, and as the number designates the size and quality, always in ordering mention the number.

Norris Pulleys can be had of any responsible hardware house in the United States or Canada, or you can address C. Sidney Norris & Co., Baltimore, Md.

Architects wishing catalogues and samples will receive same free of cost.



CABOT'S BRICK PRESERVATIVE.

The sandstone in the New California Theatre building has been treated to a coat of Cabot's Brick Preservative, which has water-proofed and hardened the stone. While it does not appear to have changed the natural color of the stone any more than water would, it leaves no trace of gloss or gum.

Retail Price List of Lumber.

PINE, FIR AND SPRUCE.

	Per 1,000 ft.
Rough Pine, merchantable to 40 ft. inclusive.	\$20 00
" " 41 to 50 " "	21 00
" " 51 to 60 " "	23 00
" " 61 to 70 " "	27 00
" " 1x3, fencing.	22 00
" " 1x4.	21 00
" " 1x3, 1x4 and 1x6, odd lengths.	19 00
" " second quality.	17 00
" " selected.	25 00
" " clear except for flooring.	31 00
" " for flooring less than flooring.	1 00
Clear V.G. No. 1 Flooring, when ordered, extra.	5 00
Fire Wood.	11 00
Dressed Pine, flooring, No. 1, 1x6.	32 00
" " 1x4.	34 00
" " 1 1/2 x 4, 1 1/2 x 6 and odd sizes.	37 00
" " all sizes, No. 2.	27 00
" " Stepping, No. 1.	43 00
" " 2.	33 00
Ship Timber & P'd., rough selected.	27 00
" " select'd plnd, 1 sd.	29 00
" " 2 " 40 ft.	31 00
" " 3 " 33 50	
" " 4 " 35 00	
Deck Plank, rough.	35 00
" " dressed, average 35 feet.	40 00
Pickets, rough, B. M.	20 00
" " 1x1 1/2 - 4 ft. long.	5 00
" " 1x1 1/2 - 4 1/2 ft. long.	6 00
" " 1x1 1/2 - 5 ft. long.	7 00
" " 1x1 1/2 - 6 ft. long.	8 50
" " 1x1 1/2 - 7 ft. long.	10 00
" " 1x1 1/2 - 8 ft. long.	11 50
Furring, 1x2.	1 00
Lath, 1 1/2 x 4 ft.	2 75
" " 1 1/2 x 4 ft.	3 00
Spruce, rough.	19 00
" " dressed, shelving.	36 00
" " 1 inch.	36 00
" " clear.	33 00
Rough damage, delivered.	20 00

REDWOOD.

Rough Redwood, merchantable.	19 00
" " second quality.	16 00
" " selected.	25 00
" " clear.	34 00

merchantable boards.	21 00
1 inch surfaced.	31 00
No. 1 do.	34 00
No. 2 do.	25 00
T & G, 1x6, 12 ft. and over, No. 1.	34 00
" other sizes, No. 1.	37 50
" 7 to 11, No. 1.	25 00
" under 7 " "	22 00
Rustic, No. 1.	35 00
" 2.	31 00
T & G b'ded 12 ft. and over, No. 1.	34 00
" other sizes, No. 1.	37 50
" 7 to 11, " "	25 00
" under 7 " "	22 00
Sliding, 1 inch.	25 00
Casing Stock, 1, 1 1/2 and 1 3/4 Rough, 7 to 11.	25 00
1x3, 4x6, Clear, under 7.	22 00
Tank Stock, 2 and 3 inches, clear, (surfaced or rough,) under 12 feet.	27 00
Pickets, (fancy), 4 ft., B. M.	25 00
" (rough, pointed), B. M.	18 00
" (square), B. M.	16 00
Battens, 1x3, per lineal ft.	01
Shingles, per M.	2 25
" fancy.	3 50
Posts, split.	15
Shakes, split.	11 00
" sawed.	13 00

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SAN FRANCISCO, CAL.

Mr. Bloor received a complimentary vote of twenty-two for the office of Secretary, and the convention also offered to him and to Mr. Hatfield votes of thanks for the faithful and disinterested manner in which they had so long discharged the duties of Secretary and Treasurer of the original Institute.

The committee, which had had in charge the consideration of the important question of the employment of a clerk-of-works, was continued and enlarged, and instructed to report at the next convention.

A new committee was appointed to consider how the members of State Associations and Chapters, who were not already members of the Institute, might become so with as little delay as possible. A committee on professional ethics was also appointed.

The Secretary was then instructed to prepare and distribute to such journals as he might select, such synopsis of the proceedings as was desirable to place before the profession in advance of the publication of the annual "Proceedings." A member suggested that this was hardly necessary, inasmuch as several professional journals were represented at the convention by reporters, and they would probably publish at once full reports of the proceedings. This, however, seemed hardly to be satisfactory to some of the members, and the instructions were unchanged.

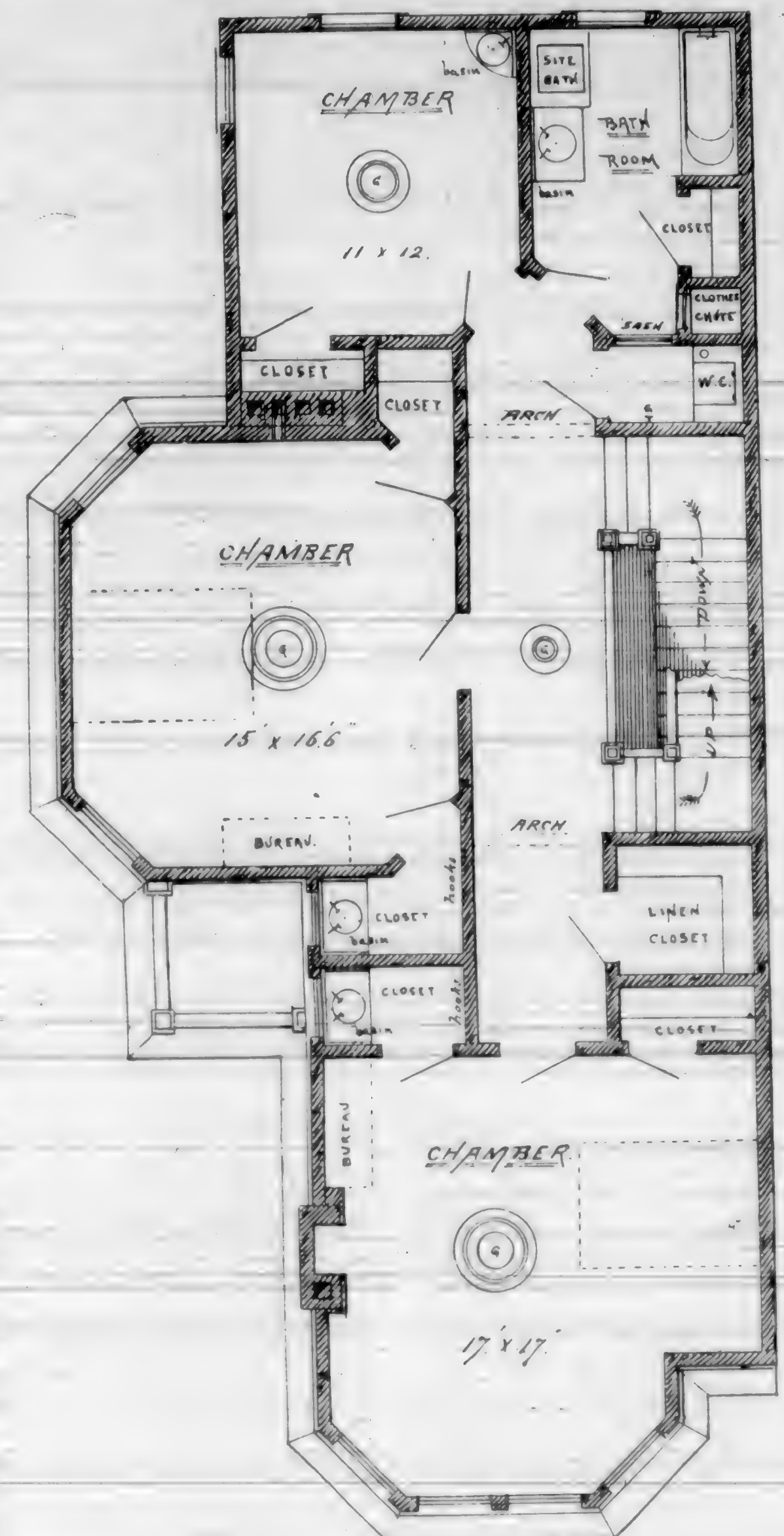
The question of publication having been broached, Mr. Gibson, of New York, said that inasmuch as the *American Architect* had always been the official journal of the American Institute of Architects for purposes of publication, he would suggest that this connection would be continued. As the suggestion at once brought out a protest from different parts of the room, and it so appeared that the members did not care to discriminate for or against any of the architectural journals now published, the suggestion was withdrawn.

During the discussion of the question of annual dues, considerable stress was laid on the injustice of expecting unpaid officials to incur the expenses of attending the necessary directors' meetings and the annual conventions, and it was the hope of those who urged the larger annual due that in this way might be obtained a sum which could be drawn on for a part of, if not all, these burdensome expenses. [The matter of lightening the expenses of the Executive Committee was, we believe, left to the discretion of the directors]. At this stage of proceedings the same matter came up in broader fashion in the shape of a proposition that it should be part of the directors' duties to consider and report whether it were not feasible to devise a practicable method by which the expenses of the members attending the convention might be equalized. As this is an obviously simple thing to accomplish by computing the mileage of those who signify their intention of attending and then assessing the amount equally on all such members, it may be hoped that a step will soon be taken which will make these annual meetings larger and really more representative of the whole country. A delegation could under such conditions afford to come from San Francisco even, while the Eastern men would not be materially affected by the small addition to their own individual expenses. It was, really, of all the suggestions made during the entire convention, the one best worth the making.

Letters were read from the Mayor, Board of Trade, architects and other bodies in Denver inviting the Institute to hold its next convention in that city, but the invitation, as the site was already decided on, was declined with thanks.

The last important act of the meeting was taken by Mr. Brown, of Washington, who offered as an amendment to the constitution, to be acted on next year, a resolution that each Chapter of the Institute might send to the annual convention a member or delegation entitled to cast a vote on all questions equal in amount to the full membership of such Chapter. In other words, the matter of representation by proxy, which we have advocated, is now properly brought before the Institute for consideration, and when one looks back on the business which was actually transacted during the convention, it is discovered that the greater part of the business either was actually done or could have been as well done by small committees whose action would naturally give much more satisfaction if it were taken with the advice and consent of their fellows, who had delegated to them full power to act than ever can the action of individual members, whose presence on a committee hinges on the accident of their happening to be at a convention, where the president's eye chances to fall upon them.

After this as no further business offered, the convention adjourned, subject to the call of the directors.



SECOND FLOOR PLAN

PLATE NO. 2.

Official Report of the First Meeting of the Board of Directors of the American Institute of Architects, Cincinnati, Nov. 21st, 1889.

Minutes—

The following members were present, President Hunt being in the chair: Messieurs,

Briggs	Gibson	McLaughlin
Bruce	Hunt	Root
Carlin	Illsley	Smith
Cutler	Kendall	Treat
Cummings	Littell	

The following gentlemen were elected as members of the Executive Committee, of which the President, Secretary and Treasurer are ex-officio members: Kendall of New York, three years; Adler of Chicago, three years; Gibson of New York, two years; Carlin of Buffalo, one year.

Mr. Cummings reported on behalf of committee on relations between chapters and the associations as follows:

"At the recent convention of the American Institute of Architects, the undersigned were appointed a committee to consider whether any method could be adopted by which the complication at present thought to exist in the relations of chapters and individuals as to the membership of the American Institute of Architects could be removed.

The committee have carefully considered that subject, and have found themselves confronted by difficulties so great as to prove insurmountable by any wisdom which the committee can apply to them.

The committee recognize fully the desirability of providing that every fellow of the Institute shall be also a member of some one of the local societies organized as chapters. In no other way can the Institute be so well assured of the fitness of a candidate for membership as by his being certified to be a member in good standing of one of the chapters. And the fact of all the fellows of the Institute being at the same time members of the chapters tends to confirm the solidarity of the chapters with the Institute, which is so eminently to be desired.

But, on the other hand, there are doubtless many cases in which an architect residing in a town where no local chapter exists, where the nearest chapter may be located at a distance of hundreds of miles, may desire to become a member of the Institute. He may be in every respect qualified to become a useful member of the Institute, and to receive both pleasure and profit from his association with it. To refuse his admission except on condition of his joining a chapter, perhaps in another State, with which he has no natural affiliations, with the members with which he has no acquaintance, seems a measure hardly less than tyrannical.

The committee confess themselves unable to see any method by which the difficulty can be overcome, and they therefore ask respectfully to be excused from further consideration of the subject, and to recommend it to the wisdom and judgment of the Board of Directors.

For the committee, CHAS. A. CUMMINGS, Chairman.
Cincinnati, November 21, 1889.

Mr. Littell moved:

That the full powers of the Board of Directors, not expressly reserved in Article VIII, Section 2 of the By-Laws be vested in the Executive Committee, subject to the obligation to report to the Board, from time to time, when called upon to do so.

Motion carried.

Mr. Gibson moved:

That the Executive Committee shall hold quarterly meetings and other meetings at the call of the President, when the Secretary shall report to him a necessity for the same, or when three members of the Committee shall request him to call such meetings for special business.

Motion carried.

Mr. Cutler moved:

"That in the event of inability to attend a meeting of the Executive Committee, the member so prevented from being present shall notify the Secretary, who shall thereupon, if deemed expedient, notify a director, who attending the meeting shall have full power to act as substitute."

Motion carried.

Mr. Gibson moved:

"That it shall be the duty of the Secretary to notify members of the Executive Committee of any meeting, ten days in advance of such meeting, and members shall at once reply stating their intention or inability to attend."

Motion carried.

Mr. Briggs moved:

"That the following form of ballot be used in the election of members:
OFFICE OF SECRETARY, A. I. A.

DEAR SIR,—Please vote by striking out the alternative word under the heading "Vote," and return the sheet to me at your earliest convenience.

VOTE.	APPLICANT.		LAY INDORSERS.		INDORSING MEMBERS.	
	Name.	Address.	Name.	Occupation.	Name.	Address.
No.	Yes.					
No.	Yes.					

Secretary A. I. A.

Motion carried.

Mr. Carlin moved:

That the Secretary shall enclose with each ballot for membership, a stamped envelope addressed to himself with the words "Ballot for Membership" printed on the outside.

Motion passed.

Mr. Gibson moved:

"That it shall be the duty of the Secretary to notify each candidate for membership of the result of the letter ballot, and enclose a copy of the constitution and by-laws and direct his attention to Article VII, Section 1 of the by-laws and to notify the Treasurer of the new membership election."

Motion carried.

Mr. Gibson moved:

"That the question referred to in Article X of the by-laws be referred to a special committee to be appointed by the chair and to report at or before the next quarterly meeting of the Executive Committee."

Motion carried.

Mr. Briggs moved:

"That a committee of education be appointed by the chair."

Motion carried.

The following committee was appointed: Messrs. Russell Sturges, professor pro tem., Columbia College; Wm. R. Ware, professor architecture, Columbia College; T. Clifford Ricker, professor architecture, Champaign, Ill.; T. M. Clark, Massachusetts Institute of Technology, Boston.

Mr. Kendall moved:

That the Board of Directors now proceed to nominate substitutes for each of its members as were to-day elected and who may be unable to serve, and that such nominees be substituted in the order of nomination.

Motion carried.

The following gentlemen were nominated:

1. Alfred Stone,
2. Levi T. Scofield,
3. W. N. Poindexter,
4. J. W. Yost,
5. E. C. Cabot,
6. G. W. Rapp,
7. W. S. Wicks,
8. N. S. Patton,
9. W. G. Preston,
10. A. S. Bloor,
11. E. J. Nickerson.

The motion of Mr. Glenn Brown presented to the convention and referred to the Board of Directors was tabled.

The resolution related to new sections to be added to the by-laws after Section 1 in Article II.

Mr. Briggs moved:

"That the schedule of charges adopted by the American Institute of Architects and the Western Association of Architects in 1884 be reaffirmed by the American Institute of Architects and printed as an appendix to the constitution and by-laws, and also in the form of a circular with the words "minimum" prefixed before "charges." And if the circular be issued to non-members it shall be plainly marked in large red letters "ISSUED TO NON-MEMBERS OF THE INSTITUTE" printed diagonally across its face.

Adjourned.

JOHN W. ROOT,
Secretary.

THE ASTRONOMICAL SOCIETY OF THE PACIFIC.

The object of the Society is to bring together in cordial co-operation the amateur and professional astronomers of the Pacific Coast. Three meetings a year are held in San Francisco at the rooms of the Society, 408 California street; and three meetings are held at the Lick Observatory, Mt. Hamilton, where an opportunity is afforded to the members to see and use the instruments at the Observatory. The yearly dues are five dollars. There is no initiation fee. Any person who takes an interest in astronomy is eligible for membership. Communications addressed to 408 California street will receive attention.

TECHNICAL SOCIETY OF THE PACIFIC COAST.

The Technical Society of the Pacific Coast has for its object the professional improvement of its members, the encouragement of social intercourse among men of practical science, and the establishment of a central point of reference and union for its members. All persons who are engaged professionally in the practical application of science are eligible for admission into the Society. Application for admission must be endorsed by three members of the Society. The entrance fee is five dollars, and yearly dues are twelve dollars for resident members, and six dollars for non-resident members. The meetings are held monthly at the rooms of the Society, 408 California street, where all communications should be addressed.

SAN FRANCISCO CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.

This Association holds monthly meetings on the second Friday of each month at their rooms, 408 California street. Fellowship membership is confined to architects in the regular practice of the profession, who have been established in business not less than one year previous to their application for membership. The objects of the society are to unite in fellowship the architects of the Pacific Coast, promote and sustain their professional standing and dignity, and increase the artistic, scientific and practical proficiencies of the profession.

The Initiation fee is six dollars and the yearly dues six dollars.

BILL TO REGULATE THE PRACTICE OF ARCHITECTURE IN THE STATE OF NEW YORK.

SECTION 1. No person shall practice architecture in this State who shall not have attained the age of twenty-one years, and that hereafter no person shall pursue the business or profession of architecture in this State, except in accordance with the rules and regulations herein described.

SEC. 2. There shall be established and created in and for the State of New York a board of architects, constituted as follows: One member from the faculty of Columbia College, one from the faculty of Cornell University, two from the Western New York State Association of Architects, and two from the New York Chapter of the American Institute of Architects.

Within sixty days after the passage of this act, the presidents and secretaries shall call meetings of the members of these associations, and at such meetings there shall be designated by ballot four from the Western New York State Association of Architects, and four from the New York Chapter of the American Institute of Architects, all reputable architects doing business within the said State of New York, each of whom shall have not less than ten years' experience as a practical architect. Notice of such designation and the names of the parties so designated shall then be filed with the governor of the State of New York, and from the persons so designated and from the faculties of the colleges hereinbefore named, and within thirty days from the date of filing the names he shall appoint the members of the board of architects as hereinbefore provided. The members of the board appointed under this section shall hold office, for the term of one, two, three, four, five and six years, respectively, and until their successors shall have been duly appointed and qualified. The architectural societies hereinbefore mentioned shall hereafter designate three reputable registered architects doing business within the State of New York, from which number the governor shall fill the vacancy annually occurring. In case of death, resignation, or removal from the State of any member of the board before the expiration of his term of office, the remaining surviving members of the board shall fill the vacancy from the list of names last submitted, and the person so appointed shall be a member of the board for the remainder of the term of his predecessor.

SEC. 3. Manner of organization, etc.

SEC. 4. Time of meetings—and the board to examine all persons applying for examination, and grant licenses to all persons entitled to same.

SEC. 5. No person shall practice the profession or pursue the business of an architect without a license from the board of architects. Any person desiring to pursue such occupation shall apply to the board for license, and thereupon the board at some regular or special meeting shall proceed to examine the applicant as to his qualifications, with special reference to the construction of buildings, strength of materials, laws of sanitation as applied to buildings, and the ability of the applicant to make practical application of such knowledge in the ordinary professional work of an architect. If such examination is satisfactory to a majority of the board, a license shall be issued to the applicant under the seal of the board, authorizing him to practice the profession of architecture within the limits of this State. All licenses to architects shall be recorded in a book provided for the purpose by the clerk of the county in which the applicant resides.

All persons who shall be at the date of the passage of this act engaged in the practice of the profession in this State, shall be entitled to a license without examination on the payment of a fee of \$5.

SEC. 6. All licenses shall be subject to revocation by the board. * * * No license shall be revoked except by the unanimous vote of all the members.

SEC. 7. If any person shall pursue the business or occupation of architecture in this State, or shall advertise or put out any sign, advertisement or cards designating himself as an architect, without first obtaining a license therefor in accordance with the provisions of this act, he shall be deemed guilty of a misdemeanor, and upon conviction, he shall be fined not less than \$100 nor more than \$500. No person shall be entitled to a license as an architect who is directly or indirectly concerned in any contract for work or materials in connection with the building business, but nothing herein contained shall be construed to prevent any person in this State from planning or supervising the erection of his own building, nor shall the provisions of this act apply to architects from other States who may desire to compete for some special building, public or private, and who may visit the State in person for such special purpose, nor shall it apply to students or employees of licensed architects within this State acting for and by the authority of such licensed architects.

SEC. 8. Fee for such license shall be \$20. * * * All expenses of board to be reported to the Governor of the State.

The above is a copy of the bill which some of the architects of New York State are desirous should become a law. We publish it and leave the matter for our architects to discuss.—ED.

HE KNEW IT ALL.

The builders tell a rather interesting story of a Buffalo capitalist who was pretty summarily taken down for trying to set himself up as the end of all things in whatever he undertook. No matter what was on foot, if he went into it he must have all the say and nobody else was allowed even a side remark. Not long ago he built a fine brick house. In this undertaking, as in all others, he was boss and all hands, dictating to builders, architects and all without the slightest hesitation. At last they grew very tired of the browbeating they had to stand and let him have his way whether it was right or wrong. The house was finished and shortly afterward the owner set about building furnace fires to test his heating apparatus, when behold, there wasn't a chimney in the house!—Ex.

THE RESPONSIBILITY OF ARCHITECTS.

THE committee of the Western Association of Architects at its last annual convention reported as follows on the liability of architects according to a number of decisions recently rendered:

"First Case.—An architect in this city had charge of the erection of a house for a widow. The contracts had been let to a carpenter in one. It provided the architect to be umpire, and payments were to be made on his certificate. Specifications provided a 'first-class job.' Through neglect of the architect, the work was carried out poorly, extremely poorly in many respects, so that the widow refused to pay the final certificate. The case went into Court, and the judge decided that the widow was bound to pay the architect's certificate, just or unjust, and that if she had any case at all she might bring suit against the architect. So she did, and recovered \$800, which was paid by the architect.

"Second Case.—A widow erected a mansion under the charge of an architect. She had difficulty in obtaining the plans. Her directions as to changes were not heeded, and she became frightened enough to consult a lawyer. A private superintendent was employed. The architect was notified in writing as to changes being required here and there, and as to work being carried out carelessly. The house was completed and every certificate was paid, since it would have been useless to contest the payment of any of them. There was no evidence as to fraud, though such there was undoubtedly committed. The widow then sued the architect and recovered judgment for \$4,500, which remained final.

"Third Case.—A citizen erected a block of houses during the winter. The architect neglected to provide means for keeping out the frost, and allowed the mason to build dwarf walls upon the frozen ground. Through this the building became to a considerable extent damaged, and the owner brought suit. The first verdict obtained was \$1,400 against the architect, who appealed and received, incidentally so, as it would appear, an order for a new trial. The case was thereupon tried again in another Court, and verdict was obtained against the architect for \$1,900. The case had been tried more effectively, and the facts brought to the understanding of the jury.

"In all these cases the specifications had a preamble in which the architect was declared to be, in so many words, sole arbiter. Doubtless there are many more similar cases on record.

"In case an architect should not thus expressly declare himself to be sole arbiter, he would not be excused, but held under the rule of established custom. If, however, an architect expressly declares that he is not arbiter, and had nothing to say and to rule, he could, of course, not be held liable. But would not his position be simply pitiable? No respectable architect would like to be under such predicament.

"Every architect should be fully aware that his profession is one that may entangle him in scores of liabilities, and he should prepare himself accordingly. He 'professes' to know, and ought to know. He stands on the same legal ground with every other professional practitioner, with this difference: that his malpractice is far more clearly and positively established than is the case in any other profession. The preacher has nothing to fear on this score. Little more has the land agent. Slightly more still the doctor and the lawyer, but nearest to the architect comes the operating surgeon. Many law-suits have established the certainty of severe consequences to the surgeon of the surgical operator upon human bodies when he commits a blunder or even an error.

"There is nothing more certain than that in all cases the architect is legally and pecuniarily liable for every blunder by him committed, or under him, through the agency of any of his employees. The responsibility on this account is far-reaching, and surpasses that existing with any other profession."

Our space does not permit us to quote further from this valuable report, so full of hints to the careless. The inference to be gained is, that the cautious, prudent architect will so word his certificates that he will not take all the responsibility, but he may express it "as his opinion" or "in his judgment" the work has been done according to contract.

Subscribe for the CALIFORNIA ARCHITECT, \$2.00 per year.

NOTES AND COMMENTS.

A handsome model of the grizzly bear "*Monarch*" adorns our editorial table. The cast was presented by sculptor R. Schmid, and represents the great animal crouching with one paw on a shield bearing the Coat of Arms of the State of California. The modeling is excellent, full of life and a credit to its author.

The nine-story *Chronicle* building is now nearing completion. As the *Chronicle's* great rival, the *Examiner* seeks to "double discount" any enterprise exhibited by its contemporaries, it now makes the announcement that it intends to erect a building. It is safe to say that the *Examiner* will do what it says; and the new structure will astonish the natives will be a veritable "monarch" among our buildings.

Senator Fairfit is reported intends to spend \$200,000 in adding two or three stories to the Lick House. A Chicago architect has been consulted, though work on the building will not be commenced before next spring.

Read our list of books for sale and notice that a subscription to this journal for one year will entitle you to a rebate on purchase price of a book if sent direct to this office.

Draughtsmen out of employment will do well to leave their address at this office.

It is reported that the obelisk in Central Park, New York City, is in danger of being seriously injured by disintegration. It has been scaling off ever since it was brought to this country, and there is great danger that within a few years the hieroglyphics will be entirely obliterated. The obelisk was coated with paraffine a few years ago, but the remedy did not prove effective. The Park Board will make another effort to preserve this monument, and in order to ascertain what is best to be done, have appointed a committee of professors to examine the stone and report as soon as possible, as to its condition with particular reference to its preservation.

The stone is a native of a climate of an equable temperature, and evidently its health can not stand the shock of repeated changes from intense heat in summer to equally great cold in winter. We would recommend that the obelisk continue its journey westward and take up permanent quarters in Golden Gate Park where it would, we have no doubt, receive a cordial welcome from the monuments to other celebrities, which have long enjoyed the mildness of our glorious climate with never a complaint about the night air.—Ed.

The profession has heretofore had so little political significance that it has been hard to enlist our daily press in any measure of professional interest. In fact, the tendency has been to ignore the architect—"Building." [To a certain extent this has been true, but we note a change in public sentiment in this direction.—Ed.]

In medicine and law both, the public is protected—the one profession involving life, the other property, while in architecture, involving both life and property no legal restriction is imposed and any ignorant trickster may open an office and victimize the public.—"Building."

The question of licensing architects so as to have a check on gross inefficiency is a wise step, but how incomplete a step it is without throwing a like protection about the enlightened competent mechanic and contractor.—"Building."

Advertisements on buildings should be taxed in the ratio of their obtrusiveness. A constituted authority should be appointed, to whom individuals feeling aggrieved could refer any act of vandalism upon artistic propriety or educated public taste.—*English Exchange*.

While such restrictions might be tolerated in England, we very much fear no such sweeping regulations could be put in force in this country, though occasionally we have known an owner to appreciate the architects case in producing a handsome edifice, by restricting the size and location of his tenant's signs.—Ed.]

Mr. Charles Follen McKim, senior member of the firm of McKim, Mead & White of New York has put \$20,000 into the hands of Professor Ware of the Architectural Department of Columbia University to be used by the trustees as a perpetual

maintenance of a traveling scholarship or fellowship to that university. With the traveling scholarship already founded through Mr. Schermerhorn and the McKim benefaction, Columbia University will be by far the best endowed in the Architectural Department of any school in the country. Some day California will be heard from through her generous benefactors, but the thought has not quite ripened yet.

The panorama of the Battle of Gettysburg painted by E. J. Austen, and several European artists, now on exhibition at Tenth and Market Streets, is a remarkably vivid representation of an exciting battle; the subject chosen for representation is of great interest to all Americans, and has been handled in a truly masterly manner.

The project to change the grade of Market Street from Valencia to Fifteenth Street, which it was proposed some time ago has been revived and brought before the public again, by an application to the Board of Supervisors. It is proposed to lower the grade at the highest point, twenty-six feet (from sixty feet to seventy-five feet) and by raising the grade in the low portion beyond the cut, to make an easy ascent and by this means induce the business of the street to extend itself along Market instead of branching off up Valencia Street.

In the appeal case of Robert Barton vs. Contractor McDonald for damages for personal injuries caused by falling into an unguarded hole on East street, the Supreme Court has affirmed the decision of the lower Court in favor of plaintiff Barton.

The decision holds that when the condition of a public street is made dangerous by a contractor in repairing the same, he shall erect and maintain around the dangerous spots a good and substantial barrier, and for failure to do so he is guilty of negligence.

The *American Architect* makes the following sensible suggestion to architects: "Of course in regard to many building matters it is necessary to follow the advice and direction of ladies, but keeping in mind feminine amiability, which may at a moment's notice forget all promises, directions, etc., the prudent architect will provide himself with memoranda in the good wife's handwriting, that he may have recourse to it if necessary to establish his claim."

The cause of the above advice grows out of a suit by Architect Manly N. Cutter against Mr. Morris, a gentleman of wealth in New York City. The case may be summed up like this. Mr. Morris engaged Mr. Cutter to build an extension to his house—a room in which a person addicted to snoring could sleep without disturbing the whole house. Mr. Morris then went to Florida and expected to find on his return the work completed for five thousand dollars.

What was his astonishment on his return to find the change had already cost twelve thousand dollars and that fifteen thousand more would be required to finish according to the designs suggested by his wife during his absence.

Mr. Morris sued the architect for sixteen thousand dollars' damages—but the suit was thrown out of court, and Mr. Cutter's suit on his bill was entertained though it took years to get judgment. Mr. Morris, like other rich men, took advantage of his wealth and had the case carried to the Court of Appeals, which has just ordered a new trial.

OUR ILLUSTRATIONS.

Plates No. 1, 2 and 3 show the plans and elevation of a small residence intended for a corner lot—Huerne & Everett, architects.

Double plate No. 4 a residence designed by H. T. Bestor, architect, to be erected at the Sandwich Islands. Wide verandas and projecting cornices shade the building and protect it from the heat of the tropical sun. A feature which might be oftener employed here to advantage, where space is obtainable, is the location of the kitchen and its appurtenances in a separate building.

Plate No. 5 shows the main entrance to Cooper Medical College, corner of Sacramento and Webster Streets in this city, of which Messrs. Wright & Sanders are the architects. It is the first of a series of views we propose to publish from time to time, of the entrances to some of our public and private buildings.

SCHOOL-ROOM SPACE.

Mr. Courthope Bowen, an Englishman whose opinions on the proper size and arrangement of school rooms are received with great respect in his own country, recently made the following statement as to what, in his judgment, might be regarded as a fairly good schoolroom: Taking, for instance, a room 14 feet high, fairly ventilated and always well aired at recess, two-thirds of the floor space should be assigned to the scholars and their desks and the other third should be kept for the teacher, blackboards, etc. With single desks, 22 inches should be allowed from side to side, and 3 feet from back to front for each scholar. The passages need not be more than 18 inches for those running from back to front, and 1 foot for those running from side to side. In such arrangement, counting the passages, each scholar has (without reckoning the share of the space allotted to the teacher) a trifle more than 40 inches from side to side, and just 4 feet from back to front. In a room 25 feet by 20 feet the floor space for scholars' desks will be 16 feet by 20 feet, with 4 feet from back to front per row, and accommodation is provided for 20 scholars. The whole floor space is 500 square feet, and the cubic contents of the room 7,000 cubic feet, with 20 square feet and 280 cubic feet per person.—*Ex.*

CURRENT PUBLICATIONS.

American Architect, November 16th, contains: "Filtration at the Experimental Station in Lawrence," "The Sulphur Mines of Sicily," and "Columbus" (a pilgrimage to Palos) by Fred A. Ober. November 23rd, Convention Western Association Architect. November 30th, Cincinnati Exhibition, Report of Recent Conventions; Illustrations, Courthouse, Savannah, Ga., Wm. G. Preston, architect, Boston, Mass.

Building, November 16th, contains: "Notes on Estimating," David W. King; "Sir Christopher Wren and His Architecture," and illustrations of Madison Square Gardens, McKim, Mead & White, architects, New York; also design for Cathedral St. John the Divine, New York, J. Roth, architect. November 23rd, "The Electric Motor for Domestic Purposes," H. P. Prindle; "The Barge Exhibition," and design of Covered Well III mentioned in competition, New York Sketch Club. November 30th, Proceedings Convention, A. I. A. Design for Iowa Soldiers' Monument, A. E. Davis, architect, Mott Haven, New York City.

Inland Architect, November, "Romanesque Architecture" (Baptistries or Rural and Mortuary Chapels), "Steam Plant for Isolated Electric Light Plants." Illustrations, Monadnock Office Building, sixteen stories high, Burnham & Root, architects, Chicago.

Engineering and Building Record, November 16th, "Suspension of Hot Water Transmission Through Streets," "Pavement Specifications," "The Prall System," "Public Heating Schemes," "The Proposed Channel Bridge" illustrated. November 23rd, "Filtering Experiments by the Massachusetts State Board of Health." Nov. 30th, "How to Use Steam Expansively in Direct Acting Steam Pumps," J. F. Holloway before the A. S. of M. E. "Hot Water Heating," and full account of the convention of architects.

Journal of Proceedings, (R. I. B. A. organ) November 7th, contains: "The President's Address," Mr. Alfred Waterhouse, R. A., a most valuable and complete discourse upon the architectural necessities of the present time, also "Angles and Terminal Features," F. T. Bagallay.

Painters' Magazine, November, "Relief Work in House Decorations," "Painting in this Country," "Ancient Process of Painting," "Decorative Treatment of Doors," "Wall and Ceiling Designs," "Modes of Mural Decoration," "Modern Methods in Decoration."

Sanitary News, November 16th, "Certain Provisions of Continental Legislation Concerning Food Adulteration," "The Amines Process of Sewerage Treatment," R. Godfrey; "The Responsibility of Architects," November 23rd, "Contamination of Drinking Water by Lead," Sinclair White, M. D.; "Licensing Architects," November 30th, "Kitchen Drainage in Philadelphia," "How to Have a House Built."

The Architects, Builders and Hardware Journal of Atlanta, Ga., has made its first appearance, for December, edited by Thos. H. Morgan, and presenting a creditable showing for Southern enterprise in this its first number. It contains three photo-litho. plates of prominent buildings; notably, the Confederate Veterans' Home, Atlanta, Ga., Bruce & Morgan, architects. It should receive the hearty support of the section it represents.

The Western Architect and Builder of Cincinnati, November, publishes a short illustrated article on "Tenement Reform."

National Builder Chicago, November, "Mortars and Concretes of Antiquity and Modern Times," Adolph Cluss, architect; "The Art of Drawing."

The Journal of Building, Pittsburg, Pa., has appeared in its initial number. We wish it success. It is published semi-monthly; price until February 1, 1890 being \$1.00 per annum, regular price \$2.00.

Brickmaker, November 15th, "Petroleum as a Fuel."

American Engineer, November 20th, "Marine Engineering upon the Mississippi," "Dr. Joule, the Discoverer of Mechanical Equivalent of Heat."

Yr. American Builder, December, "Classification of Joints," "Masonry," "Hip and Valley Roofs," "Stairs of a County House," "Strains in Trusses."

Northwestern Architect, November, is devoted wholly to the Consolidated Convention except an article entitled "Evaporation of Water in Traps," Glenn Brown; illustrations: Apartment House, Minneapolis by G. W. and F. D. Orff, architects.

Canadian Architect for November contains: "The Relation of an Architect towards Contractors," G. F. Stalker.

Architectural Era, November, "Canterbury Cathedral," "Byzantine Architecture," Illustrations: The Schermerhorn, H. J. Hardenberg, architect.

Western Architect, Denver, November, "Development of Form as an Expression of Beauty, Shown in Traditional Types and Styles of Construction and Decoration," "The Manufacture of Brick," Illustrations: Design for Cathedral, Salt Lake, M. D. Kern, architect.

Fire and Water, November 16th, Description, illustrated, of the Madison (Wis.) Water Works. November 23rd, "To Reduce the Fire Loss in Manufactories."

Clay Worker, November, "What Clay Has Done for History," "Brick Making and Burning."

American Machinist, November 21st, "Force, Motion and Work," "Practical Drawing," J. G. A. Meyers.

The Mechanical News, November 15th, "Electricity in the Engine Room," James F. Hobart.

Scientific American, December, designs and description of the New Bourse, Paris, M. Berteault, architect.

House Painter and Decorator, November, "The History of House Painting," "The Suggestive in Decorative Art."

Northwestern Mechanic, November, "Vibration in Buildings," "Petroleum as Fuel," "Electricity in the Engine Room."

The Builder and Woodworker, December, "Door Frames."

HAS OUR ARCHITECTURE A NAME?

No building ever produced would have been pure architecture in the eyes of any preceding age. Whatever in it was novelty would have been regarded as an innovation and in bad taste.

The complaint that when we vary from historic precedent we will have no suitable name for our architecture—will not be able to call it Doric or Romanesque or Saracenic, or by some other well-known name, is a complaint that means nothing. No style ever produced had any name until the title was given afterward.

Had anyone asked the architect of the Parthenon what style he was building in, or had anyone called upon Waynflete, as the Cathedral of Winchester rose above the ground, and asked him what style he was building it in, what would have been the answers? The work of neither one could be named by any historic title. So that if we are able at this time to say whether our designs are Romanesque, Syrian or Byzantine, it constitutes no reason why the design may not be good, but if it were exactly in imitation of the art of a thousand or two thousand years ago that would necessarily render it objectionable.

To attempt to make a building, erected for modern uses, in this country, look as though it had been built by the Greeks or Romans two thousand years ago is folly. A man who complains of a design because it uses some of the elements of Greek or Gothic, without using all of them, and because it uses some elements the Greek or Medieval architects did not use, might with equal propriety have condemned the design for the Parthenon because it was not a counterpart of the cave of Ben Hassan.

This is our lesson, that we shall do the best we can from all that we know. Be independent enough to use our knowledge of history and historic work, combined with whatever we can invent, beautifying each production to the limit of our ability, serving each purpose of the building as best we are able, and letting the name for our architecture be assigned by future generations.—From a paper read by J. W. Yost, architect, before the Ohio Architects at Dayton.

"HINTS ON HOUSE BUILDING" BY ROBERT GRIMSHAW.—A new book just published for the benefit of those who contemplate building dwelling houses. Almost everything is suggested that need be thought of for those who desire to know beforehand the kind of house they should build, how, and where to locate it. Read it and you will be told in a unique and pleasing manner how to build. Price 50 cents. Sold by Practical Publishing Co., 21 Park Row, New York.

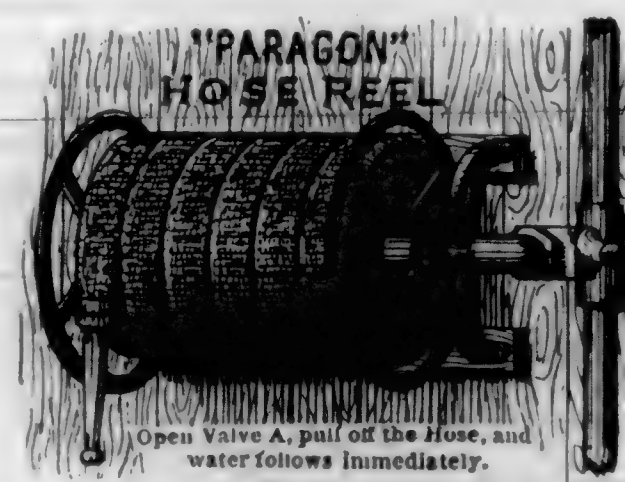
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VOLUME II.

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NUMBER I.

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+ and Building News. +

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NOTICE OF MEETINGS.

SAN FRANCISCO CHAPTER, AMERICAN INSTITUTE ARCHITECTS, meets second Friday of each month at 408 California Street.

TECHNICAL SOCIETY, meets first Friday of each month at 408 California Street.

THE regular monthly meeting of the San Francisco Chapter of the American Institute of Architects was held Friday evening, January 10th. The regular business of the Association was transacted.

Mr. Sanders, the teacher of the class in drawing, reported on the work done and progress made by his class during the year just past, and made an interesting exhibit of the work done by his pupils. The designs gotten up in competition for the prize offered by the Chapter, were shown, and received much well deserved commendation, for they gave evidence of careful study and were very neatly executed.

Mr. Sanders stated that arrangements had been finally made to establish the class in Mathematics, and gave notice to would-be students to meet Monday evening at his office to decide on the evening and hour of meetings.

WITH this number we begin our Eleventh Volume. After ten years of progress and improvement, we enter on the work of the coming months, determined to make the pages more interesting and the illustrations superior to whatever has gone before.

The outlook is promising. Work the past year has been plentiful and the prospects for a busy and prosperous year to come could not be better. With good crops for our farmers, plenty of work for mechanics and a generous patronage for the CALIFORNIA ARCHITECT AND BUILDING NEWS we, each and all, can enjoy the benefits of our honest labor.

The older cities and towns are making up to the requirements of the times, and many of them are asking for the more spacious modern public building. New towns are starting up all over the coast, peopled mostly with a cultivated and energetic class who have come to stay, if we may judge by the tasteful and home-like appearance of their villas and cottages, while active preparations are being made for a greatly increased number of this kind of improvements.

The large tracts of our best lands held under Mexican grants have in many instances been divided into farms, and sold to actual settlers, which necessitate commodious and modern farm buildings in place of those required for extensive cattle ranges.

The fact that all the Eastern lines of railroads must make this Coast the outlet for their trade, will have an important influence on the permanence, capacity and convenience of the business structures that may hereafter be erected; already the ground is broken for several, and others will follow in the early spring.

The people have come to the conclusion that better facilities must be furnished for pure water supply, and for protection against fires, and many large blocks of capital are finding their way into such enterprises which will require suitable buildings, and engineering works.

Many new projects and industries are coming to the front,

many of the older ones are being extended or improved upon, and almost without exception the buildings and plants hereafter erected must be of the most modern type. To these structures, together with residences and buildings, a large share of the attention of the Architect can be profitably directed.

The indications for a period of general prosperity have given an impetus to the various industries furnishing materials; new brick-making establishments have entered the field and the older ones have extended their facilities. Improved fire-proof constructive tiles and terra-cotta are obtainable. Our granite quarries can now supply any color, stone from black to white (including mottled, red and gray) and any size up to 25 or 30 feet. Many new marble quarries have recently been opened, and marble from jet black to spotless white can be supplied of large sizes. The available sand stones running through all the various shades of red, blue, yellow and nearly white, and slate from native quarries are now obtainable in the market.

The great forests of redwood, pine, fir, cypress, cedar and many of the ornamental woods are being worked into practical shape for the market with an increased energy. The great natural asphaltum mines in the Southern section of the State are being worked by more powerful companies, the natural oil wells are receiving their share of attention, and the recent strikes of natural gas in various localities, having taken the "croakers" by surprise, the possibilities being beyond computation, prosperity seems reasonably assured, and the prospect opens up a wide field for technical knowledge and artistic design which can be used advantageously for the public good, and in our next December number we hope to chronicle the fulfillment of these splendid promises.

One word more, it is hoped that the architects throughout the Pacific Coast will take a personal and individual interest in the success of this journal; encourage it by practical suggestions and contributions, and bear in mind that its columns are always open for the discussion of subjects of interest to the profession, or tending to the advancement of its standing and influence.

WE publish in this number, the paper read before the December meeting of the San Francisco Chapter of the American Institute of Architects, by Mr. K. Shimoda, a member of the Japanese Institute of Architects, and of the Penitentiary Association of Japan.

The paper was illustrated with many photographs of Japanese scenery and colored drawings of carving and decorative design, which unfortunately cannot be properly reproduced in the space at our disposal.

Mr. Shimoda described in an interesting manner, the construction of a Japanese hut and a Japanese palace of thirty centuries ago, and thence traced step by step the improvements that have resulted in the typical Japanese architecture of the present time.

Though Mr. Shimoda very modestly disclaimed, in quaint expressions, any wisdom of his own, he strenuously insisted that his countrymen should have the credit of producing an entirely original style of architecture, the result of the evolution of ideas not borrowed, but entirely distinct from the works of any other nation.

Mr. Shimoda is now studying the methods of this country, previous to visiting other nations still more distant from his native land, and learning the uses and relative importance of the methods of construction, and the ever increasing number and variety of materials employed in the erection of our buildings; the object in view being the instruction of his countrymen in the manner and customs of the outside world. He proposes to make something of a stay in this city, and to become better acquainted with our language and habits, when he will visit the art centers of the world to continue his observations and studies.

We bespeak for Mr. Shimoda friendly greeting and assistance from the profession wherever he may stop on his tour.

WE notice the formation of the Golden Gate Improvement Club, composed of property owners north of Golden Gate park and westerly from Scott street to the ocean beach. We would suggest that a strip of land, at least the width of Fulton or D street, be taken along the full length of the northerly side of the park, making the street double width for the whole distance; that a first-class sidewalk twenty or twenty-five feet in width be constructed on the park side of the street, thus forming a wide promenade three miles in length; the ocean breezes coming through the park furnishing pure air in such abundance as to place beyond comparison with that of any other city.

As a matter of convenience for the public, no one particular car line should have a monopoly, but, with such increased width all the main lines centering on that side of the park should have the right of way along the whole length, so that visitors may alight at any desired point.

WHILE the cause, effect and results of the late Boston fire are being investigated for the purpose of fixing the origin, loss and, if possible, teaching us safer modes of constructions, it may not be out of place to make a few statements as gleaned from our exchanges.

The cause appears to have been from the falling of an electric light wire upon a wire used for transmitting electric-clock signals and with which the building first destroyed was amply supplied. That seems to have been the cause of the fire, the effect we know, and the result of the investigation, if fastened upon the companies interested, is an important one. In twenty minutes from the sounding of the first alarm, the building first attacked by the fire, six stories in height and built of granite, brick and iron, was a mass of smoldering ruins in its own basement.

If as a result of this latest conflagration, anything shall have been taught us regarding the proper construction of buildings or the best means to stay the progress of a great fire—to say nothing of the cause—we may be truly thankful for the lesson. In any city where there are narrow streets—high buildings with immense, unprotected plate-glass windows—telephone and electric wires placed without proper inspection—and a water supply that loses its power as an extinguisher at the third story, we may rest assured that the necessary elements of a conflagration are only waiting for a cause.

The latest information of an electric-light wire fire, comes to us under date of 8th inst. from St. Louis, when the Western Union office was burned out. Cause: (we quote from the dispatches)

A network of wires led into the building by way of the roof. The storm of yesterday loaded these down with a heavy coating of ice, and yesterday and last night many breaks occurred. This morning a wire leading to the basement came in contact with a broken electric-light wire, at once setting the building on fire. Result: Many narrow escapes from death, and the building destroyed.

That we legally allow the cause for fires to be over our heads, in our houses, and under our feet, is a matter that must sooner or later provoke action as to the responsibility of these companies, who are jeopardizing our lives and property.

Referring to the foregoing we present a condensation of the law of July 27, 1859, governing the height of buildings in Paris. CONDENSATION OF THE LAW OF JULY 27, 1859, REGULATING THE HEIGHT OF BUILDINGS IN PARIS.

The height of buildings fronting on public street is determined by the legal width of such streets and is measured at the centre of the building, beginning at the sidewalk level and including all entablatures, attics and other features built on the line of the front wall.

This height may not exceed 11.70m. [38.37 ft.] on streets less than 7.80m. [25.58 ft.] wide.

14.60m. [47.88 ft.] on streets between 7.80m. and 9.75m. [25.58 ft. and 31.98 ft.] in width.

17.55m. [57.56 ft.] on streets 9.75m. [25.58 ft.] wide and over.

On streets 20m. [65.60 ft.] wide and over, the height may be carried to 20m. [65.60 ft.] but in no case shall the building contain more than six stories including the entresol.

The height of the ridge above the cornice shall not exceed half the depth of the building, including the cornice projection.

The profile of the roof on the street side shall not pass beyond a line running at 45° from the outside of the cornice.

On boulevards, quais, public squares and streets not less than 15m. [49.20 ft.] in width, and also in interior courts this line of 45° may be replaced with an arc having a radius not greater than half the depth of the building, but the projection of the cornice shall not fall within this arc.

Chimneys shall not penetrate the roof at less than 1.50m. [4.89 ft.] from the line of face nor rise more than .60m. [1.96 ft.] above the ridge.

The front wall of Dormer's shall be at least .30m. [.98 ft.] back of the face of main wall, and the entire structure of the dormer should not rise more than 3m. [9.84 ft.] above the base of the roof. Their width shall not exceed 1.50m. [4.92 ft.] The walls of dormers must be parallel with one another and the distance between them must be at least 1.50m. [4.92 ft.] whatever the width of the dormers may be. A second range of dormers may be employed if kept within the prescribed profile.

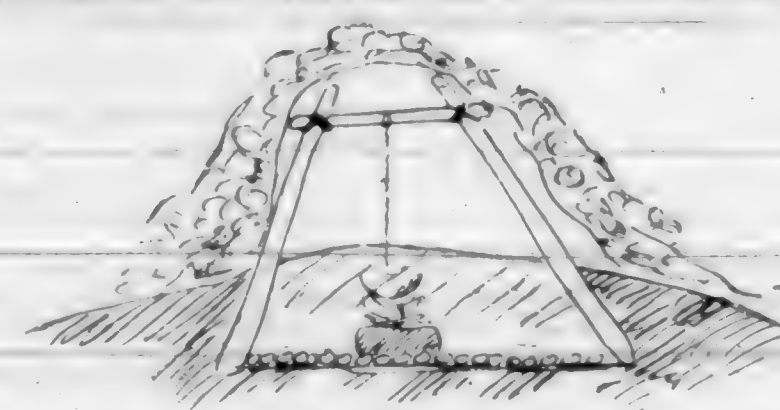
The minimum height of a story shall be 2.60m. [8.52 ft.].

The projection of a cornice shall not exceed the thickness of the wall at its summit.

WE are pleased to second the suggestion of the *Inland* that the first work to be accomplished by the Consolidated Convention of Architects, shall be toward the establishment of a legal status for architects—in fact, we have in the columns of this journal already mentioned the matter. To bring about this result there must be action—harmonious, united, and followed to a conclusion. This must come from the profession itself, and there should be no wasting of words, or personal bickerings over the subject. It is a fact not generally considered—and not to be wondered at—that the standing of an architect in this country—professionally speaking—has not been determined.

It is true, that "by their works ye shall know them"—but the same may be quoted concerning the lawyer and physician, who are, by our laws, legalized, and have thereby a social and a professional standing in the community. We commend this subject to our leading architects that preliminary action may be taken at once.

AN OUTLINE OF JAPANESE ARCHITECTURE.*



An Early Japanese Hut.

GENTLEMEN:—I am very much pleased to come face to face with you, here, as an honorary member of the most celebrated Institute in this civilized nation, by the most obliging introduction of Mr. Sanders, although I am a young architect from Japan.

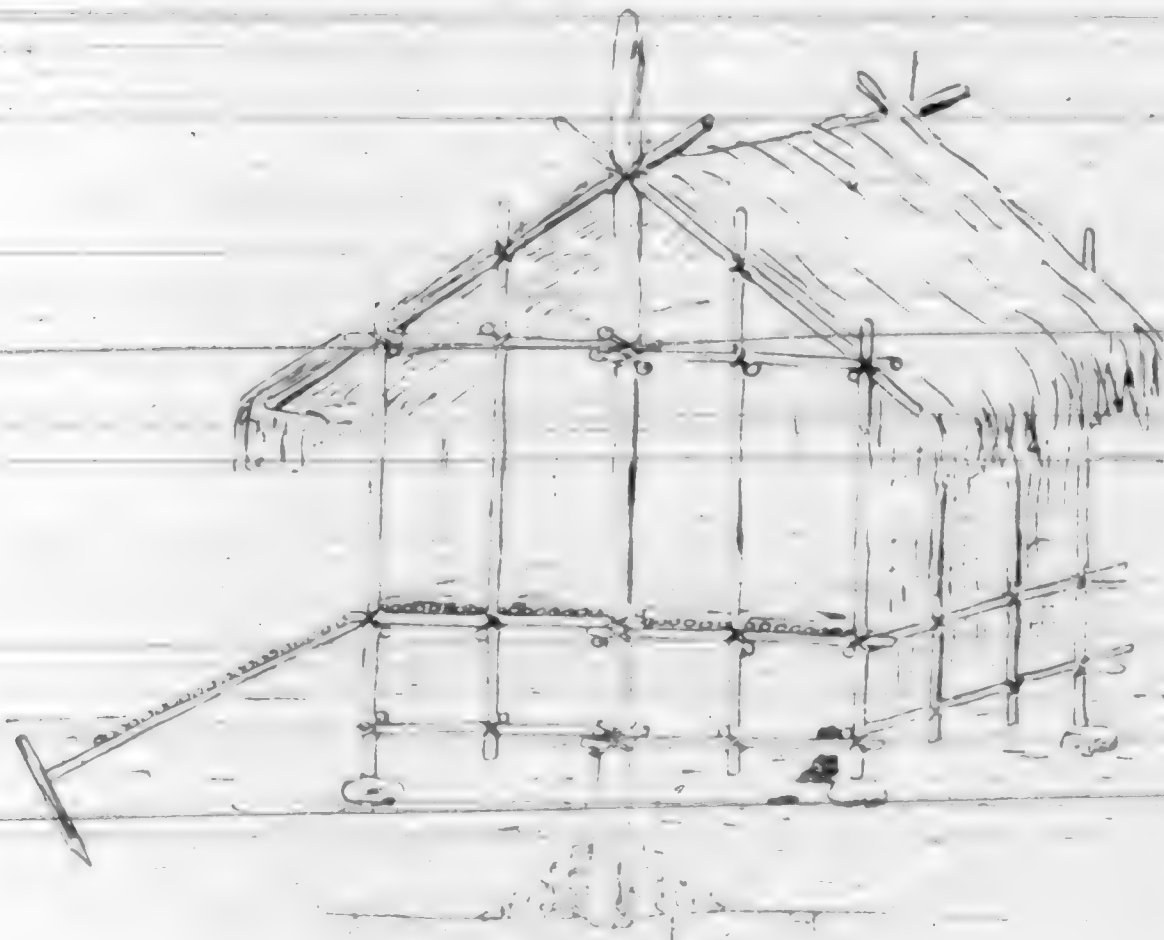
Since I am a member of the Japanese Institute of Architects and also of the Penitentiary Association of Japan, I have engaged to report every interesting note, and every advantageous method, to our membership. Although, I am one of the scientists of Japan, here, I am simply a young boy; now, if I explain any scientific theory before you, it would be just the same as to lecture "gravitation law" before Sir Isaac Newton; and if I report some practical result to you, it would be just the same as if a child should advise its parents not to fall into the ditch. Then there is nothing to speak before you about the facts in the civilized world; but fortunately, I have one subject, "The outline of Japanese Architecture in the past and the present," which is not yet well known to other civilized nations; and although it may interest, it will not increase your scientific or artistic ideas.

*A paper read before the San Francisco Chapter of the American Institute of Architects, December, 1889 by Mr. K. Shimoda, member of the the Japanese Institute of Architects and of the Penitentiary Association of Japan.

directly; however, I think, in some cases it will be a good thing for architects to know all about the physical phenomena and building styles of every nation of the world. I am very sorry that I have had no higher education in writing and oratory, like the politicians and lawyers, and it will be difficult for you to understand my broken English, yet, if you please, I hope you will excuse me if I speak a few words more. From the science of astronomy we know of the Nebular theory, which theory treats of the special elements of the heavenly bodies, or present universe, after variation took place. The earth is said to have been spilt out as a small portion from the central and main nebular mass, and revolves around that mass by regular attraction without change; and the constitution of the earth is composed of sixty-eight or commonly sixty-three elements, as are all other planets, for their origin is the same. Those planets which were small in size when spilt out from the main nebular mass, are said to be solidified more easily than large masses; and the formation of the stone and iron periods and even the sulphuric acid and coal periods, through which the earth has passed, might be supposed to be the same in other planets, but there never has been any communication from them to the earth, except broken meteors, which suspended in the atmosphere of the earth, being cast from other planets when the earth moves through the fixed path and across between several planets in June, July, August and September, especially when it comes to the atmosphere of the earth, is great velocity and friction produced and it is heated and falls down upon the ground as a ball of fire. Although we may analyze and examine the meteor, chemically or physically, we are unable to know the social condition of other planets, and of course we cannot judge of its social customs and building styles, since the meteor is not news or a record of the social degree of the other planets. In the next step, the science of geology tells us about the formation and life of the small and hard earth, which has been solidified from a liquid state, at a great depth from the surface of the earth, and after many millions of years have elapsed, we are now of a moderate size and active human kind not so fat nor slender, and quite different from all other animals in all respects; but I cannot tell you how the inhabitants of the other planets, of the same origin, are formed. Surely, an opportunity to communicate the same has not been granted except theoretically, as I said before; then all the artificial works of the earth, such as buildings, must have been originated by human kind of the earth without any aid from others. Well, about the view of the new science of anthropology, Prof. Agassiz expressed the doctrine of polygeny, or the assertion that there are eight centers of human tribes on the earth; but Mr. Darwin advanced the theory of only one center, or one origin on the earth; those who believe in monogeny or the essential specific unity of the human species, have long warred with each other without satisfactory results. As you know, many authors investigated eagerly the skin, hair, eyes, voice, trunk, extremities, skull, stature, proportion, weight and strength, after collecting and classifying several kinds of fossils and ancient tools for working, from every part of the world; I prefer the former, or the theory of polygeny, as a more scientific theory than the latter, by the aid of architecture and archaeology. I am sure it is not difficult to theorize and judge from the imperishable relics of the stone period, which we obtain from the ground, but ages before history or even tradition began, it can be shown that man lived on the earth; and human remains are found associated with the fossil relics of animals now extinct and belonging to a period of probably 50,000 or 100,000 years ago. Sir John Lubbock, our greatest authority on the subject of anthropology, thinks man existed during the Miocene period; and the other day it was reported that bones taken from the undisturbed caves in Miocene rocks on the Mediterranean coast, had carved on them figures of prehistoric animals.

The earliest architecture of which we have any record, is that of Egypt. It is the best constructed and best preserved of all ancient styles, and it is very remarkable that the oldest specimens remaining are the most perfect. We have no means afforded us by which we can trace the origin and development of architecture, in the oldest cradle of the art, but we can well imagine that a long period must have elapsed before the mechanical skill was developed which the execution of these great works displays. The well known pyramids, which are situated near Memphis, in lower Egypt on the western banks of the Nile and close to the margin of the desert, are the oldest existing specimens of human architecture; but a telegraph engineer, who repaired the cable in the Atlantic ocean last year, reported many immense works of the stone period, discovered by him at a great depth; this will be explained reasonably as the origin of the Egyptian architecture.

Thus, we suppose that the earth has undergone many great changes since its formation, and we may consider Egyptian art to be a recent work, if we compare the stone period with the birth of the earth. In the twelfth century B. C., an essentially brilliant period in Egypt, there existed the first famous stone work, the pyramid of Ghez. About that period, in Japan, the first work was done, a palace was built for the ancestor of the Emperor. Its construction is scarcely known. Thus, by collecting several kinds of records and pictures, at first it was necessary to dig the ground till they reached a large stone or rock stratum, and standing a large log upon this foundation, which they called "the heavenly column", and the bottom of the column was to be hardened with stone or gravel; all other smaller columns for compartments were built radiating towards the heavenly column and they were tied with a strong rope, without using any metallic fastenings, such as nails. Its floor consisted of a range of small logs and its roof was covered with branches and bark; it was a rule to make the floor very high, or about eight feet above the ground, but it was not for the purpose of avoiding moisture but it enabled them to look at the noble and



bright sun. They respected the sun as a heavenly superior, and consequently, they were pleased to attend constantly from morning until evening, a much longer time than the common people or cave dwellers did. In such circumstances the common people continued for a long time to live in caves, working in the daytime as hunters, fishers and agriculturists, and sleeping in caves at night. From about the sixth century, B. C., the palace building came to be advanced in its construction and appearance—metallic fastenings were used to combine timbers. Planks for floors were selected to be as thick and broad as possible. The roof was covered with bark and sawn boards of timber upon the

framing of small timbers, and care was taken to build so as to resist the wind; even common people began to build a log hut within the caves, but gradually they elevated the floor, and at last they made the floor on the ground out of the caves.

In Japan there are many stone quarries, containing Plutonic and volcanic stone, together with many great tracts covered with wood fit for building purposes, tools, furniture, etc. However, the ancient Japanese could not have been strong enough to work at stone hewing, therefore there was no stone work like there was in ancient Egypt, although it is one of the oldest countries. All houses which were made of timber and bark, as bird nests, were always destroyed by violent storms and destructive earthquakes. I am sure that the first step of the Japanese architecture, as bird nests, was not introduced from other foreign countries, while after many years have passed, some parts of Indian and Chinese architecture are said to be imported. We can easily explain that the origin of Japanese architecture was independent, or in other words, the original Japanese tribe was not derived from that of China by anthropology, archaeology, or architectural styles. But after several years had elapsed, social phenomena was introduced little by little; while the quality of the brain of the Japanese is just opposite to that of the Chinese. The Chinese are so slow that they do not think about improvement, while the Japanese are so active that they improve as quickly as possible; and not only their strength and voice, but their skull is much different in form and proportion. Consequently, though Japanese architecture resembles the Chinese, its origin is not the same, for Japanese architecture is original.

As you know, architecture is divided into two parts: one, being original architecture and the other copied architecture. The ancient Assyrian low-relief and bas-relief are put on very thick walls (15 or 16 feet thick) but not the same plane. This is considered to be an imitation of the Egyptian architecture; hence the style is called copied architecture, and among the low and bas-reliefs, rivers, trees, groups of prisoners, battles, the King in his chariot, etc., are the subjects of representation; but the material is different from that of the Egyptian architecture. Painting is just the same, and especially the King in his chariot is sculptured and painted both on the walls of Egypt and Assyria. As the fundamental rule of the art, we must not care to imitate the figures exactly or to resemble very justly its nature. The original Japanese pictures are said to be conventional representations, while the foreign pictures are naturalistic representations, and Egyptian pictures indicated roughly its condition and were conventional representations. At present, Japanese conventional pictures are approved by some foreign artists. In Japan, less than a century ago, there was no one who had any mathematical ideas or notion of mechanics. Again, even the ancient Egyptians built edifices triangular in form, which were assumed to be firmly fixed according to mechanical theory, while the edifices of Japan are always rectilinear and not in a state of equilibrium, as it changes to the form of a rhombus by wind pressure, and it inclines to the form of the letter M by the weight of snow. A triangular frame is stiff and diverges all of the pressure and weight to all directions, as that of an arch. In these points, we may say that Japanese architecture took a dark way far from all scientific and mechanical ideas, and a long period was spent, like bird architecture, without any favorable progress. In the year A. D. 720, they invented a kind of tile in order to protect the roof from wind. At the same time they discovered some materials from rock to paint timber, and they began to build stores to keep their precious goods, detached from their residences. In A. D. 794, there was a very strong and magnificent palace built at the capital Kyoto. At the next instance, a regulation was established to make many city improvements; then powerful persons and rich men built their houses newly and closely, but the number of great fires increased and

they were obliged to think about the preservation from fire, and they began to coat the reed or bamboo framed partition with slimy earth. In the beginning of the eighth century they invented plaster, which was composed of lime, sand, straw, weeds and water; and they used to coat two or three feet thick for the outside of stores and three or four inches for dwelling houses, as they thought this was the best material to resist fire. They conceived some faint idea of technic principles, but still there was no perfect building accomplished with the technic principles, æsthetic principle and phonetic adjuncts. They had no idea how to fulfill the union of all technic principles, such as mass, stability, durability, material, construction, warming, ventilation, lighting, proportion, form and ornament.

Architecture as a technic art, is practical in the same progressive principle, as all its sister arts. It is hardly as individual as music, because its forms and colors are permanent and capable of being repeated, with such improvements as each experiment suggests, in every subsequent building, but when it attempts the phonetic form of utterance, these are seldom so absolutely integral that they cannot be separated from the building and judge of a part. A Greek temple or a mediæval cathedral without painting and sculpture, may be poor and inanimate but still so

The number of gates and temples at Nickko is about twenty, and the annual number of visitors exceeds 100,000.

In 1790, a great building was erected as a seminary. In 1852, a massive and strong fortification was built in the Gulf of Tokio.

The Japanese took pleasure in building temples and churches, and in ornamenting them with painting and sculpture. Year by year they increase in number. At present the number of temples exceeds a third of a million, and there are about 72,000 churches. They appear to understand a great and noble want in human nature, "the love of beauty."

Generally, architectural style is influenced by many reasons, namely:

- 1st. By material.
- 2nd. By climate.
- 3rd. By natural character.
- 4th. By natural growth.
- 5th. By fashion.
- 6th. By conquest.
- 7th. By commerce; and
- 8th. or lastly, by alliance.

In 1860, as soon as the port of Yokohama, Japan, was unlocked for commerce with other civilized nations, bricks began to be manufactured—cement being imported. Stores and houses of brick became fashionable. So, suddenly, was architecture introduced and the port of Yokohama changed month by month to foreign styles, and at present about one-third of the buildings are of foreign styles. In 1868, the Emperor moved into the new castle at the present capital, Tokio, from the old capital, Kyoto. In 1873 there was a great fire in Tokio, and the castle was destroyed. Brick buildings were introduced in Tokio from

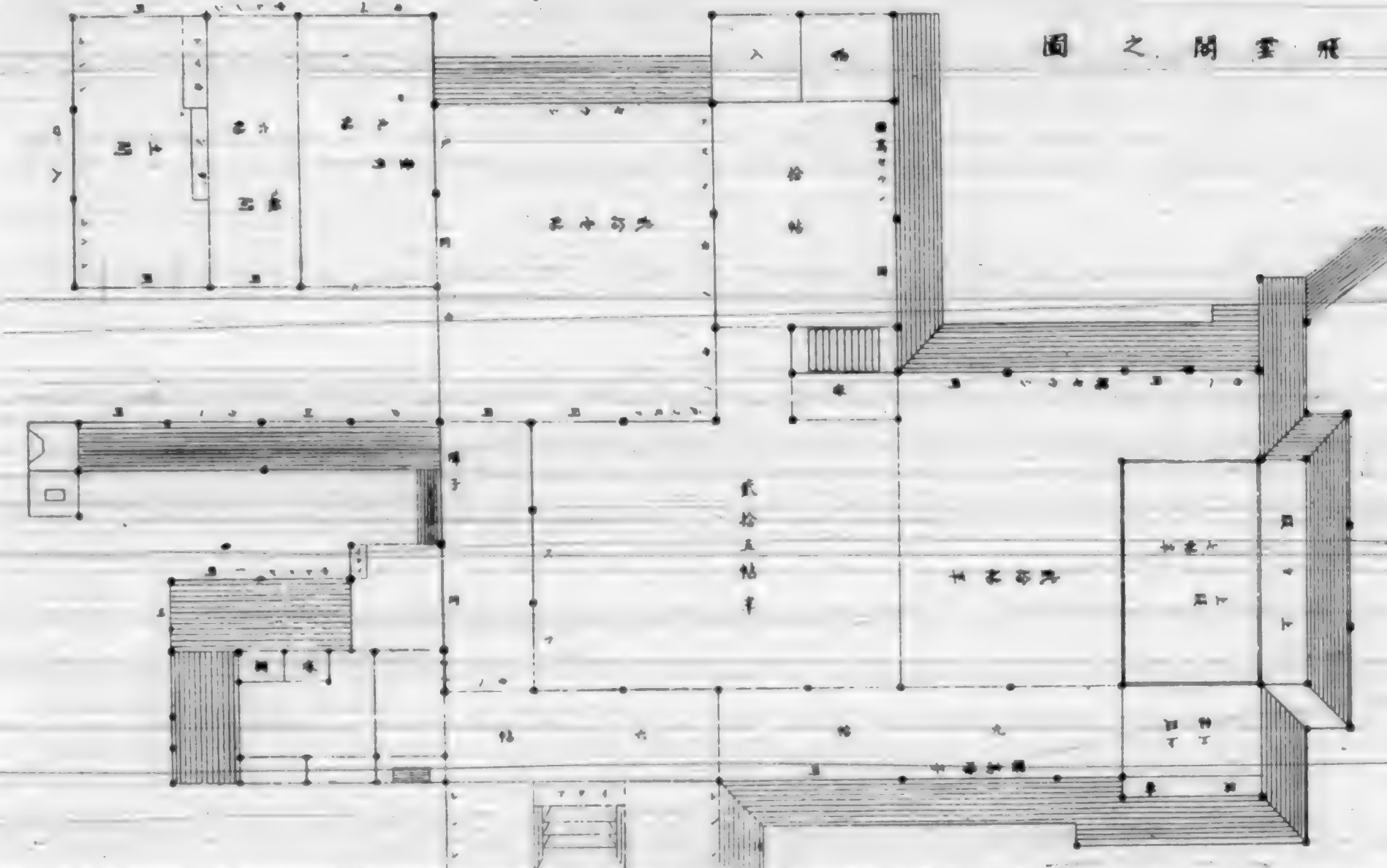


Plate No. 1. Plan of 16 Century Villa.

beautiful in its form, so grand in its mass and so imposing in its durability, that in its technic, æsthetic form alone, it may command our admiration, more perhaps than any other work of human hands except, of course, as said before, the highest intellectual form of phonetic art. In 1316 a very large edifice was built as a Public Library, to accommodate several hundred people. In 1397, a rich and powerful nobleman built a golden villa, finishing all parts with a thin gold coating. In 1587, a celebrated strong castle was built at Osaka, and it still remains there. In 1629, a great civil engineering work, or a long canal of about thirty miles, was constructed to convey pure water to the present capital, Tokio. This work gives a great happiness to the citizens, and some European engineers approve of it justly as a scientific idea. In 1650, a most splendid temple was built in Nickko. Its degree of painting and sculpture is so excellent that we cannot find such fine art in any other place; the building materials are said to have been sent from several parts of the country, and its construction appears to be extraordinarily complicated. Especially, the five-storied tower is considered to be constructed scientifically. It has a fine foundation, the large central post resting on a large granite stone mass and is balanced but not fixed rigidly. This is the most costly building in Japan.

Yokohama, and the central part of the Kyobashi district is occupied with foreign brick buildings; beside those, twenty private residences and seventy public buildings are built now.

As I told you, the progress of architecture was very slow until the Japanese began the business of commerce with the Americans and Europeans, who informed us of scientific theories and interesting practices, and at present every matter is going on at the full speed of progress. Thus, the length of railways exceeds 1,400 miles, the length of telegraph lines is about 70,000 miles; letters through the post office amount to 120,000,000; number of ships, above 500 tons, is 69; and a half ton of gold, 3 tons of silver, 1 ton of copper, 2 tons of iron, a quarter of a ton of lead and 1,000 tons of coal were obtained from the several mining districts; but the number of mining districts will increase from the influence of earthquakes, which cause physical and chemical communication between the elements by cracking the interior beds of the earth. The number of prisons was 195, and the number of prisoners 72,000; number of schools was 25,000, and the number of students was 3,000,000 last year.

There will be a summary description of Japanese architecture. Electrical and civil engineering works of America are already introduced in Japan but architectural designing, which gives a

great influence to social progress, has not yet been introduced, although some ornamental styles and constructions have been introduced from Europe, and building expenditure being too dear for Japanese and it is not yet in fashion; hence, I have an idea to introduce only the plan for room accommodations at first, which is a good way to teach formal manners, or civilized customs of living and to wash away the native habits. In Japan, two-thirds of the total number of inhabitants live very miserably in only one or two rooms, which are used as sitting, working, dining, sleeping and cooking rooms; and, moreover, the ceilings of the rooms are only 6 or 7 feet above the floor.

The plan of civilized living and business is the most important to introduce, because the architectural style of the rich American is very unsuitable for the poor people in Japan. (I should like to study some method of building to resist earthquakes, as they are very frequent in Japan.) My purpose is to obtain the best plan of civilized living and business. With this simple but important object, I am about to spend my young life in Europe and America, for five years or more. My object in thus addressing you is only my desire to get your good advice relating to the plan.



A committee of the Brickmakers Convention held lately in Philadelphia, recommended that the standard size of a good, hard, common brick be $8\frac{1}{4} \times 4 \times 2\frac{1}{4}$ inches; that the standard size of a pressed brick be $8\frac{3}{8} \times 4\frac{1}{8} \times 2\frac{3}{8}$ inches. The statement was made by one member and denied by another, that a hard, burnt brick would take up more water than a salmon brick. Which statement is correct?

As many persons, nowadays dabble more or less with outdoor photography, the following information has an especial interest at this time of the year, and may account for many failures and disappointments where a different result was expected. At Berlin, Bunsen found that the chemical power of light, from noon to evening, varied at different seasons of the year as follows, expressed in degrees:

June 20, 12-1-2-3-4-5-6-7-8 hour.
35-38-38-37-35-35-24-14-6 degree.
Dec. 21, 20-18-15-9-0

This shows a weak, actinic action during the winter season.

Judging by the aptness of the following clipping from Bill Nye's weekly letter, he must have had the streets of San Francisco in mind,—he says:—

"Show me the nation that has asphaltum pavements and honored wives and mothers, and I will show you the nation that thinks and progresses; show me the people who try to do business over cobble stones and woo their wives in the tumult of a stone paved street and I will show you a people who cannot think unless they have a roll of cotton in each ear."

The recent great fire in Boston is believed to have been caused by the falling of an electric-light wire, which thus came in contact with a wire used in transmitting electric-clock signals. There exists in Massachusetts a special statute providing that railway companies shall pay all damages occasioned by fires kindled by sparks from their locomotives, and under this statute the Fitchburg Railroad Company has just been obliged to pay two hundred and fifty thousand dollars for loss and damages caused by a spark. The *American Architect and Building News* makes the sensible suggestion that the statute might be extended to make electric-light companies similarly responsible for damage caused by their wires.

The rotary steam plow lately tested in the presence of several prominent Southern Pacific officials, showed a highly satisfactory result, clearing a quarter of a mile of track near Truckee of a depth of sixteen feet of snow, in the space of forty minutes.

It is hoped this experience will do away with the necessity of maintaining the forty miles of snow sheds now protecting the track of the Central Pacific Railroad, where it crosses the summit of the Sierras. Although the existing sheds will be allowed to remain until destroyed by fire or become dangerous through old age, their ultimate removal will be a boon to the traveler who desires to enjoy the wonderful scenery of these mountains, now hidden from his view in so tantalizing a manner.

The sheds as they now exist were erected at an expense of two million dollars, contain sixty-five million feet of lumber, and have cost large sums for maintenance and repairs.

Edward Atkinson has a very interesting letter in the *American Architect* of Dec. 21st. on the Boston Fire, which is intended to enlighten the public mind on the matter of "slow burning" buildings. It had been intimated that the well-known Ames building in that city—the second to succumb to the fire—was of slow burning construction. This Mr. Atkinson denies and says it was not "any sort" of a slow burning building. He then proceeds to tell how he would erect a building under conditions like the Ames', making it a "slow" burner, and a safe-guard to the neighborhood.

Mr. Atkinson charges owners and occupants of new buildings with caring more for meretricious art than their own or the public safety. He says commercial buildings may be constructed consistently with the rules of safety—at as low a cost, if not lower, than the sums which have been expended in the construction of conspicuous examples of combustible architecture. "It is doubtless desirable that art should be a principal motive in architecture; but is not art misplaced when applied in such buildings as the Ames building under the conditions of the surrounding neighborhood; was not Hunt's genius misapplied when he put his pictures upon the unstable walls of the Capitol of Albany."

PERSONAL.

Mr. Seth Babson has removed his office from the Phelan Building to 408 California St., same location as the office of this journal.

Mr. A. C. Lutgens has removed his office from 121 Post St., to 935 Market St.

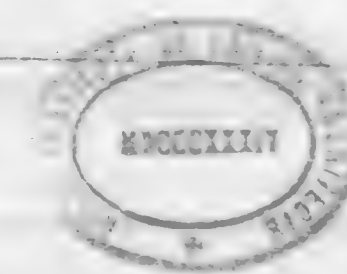
Mr. W. W. Goodrich late of Oakland has located in Atlanta, Ga. We notice his article in the *Architects', Builders' and Hardware Journal* upon "Sanitation."



PLATE NO. 1 shows the plan of a Japanese country villa of the sixteenth century and on PLATE NO. 2 will be found the elevation of this villa, and also the plan, elevation and section of a summer house in the style of a century later; they are to illustrate the paper on Japanese architecture by Mr. Shimoda. In our next number we will produce the drawings of a temple and the details of its construction.

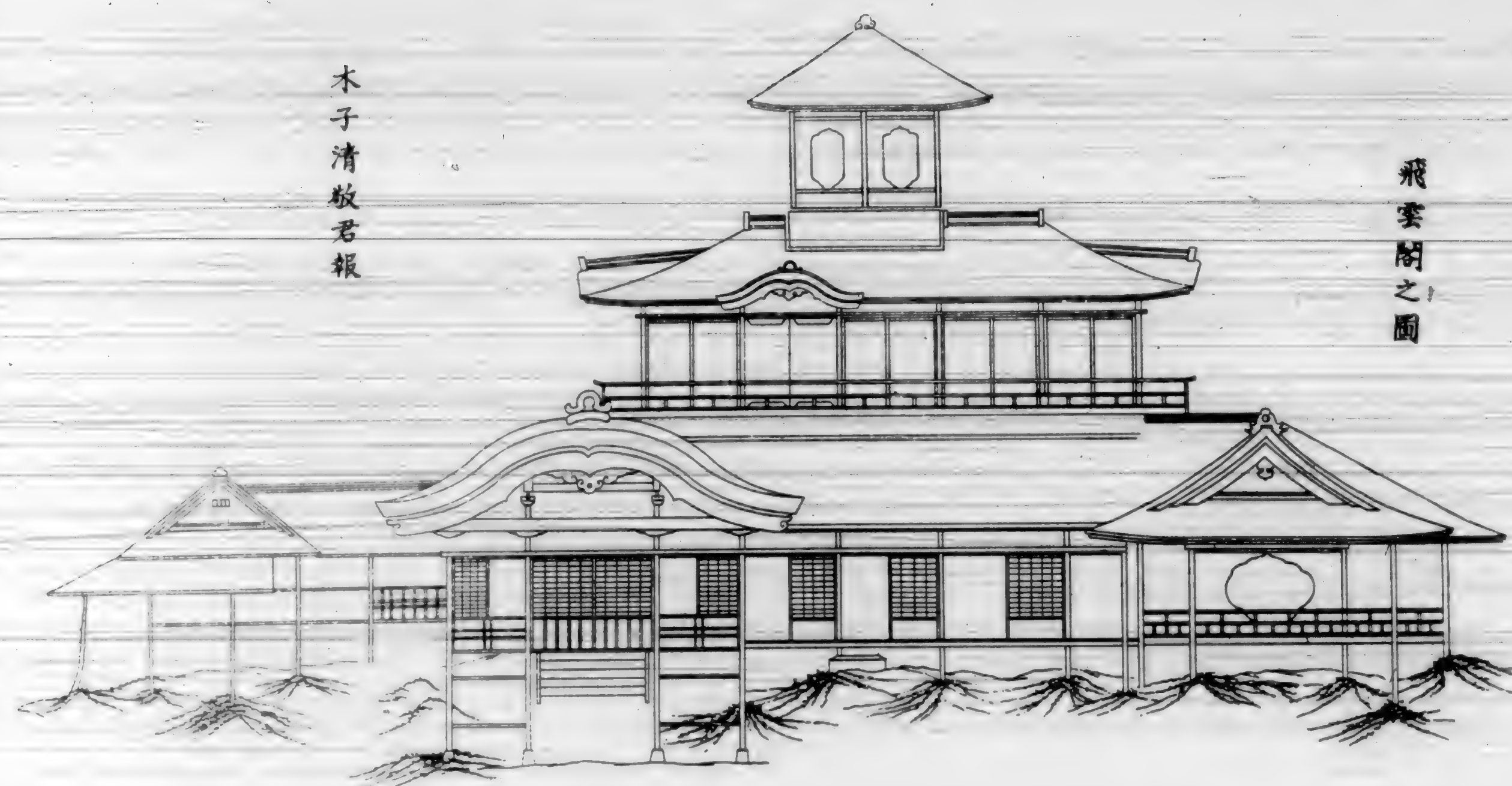
PLATES NOS. 3, 4, 5 and 6 illustrate very fully a handsome residence designed by Samuel Newsom, architect.

In our next number we will produce the drawings of a temple and the details of its construction.



木子清敬君報

飛雲閣之圖

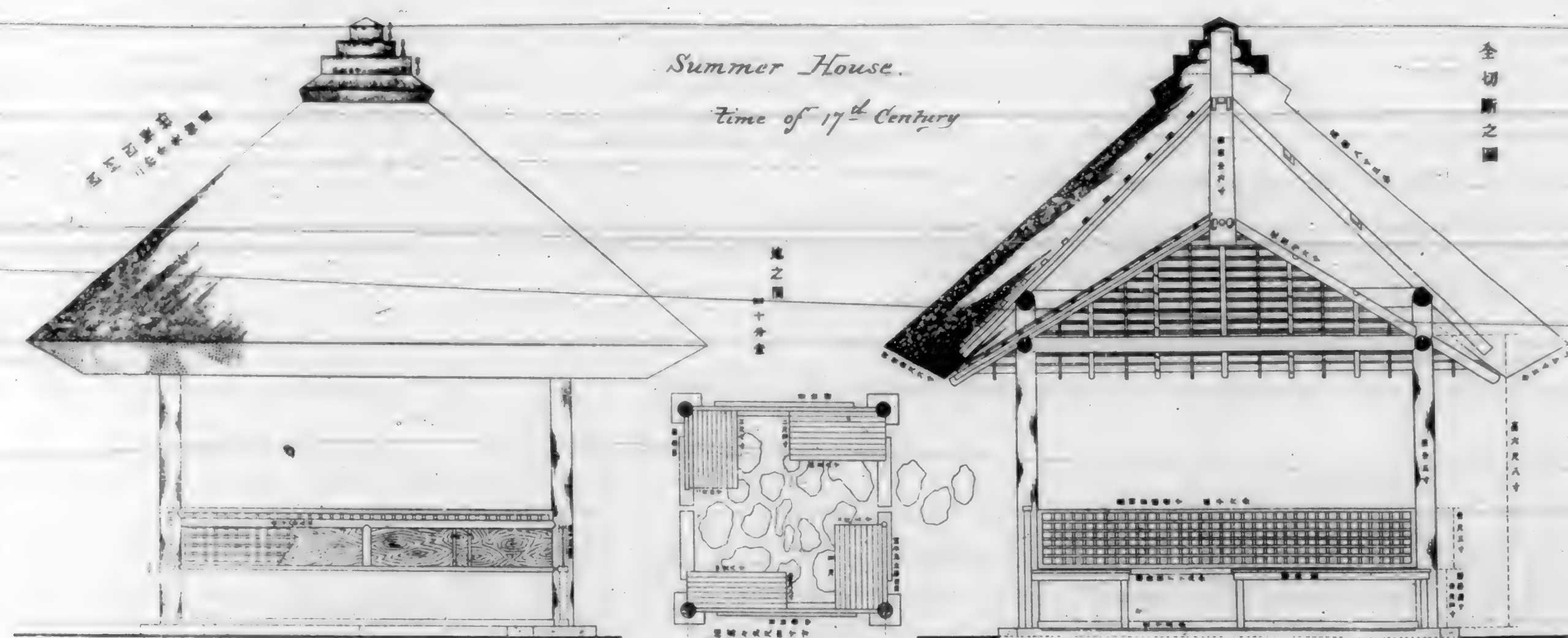


Country Villa. (Time of 16th Century.)



Summer House.
Time of 17th Century

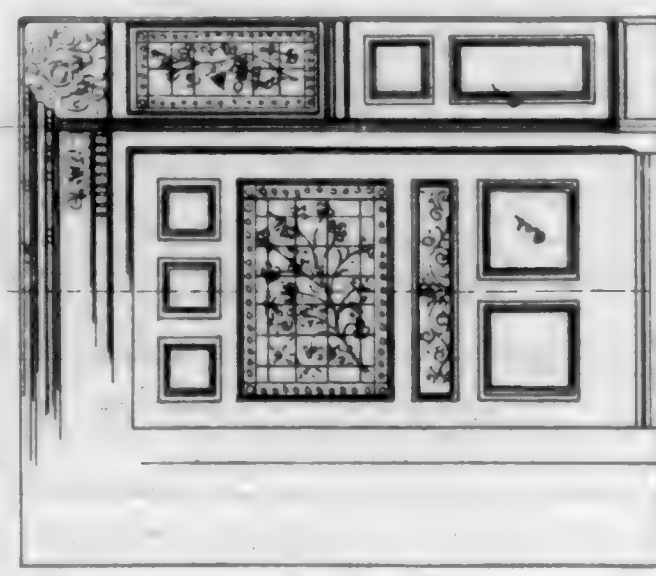
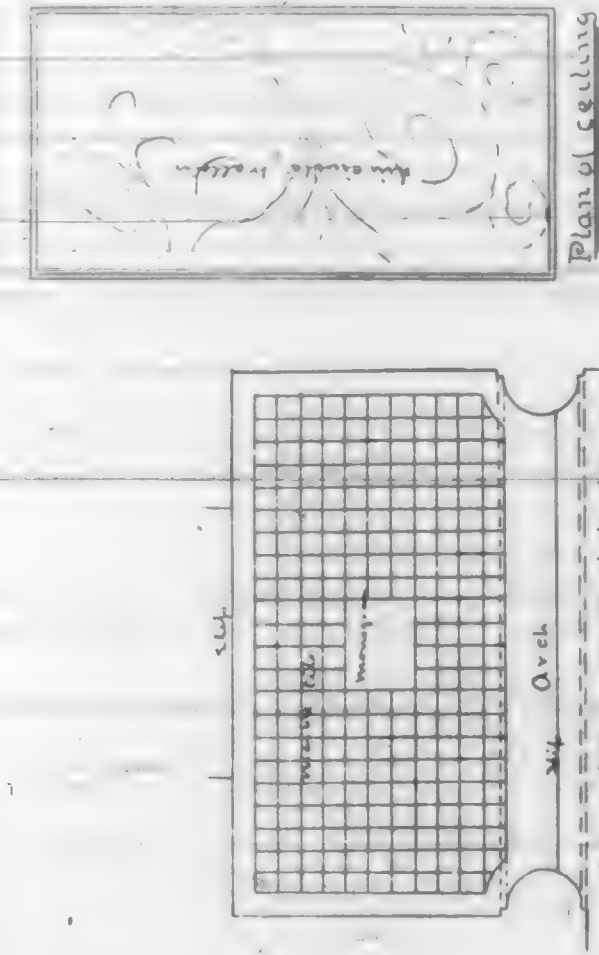
全切斷之圖



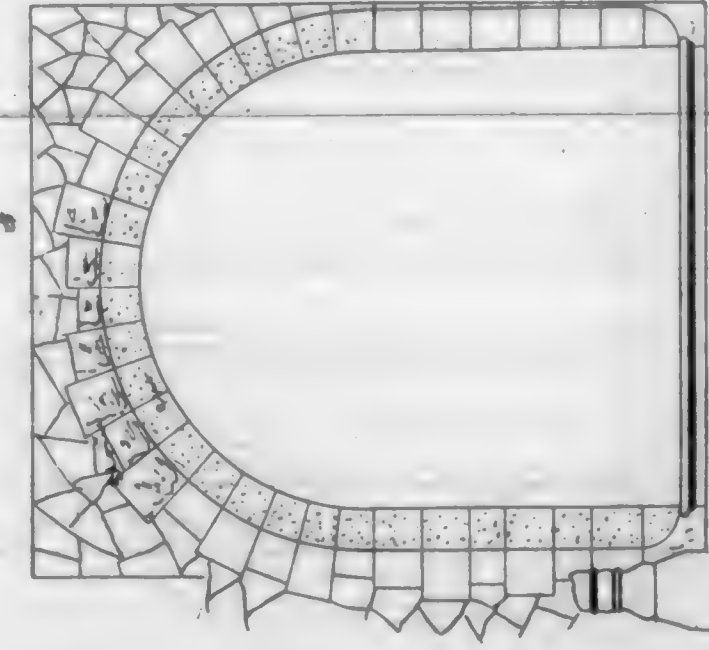
JANUARY 1890

THE CALIFORNIA ARCHITECT AND BUILDING NEWS

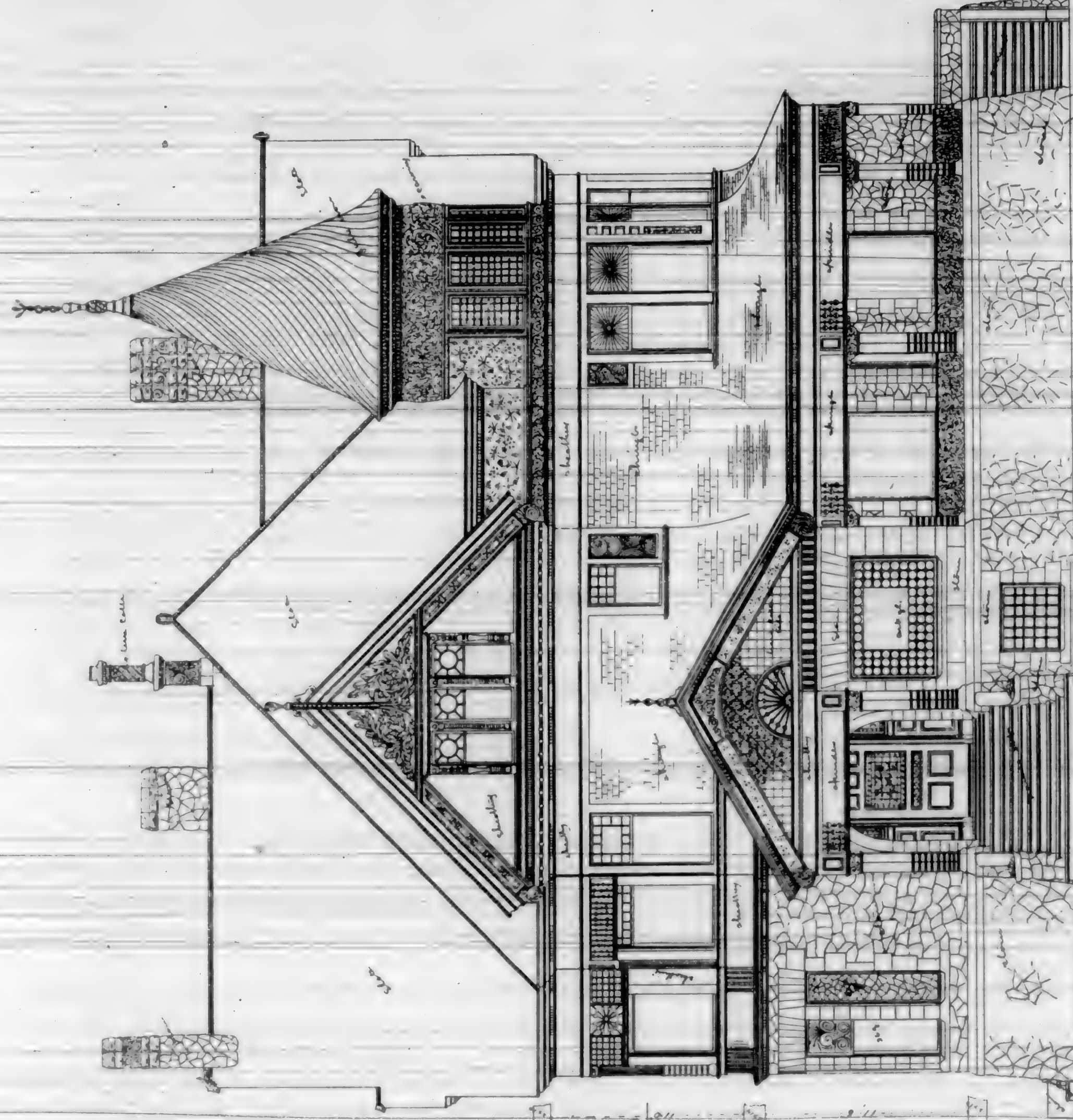
VOL. XL No 1.



Side View



Arch
Plan of Arch



FRONT ELEVATION

PLATE No 3.

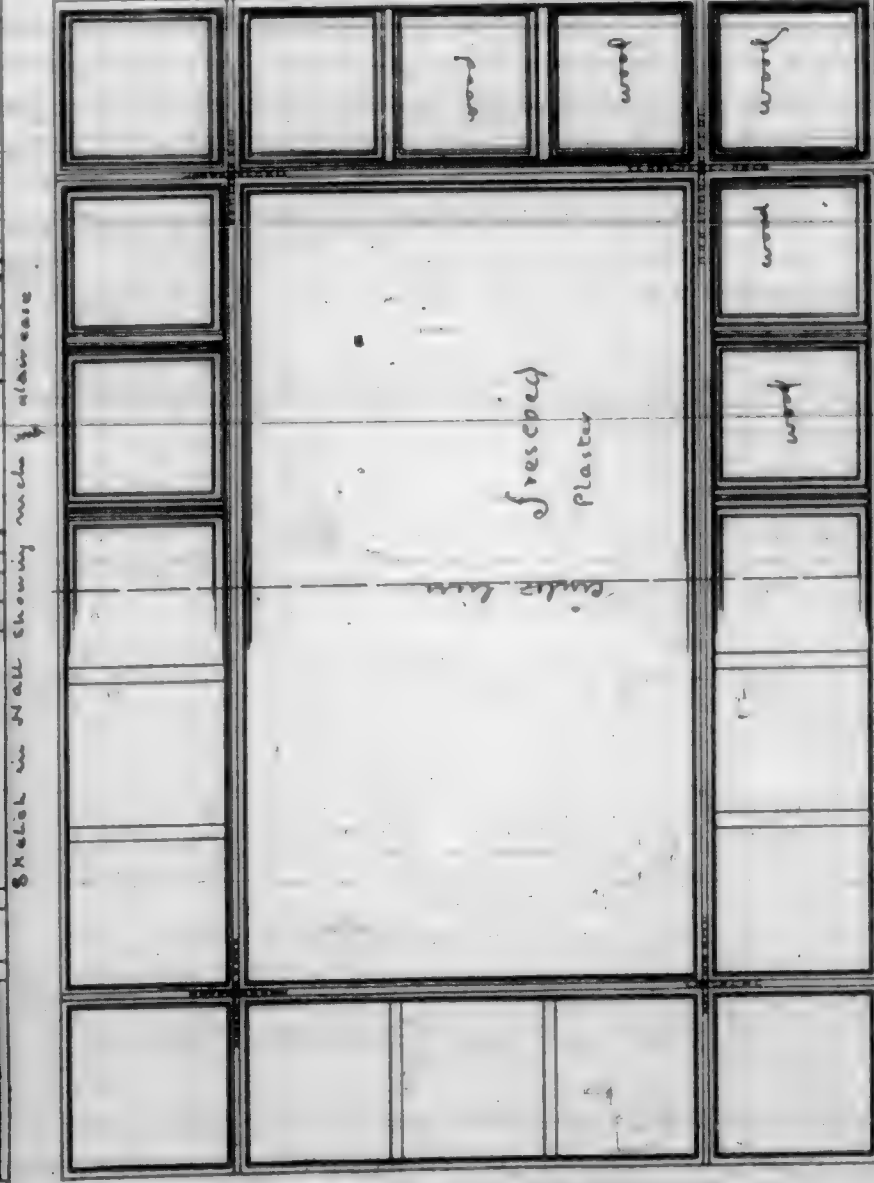
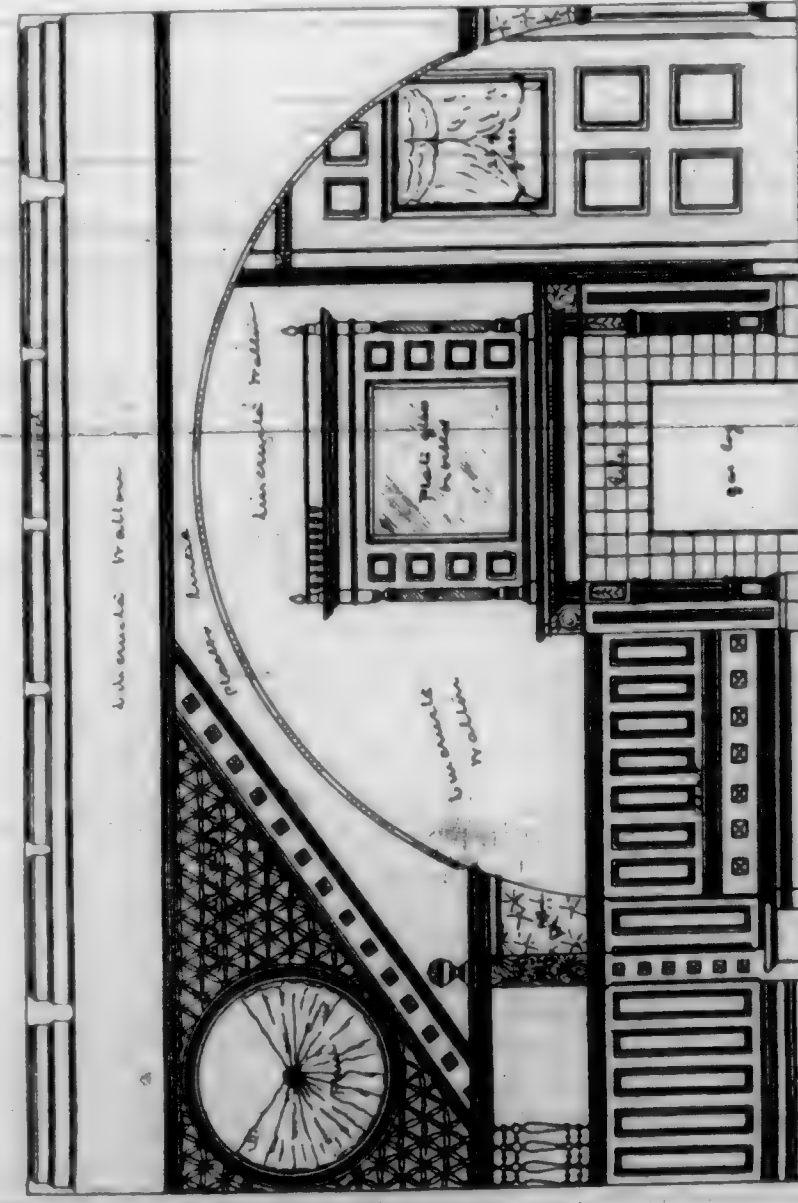
Sam'l Newson
Architect
Rm 318 Phelan Bldg
S. F. Cal.

Scale 1/4" to the foot

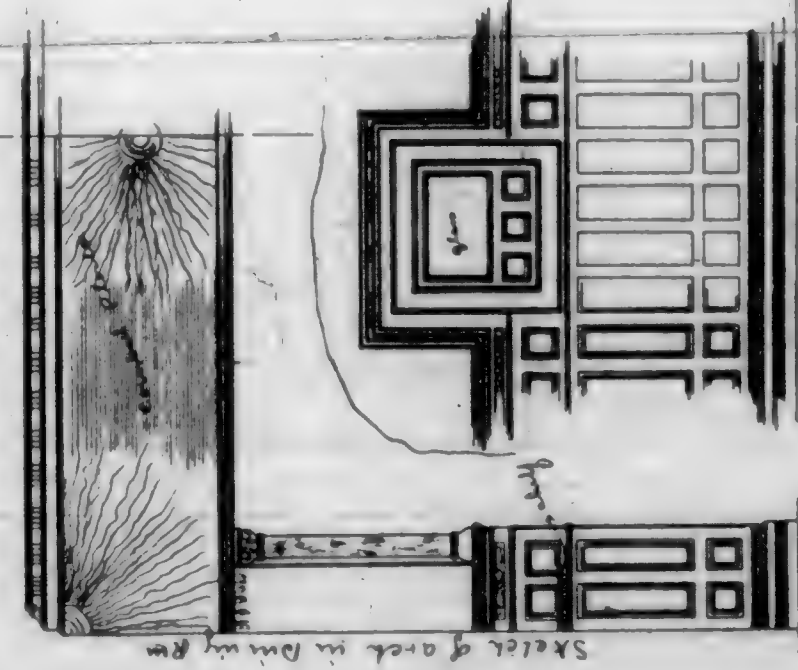
JANUARY 1890

THE CALIFORNIA ARCHITECT AND BUILDING NEWS

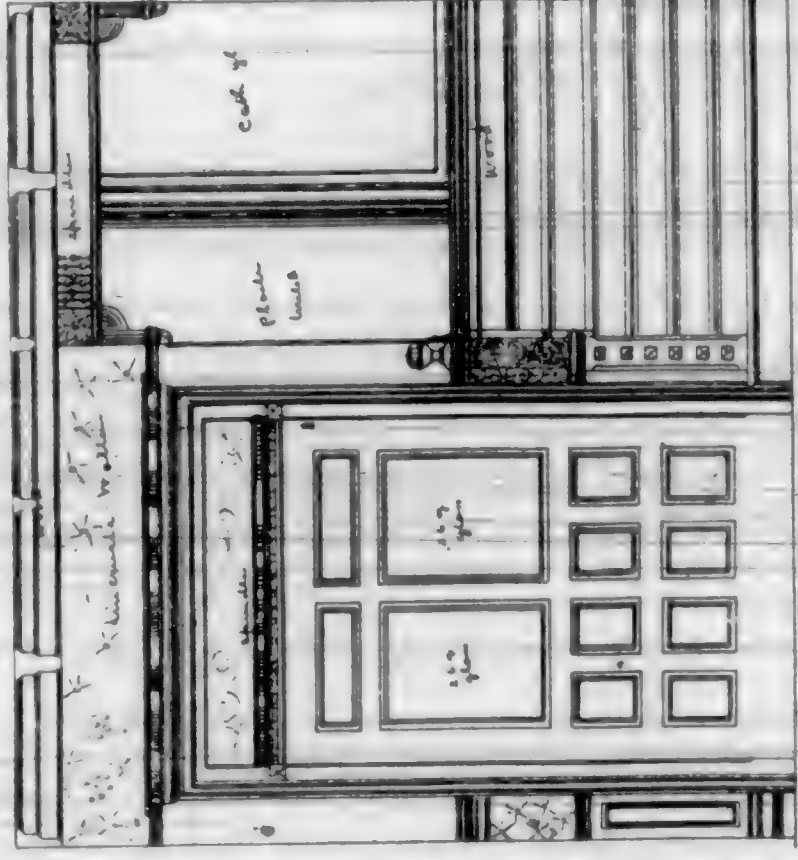
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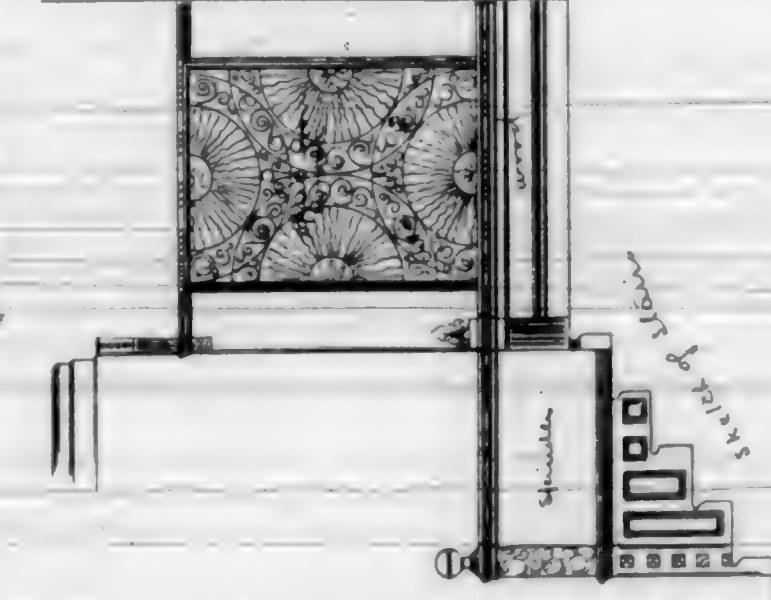
Sketch of Round Ceiling of main hall



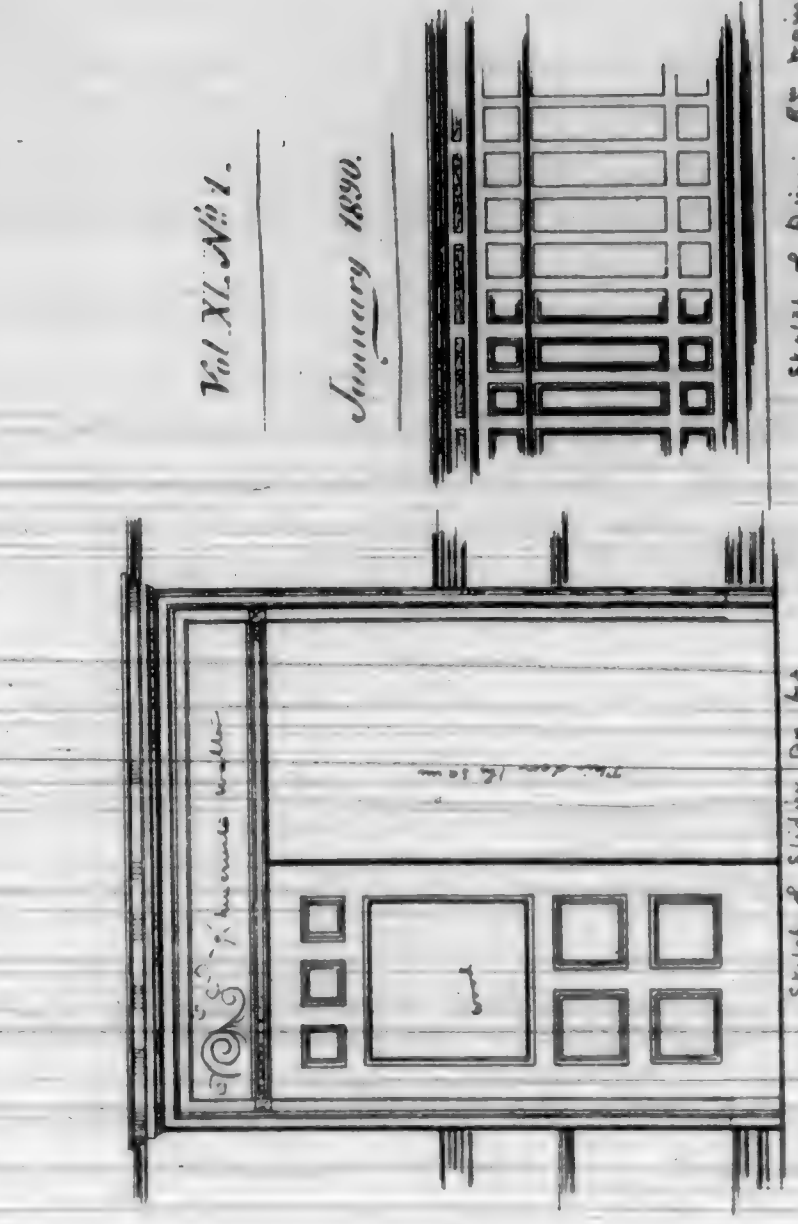
Sketch of this in Dining Rm



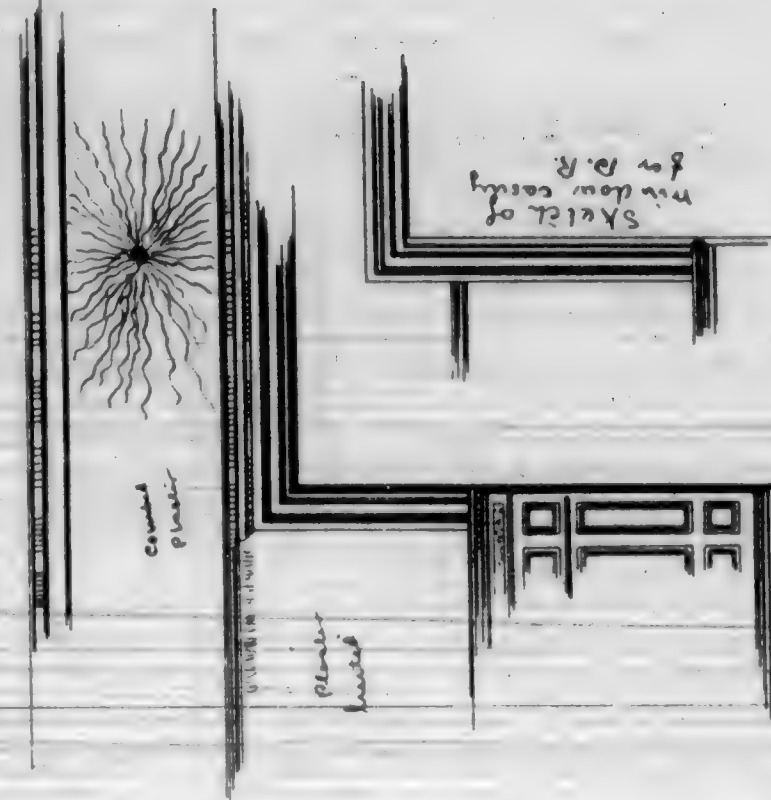
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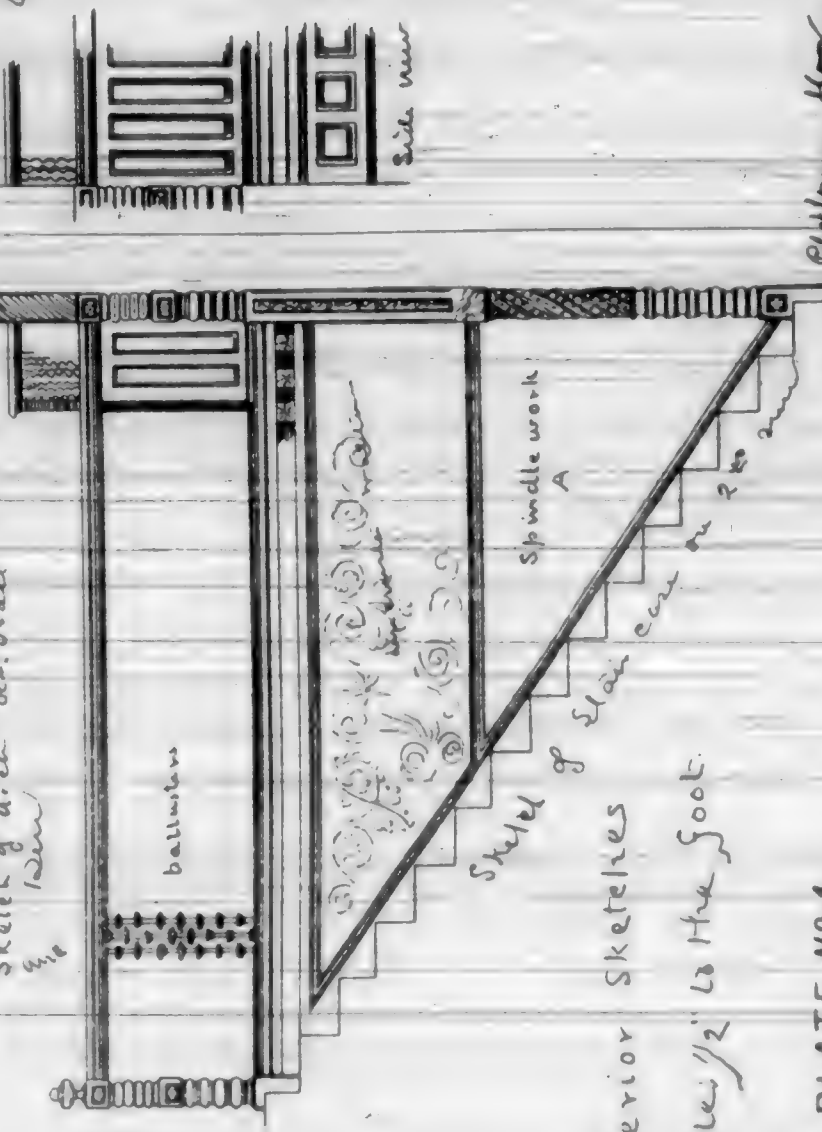
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Sketch of this in Dining Rm



Sketch of this in Dining Rm

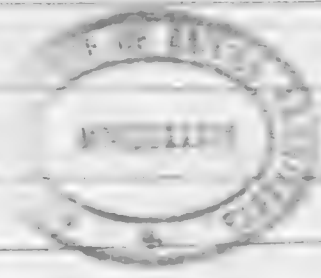


Sketch of this in Dining Rm

Interior sketches
Scale 1/2" to the foot

PLATE No 4.

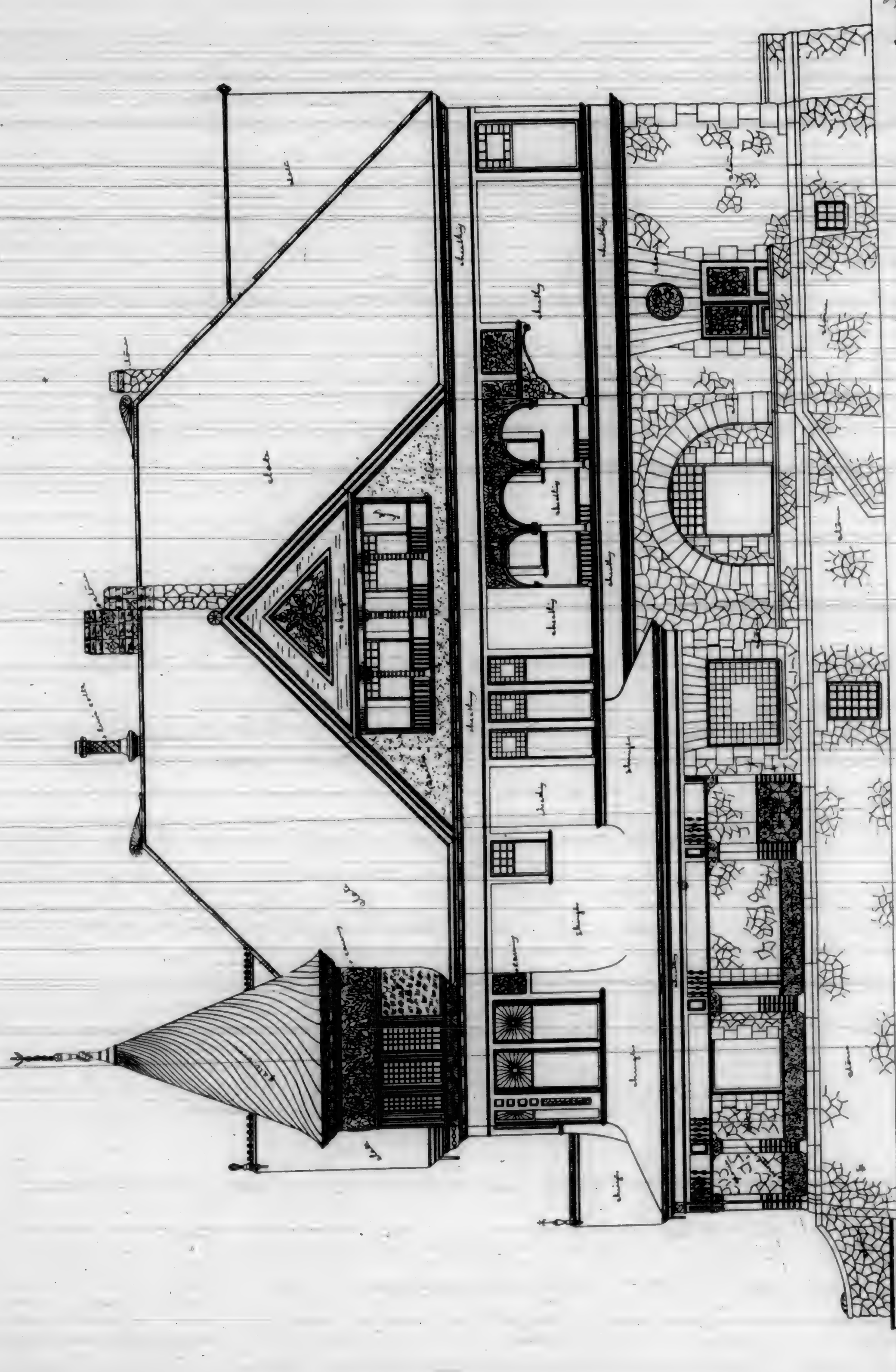
Sam'l Newson
Architect
Rm 318 Phelan Bldg
S. F. Cal.



JANUARY 1890.

THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

VOL XL No 1.



Samuel Jackson
Architect
Res 318 Fifth Blk
S. F. Cal

SIDE ELEVATION

PLATE No 5.

Scale: 1/4" to the foot.

MECHANICS' LIENS DECISION.

ARCHITECT VS. OWNER.

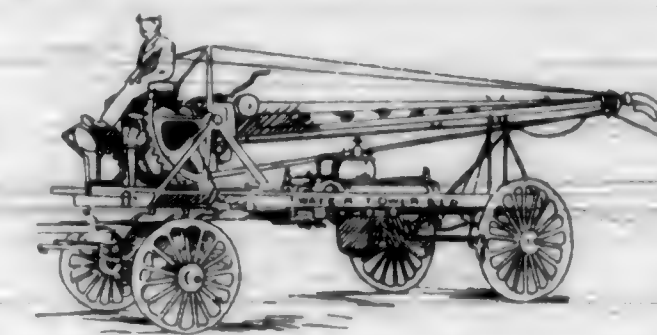
R. B. Young, an architect of Los Angeles, recently recovered judgment for services rendered in erecting a building for F. C. Howes of that city. After the completion of the building mechanics' liens were filed on the property and the owner considering the architect responsible for their payment refused to pay him a portion of his fees corresponding to the amount of the liens. In making the charge to the jury Judge Wade spoke as follows upon points interesting to architects:

The matter for you to consider in this connection is: First, what kind or class of a building was the plaintiff instructed by the defendant to prepare plans and specifications for. This you must determine from the evidence. Second, was the work as superintended and directed by the plaintiff done according to those plans and specifications when they were prepared. If they were not prepared as directed by defendant—that is, if the plans and specifications for the building were not for such a building as defendant wanted then plaintiff has been negligent or remiss in his duty. This would be a good defense to his action to recover the value of his services; and it also would support the defendant's first cause of action set out in the cross complaint, in so far as defendant was damaged by any failure of duty by plaintiff on that account. If, on the other hand, you find that plaintiff did prepare the plans and specifications for a building such as he was directed to prepare by defendant, of the class of building and kind of building that defendant wanted, but that in superintending the construction of it he was so careless and negligent as to suffer improper materials or improper workmanship to enter into the building, whereby it was damaged and rendered less valuable than it otherwise would have been if done according to the plans and specifications—in other words, if he failed to superintend and direct the construction of the building according to the plans and specifications, then that would be negligence on his part for which the defendant could recover the amount that defendant would be damaged by such failure.

The next thing for you to take into consideration is defendant's second cause of action, set out in his cross complaint. That is, that plaintiff undertook and agreed as a part of his employment as architect for the construction of the building on Main and Upper Main street, to prepare and file for record the two contracts or either of the contracts. Now, it is the primary duty of either the owner of the building or the party with whom he contracts as principal contractor, to file the contract, if in writing, and if the amount is over \$1,000 it is required to be in writing, and it is the duty of either one, and of one as much as the other, to file this contract for record; that is, it is the duty of the owner of the building (in this case Mr. Howes) or the contractor (in this case Mr. Lane). It was the duty of either one or the other, and as much the duty of one as the other to file the instrument for record. The reason is this: That in the event of its not being filed for record it becomes void and neither party to the contract—that is, in this case, neither Howes or Lane could recover anything on the contract. Lane could not recover for the work done and material furnished by him from Howes; nor could Howes recover from Lane for any failure on his part to carry out the contract according to its terms and conditions. In order that it might have become the duty of the architect in this case to file this contract, it should appear from the evidence either that he expressly agreed with the defendant to file it for record, or that he promised under such circumstances to file the instrument for record, and that Mr. Howes relied upon him, and was unable under the circumstances to do so, or prevented by the plaintiff's undertaking that duty from doing it himself, or you would have to find from the evidence that that was a part of the necessary duty of the architect of the building to file a contract of this kind for record. There is absolutely no evidence upon the later point in this case—no evidence or any testimony tending to prove any such duty as being necessarily incumbent upon the architect by virtue of his calling. It is not sufficient for this purpose to prove merely that it was the custom or the habit of the plaintiff to file such contracts when they were left with him, unless you further find from the evidence that he had communicated a knowledge of that custom and habit to the defendant in such a way as to induce the defendant to rely upon his doing it, and by such reliance being prevented from doing it himself.

If a contract of this kind is not filed for record, it becomes void as between the original contractor and the owner of the building and material-men—that is, men furnishing the material for the building and laborers and sub-contractors performing work on the building. The contract should be filed for record before the building is commenced or it is void. If this contract is not filed for record, the laborers and material-men and the sub-contractors may treat the owner precisely as though they had contracted originally with him, and hold the property liable to them for the whole amount of material furnished and the labor performed by them independent of the amount agreed upon in the contract, although it amounts in the aggregate to a great deal more than originally contracted for.

SAN FRANCISCO'S NEW WATER TOWER.



Few people who have read the demand of the Fire Department for a "water-tower" know what such a machine is, and its efficacy.

The Hale water-tower ordered by the Supervisors will cost \$4,000 and will be ready for delivery in this city in ninety days, being the third machine built by the manufacturers. It consists of a strong oak framework, mounted on wheels, carrying an iron frame with an extending telescopic tube, through which passes the hose conducting the water from the supply to and through the pipe to the top end or nozzle. The tube, which in the instance of the tower ordered for this city is fifty-five feet in elevation, is raised to the perpendicular by charging a small chemical engine which is a portion of the machinery. This engine has a lifting power of from 10,000 to 20,000 pounds.

On the end of the tower is a small turn-table, revolved by gearing, and attached to this are two wrought-iron arms which are connected with a nozzle two inches in diameter. The turn-table is operated by a cast steel rod running to the base of the tower, turned by a small wheel, and this directs the stream in any direction desired.

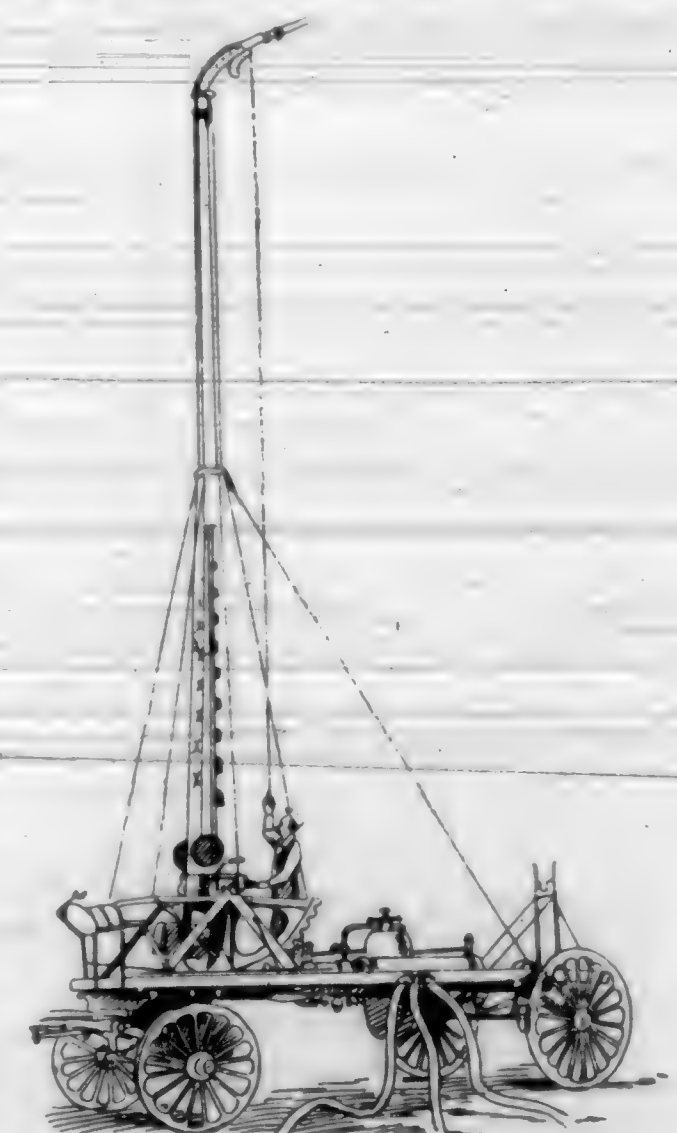
The raising of the tower is controlled by a wire cable and snubbing block in connection with the power used by the engine.

On both sides of the machine at the bottom are Siamese connections capable of being coupled to six hose lines, which, in their turn, are connected with the ordinary fire engines. The engines pump into the tower at the same time and the united stream issues from the nozzle at the top of the tower with tremendous force.

At a test at Detroit recently two engines supplied the water through four lines of hose at a pressure of 265 pounds, and the water was thrown from the nozzle a distance of 320 feet perpendicularly, or high enough to be thrown over the highest building in that city.

The benefits of the tower are many. A building heavily charged with smoke and utterly unapproachable may be flooded from across the street. It is useful in lumber-yard fires and will wet an area of 400 feet in diameter at one setting. It requires but two men to work it and may be used at such a distance from a fire as to be free from the danger of falling walls.—*S. F. Examiner*, January 2, 1890.

The recent destruction by fire of the Girls' High School is another evidence of the danger of so many large frame buildings crowded together in our large city.



PROFESSIONAL CONQUEST.*

There is a field for professional conquest in view. Its acquirement will be fraught with perplexities and difficulties. Its occupation is imperative, if the architecture of this country shall soon be up to a creditable standard of merit. The building enterprises of the country, so far as all work of a public character is concerned, are in the hands of, and directed by persons who have no special qualifications to determine either what should be built, or how it should be done. When a building is to be erected, instead of its being the custom to have it controlled by architects of the country, or by some persons skilled in building matters, it is usually put in the hands of a board or committee from which all architects are carefully excluded.

To introduce a different practice, and by this means make it possible to eliminate the faulty, systematize, harmonize and improve upon the meritorious in our public architecture, is a field for professional conquest. It is a field worthy of our best efforts to control. It can be gained only by sacrifices commensurate with the importance of the expected result.

Designs for buildings are secured either by competition or otherwise. For the present and likely for many years of the future, a considerable share of our public buildings will begin their career through competition of one kind or another. As now conducted competitions are not only not conducive to the highest achievement in the architectural sense, but are an incubus upon the profession. The excuse for keeping up the practice is two-fold: first, to give everybody a chance, to afford the younger members of the profession opportunities to measure arms with those of greater experience and reputation; second, to obtain for a given building the best possible design. As to the first, the profession will not object to a decrease in the number and an elevation of their standard. As to the second, conducted as they are, the object sought is not attained. The chance to select a better design than any given one obtained without competition, is lost by reason of the fact that the average commission which makes the selection is not qualified to determine which design should be selected. I speak, of course, of the great number of competitors which constitute the rule, not of the few exceptions where experts are called in and designs submitted under a non-de-plume. I think it is fair to say, as a rule, that if the best design in a given lot submitted be adopted, it is an accident rather than a likelihood. The buildings for which designs are obtained by giving commissions direct, to a certain extent escape objectionable results of competitions inasmuch as there is usually free and full interchange of thought between the architect and those in charge, and by means of this, the architect has a more favorable opportunity to control the whole character of the enterprise than where its general outlines have been made up as a target for the competing designers to shoot at.

The whole system of placing the management and direction of our buildings in the hands of persons who possess no special qualifications for it, whether they obtain designs by competition or otherwise, is a mistake. It is a wrong against the public itself, which we are professionally bound to right as soon as we can reach the ear of those who control such matters. The average board or commission is made up of intelligent men in other lines of vocation, and if called upon to decide anything in relation to their own business could do so with a fair prospect of having it properly and correctly done. But when a man for a building comes before them, no one of an average board can tell whether a building erected after the plan would please him or whether it ought to please him. No one of them could tell whether it is probably the best thing which can be done or not, —and no one could tell, if it was the price of his eternal salvation, whether a building erected after the plans under examination, would stand up or fall down. To say that this is ridiculous is to characterize it in terms entirely too mild. What commission anywhere without legal talent would undertake to decide a question of law? What board without obtaining a physician would be willing to decide a question of medical jurisprudence? What commission without a musician, would undertake to decide whether a piece of music had been rendered perfectly or not?

What man anywhere would be willing to either give or accept such authority, and with it the responsibility in any of these matters? How different the whole face of affairs when you come

to the subject of architecture. The public believes it necessary to grant, and those selected think it proper to accept, such responsibility. The result is what would be inevitable if the same lack of business sense should be exercised in any other direction. If you answer that these boards either by competition or otherwise, engage an architect, and trust to him and depend on his ability and judgment, then I will ask you, what is the use of the Board? Why interest a commission with something everybody knows it knows nothing about, instead of putting it in the hands of people who could reasonably be expected to understand what was before them? If there is any use of having anybody but the architect to rule over the matter there is use in having somebody who can be an aid to him instead of a hindrance. If, in order to have done the best thing which can be done, it is necessary to procure assistance for the architect, it is certainly proper to have such assistance possessed of some idea of what should be done, and what a given plan and specification will bring out when carried into execution.

It may be claimed that the architect does control the whole matter so far as the builder is concerned, that the board or committee is only expected to attend to the formalities and the business part of the work. I dare say that in some few instances this is true. If it was always true, one of the objections to the present system would be removed, such cases are rarities, by no means the rule, when the architect is left free to use his best judgment in all things pertaining to the building. If in all cases of competition the designs were selected by a board of competent experts, and where an architect is employed his design should be his own, not that which will please the committee, much of the harm would be avoided. But even then, the benefit of intelligent counsel and advice which would be valuable to the greatest architect in the country and still more valuable to the younger members of the profession—would be lost. No man anywhere is so omniscient that his work would not be better for the criticism of a board of men of his own profession, even though something less than himself in ability. This would be gained under the system I suggest. Upon the other hand the work of the weakest member of the profession is not likely to be improved by the suggestions of the average board. This contrast measures the difference between the present system and the state of affairs after this field shall be won. Again, in the last twenty years much has been done to unshackle the hand of the designers, but this same unloosing of bands turns him into a field chaotic with historic design which is to supplement and guide his invention in the work of the future.

One of us gleams from fields of certain ideas; another, other ideas; another, still other ideas, each following a tangent for himself; some learning better than others, but nobody learning so much as all.

If we are to have a national style these lines of divergence must be brought to a parallel; the simply odd, the uselessly picturesque, the servility of copyism and the sterility of unstudied crudeness, from the work of each, such must be excluded.

Our work must tend toward a crystallization of the best to be found or invented. If this be true I know of no one thing which would be a more potent agency in its accomplishment than the adoption of this plan.

The use of boards instead of individual experts and counselors will broaden criticism, give decisions a greater weight of authority and rid them of any supposed bias in favor of, or against any particular style.

The one great fact that the final authority as to what shall be done on our public-building enterprises is left to such persons as now control them, accounts to a very large extent for the blunders committed and accounts for the fact that the grade of our public architecture is not up to what it should be. So long as it remains in such hands it can never occupy that position in relation to the architecture of other countries to which it is entitled. I take it as indisputable in the interest of our profession—the interest of architecture of the country and the interest of the general public that a great change is desirable in this whole matter. But how can it be brought about? All may recognize that we are in the woods, but who knows of a pathway that leads to the sunshine? All can recognize the great work to be done, but who is able to cope with difficulties we shall encounter in doing it? The present system is strongly entrenched in public favor. No matter how willing a public official may be to acknowledge his inability, he is immediately offended if some one suggests that a professional adviser be called in, and if he should even consent to that, he is quite sure to have it under-

stood that it is only advice and not final judgment which he accepts.

An architect going into competition will ordinarily greatly jeopardize his chance of success by mentioning to a member of the board the fact that he would be glad to see the designs submitted to a board of experts for decision. There is much more than merely the question of deciding which of a given number of plans shall be accepted which should not be in the hands of boards without education in matters of architecture. The control and management of the entire enterprise, everything that is included in the words "How to build, when to build, what to build," should be left to the control of the profession entirely, not merely submitted to them for advice and clerical services. The idea of an architect preparing plans for a commission of architects and submitting plans in competition for a board of architects to decide upon, may be a new idea, but it is a good one nevertheless.

If an important building enterprise, it is necessary to have an architect of skill and ability, it is by no means improper to have the value of his services supplemented by the advice of men who know as much about what is to be done as he does. It is written that "In a multitude of counsel there is wisdom," and matters of architecture were not excepted from the law. When we undertake to improve upon the present practice we are at once confronted with difficulties.

The matter of expense must be taken into account, boards of professional men who make their living by their calling are not likely to render services such as described, without just compensation. The public is just beginning to appreciate the fact that the five per cent. paid for the service of an architect is money well expended, but it will take some little time to bring the public to believe, that two or three per cent more can be paid out to advantage in securing the service of such boards as I have described. We must establish the fact that this additional expenditure is, after all, a great economy, before the public will be likely to accept it. That it will result in not only bettering the architecture but actually saving money, is as clear as anything need be, when all the facts are considered. It will, however, take some money out of public officials who heretofore have acted in charge of building matters, and they will seriously object to having it done.

I see, however, no insurmountable difficulties in either of these directions. We have brought the public up to believe, and that within the space of a few years, that their interests are best subserved by employing a competent architect, even in small enterprises, and in less time we could demonstrate the economy of the practice I have suggested, and through the pocket-nerve of the public, could compel officials to accept the situation. There are, of course, boards in charge of new buildings who render their services, such as they are, without hope of financial reward, but even then it would be entirely within the range of possibility, even probability, that a board of competent persons could save in the actual cost of the building, to say nothing of its value when once erected, much more than the probable two per cent., which their services would cost. But how are such boards to be found? Who is to select them and who shall be ready to serve when requested? At first the question seems difficult, and, in the present state of our profession, next to impossible, to answer. But we are not at a "stand still." Every demand for such service would in a few years be abundantly met. If you ask me now to name the persons who shall serve in this capacity, I am not able to answer you. I think it must be frankly admitted that at this time there is no set of men specially qualified for and desiring to hold such situations, but open the way for such work and the time will be short until the supply will be equal to all demands. It will be impossible now to lay out any plan for carrying these ideas into effect which shall not have to be altered to meet future requirements as experience develops them. I think no man is wise enough now to foresee all the difficulties, which might arise in undertaking to substitute professional for non-professional authorities in building matters. Judging by the experience of the past it will be some years before we could perfectly carry out the reform. But we are growing in that direction.

I know that we have no national style of architecture, no complete harmonizing of views as to what direction the detail in our design should take. I know we have had too little personal affiliation with, and too little friendship for each other, particularly in the newer portions of the country. I know we are unmerciful critics of each other's work—of everything not in

accordance with our individual ideas or the vogue of the time. But for all that we are fast becoming less biased in our judgment and more reasonable in our treatment of each other and of each other's work. We are rapidly approaching a toleration of differences of opinion. We are speedily coming to realize the fact that if we have no respect for each other and the work of each other, the general public will have still less for all of us. Some of us may not take kindly to criticism; others may be disposed to resent the criticism of a professional board as an intrusion upon the "sanctum sanctorum" of the designer. Some of us may prefer to be allowed to convince an ignorant committee of the superiority of our ideas, some of us may not think any one else ought to have the impudence to make a suggestion in regard to what we have in hand; but all these cases will be rare, and as criticism becomes more intelligent and the members of the profession are brought up to entertain a better feeling for each other, they will practically disappear. As we become better educated and more skillful in our own work, we will be still more able to recognize merit in the work of our brethren. When we shall possess sufficient professional patriotism to see our highest personal advantages in the greatest possible improvement in the architecture of our country, a foundation will be laid upon which we can build our work and ourselves up to the standard of the old masters.



A Treatise on Masonry Construction containing materials and methods of testing strength, etc., *Combination of Materials*—composition, etc., *Foundations*—Testing the bearing of soils, etc., *Masonry Structure*—Stability against sliding, overturning, crushing, etc., etc., complete in one volume of 500 pages, with 125 illustrations and eight or ten folding plate, by Ira O. Baker, C. E.; 8vo. cloth, \$5.00.

This work is the outgrowth of the author's own class-room, and is now published with the belief that it will benefit others. A careful review of this book gives evidence that it should be in the hands of all who are interested in masonry construction. [If the parties engaged in constructing the caisson at the foot of Market Street had known more of the contents of this work, they would not have blundered as they have done. Ed.] A large amount of practical details are presented and all the data have been verified. The work has been divided into four parts, viz: Description and characteristics of the materials, Methods of preparing and using materials, Foundation, and Masonry structures, and contains six plates, giving detailed plans of Caisson Havre de Grace Bridge and of various arch, semi-circular and segmental arches, etc.

If you are searching for the best work on masonry construction, order this publication of John Wiley & Sons, 15 Astor Place, New York.

Knowing that those who desire to obtain the most important articles upon the leading topics relating to architectural pursuits read this column in order to know what periodicals to purchase it has seemed expedient to continue it.

American Architect, Dec. 7th, "Sanitary Disposition of the Dead," "A System of Concentrated Residences," "Domes and Towers." Dec. 14th "Mills and Mill Engineering." Dec. 21, "Is Mexico's Greatest Painting a Titian?" Dec. 28th, Letters from Different Cities of the World. Jan. 4, "Architecture in Brooklyn," "The Structure of Sandstone as Affecting Architectural and Engineering Works," "The Apartment House," "The Barye Exhibition."

Building, Dec. 7, "The Hundred Masterpieces." Dec. 14, Willard Architectural Commission. Dec. 21, "Unsanitary Buildings of Suburban London," "False Economy for the Health Department," Building Sketch Club Competition No. 4. Dec. 28, "Angular and Terminal Features." A change of name takes place with the number of January 7, and that which bore the name of *Building* is now *Architecture and Building*. Contents: "Architectural By-ways," Architectural League Exhibition, "Architectural Engineering."

* A paper read by J. W. Yost, architect, Columbus, Ohio, before the Convention of the American Institute of Architects, at Cincinnati, Nov. 21, 1889.

Inland Architect, December, "Romanesque Architecture," "Development of Architectural Style," "Architecture in the West."

Canadian Architect, December, "Convention Ontario Association of Architects."

Architectural Era, December, "Romanesque Architecture," "Licensing Architect," etc.

The Engineering and Building Record, Dec. 14, "Mills and Mill Engineering," "Evaporation of Water in Traps." Dec. 21, "Caloric and Dynamic Investigations," "Erection St. Paul Bridge" (illustrated). Dec. 28, "Bridgeport Macadam Roads." Jan. 4, "Wiring Buildings for the Electric Light," "Much Money in Bath Rooms," "Mistake of Sometimes Accepting Lowest Bid."

Architects, Builders and Hardware Journal, Atlanta, Ga., "Letters on Architecture," "Sanitation" and "Ventilation."

THE AMERICAN STYLE.

The December *Atlantic Monthly* contains from the pen of architect Henry Van Brunt of Kansas City, one of the ablest articles on American architecture we have ever had the pleasure to peruse. It should be published in full, but our space does not permit. The article is calculated to outline to the reader the much talked of "American" style of architecture yet to come.

The writer says:

"Civilization is advancing into the West like a brimming and irresistible tide that knows no ebb. It has planted cities and established civil order upon virgin soil in less than thirty days, and the first settlers are comfortably housed in a week. The first business structures have value only as make-shifts. * * *

"At this stage of development, the natural desire of every

citizen to own property of the best possible appearance, at the lowest possible cost, leads to what may be called an architecture of pretense—an architecture to appear better than it is. This style of architecture has met for years, and will meet probably for many more, all the practical requirements, and has flattered the crude artistic aspirations of a prosperous people. It must therefore be respectfully considered as, at present, the vernacular art of the country. Nowhere else in the civilized world can be found anything like it. It is peculiar. It is ours."

"I have called this an architecture of pretense because of its ambition and its desire to make a vain show with small means. The facility with which wood and galvanized iron may be molded, painted and sanded to imitate stone or other nobler materials, makes this baleful process possible. The vernacular style has still undisputed sway, and in the hands of uneducated builders plays with these dangerously facile materials such fantastic tricks before high Heaven as make the angels weep."

After a few years the paint wears off, the wooden sham begins to decay, and the galvanized iron to betray its hollow mockeries. The vernacular style has within itself the seeds of its own dissolution.

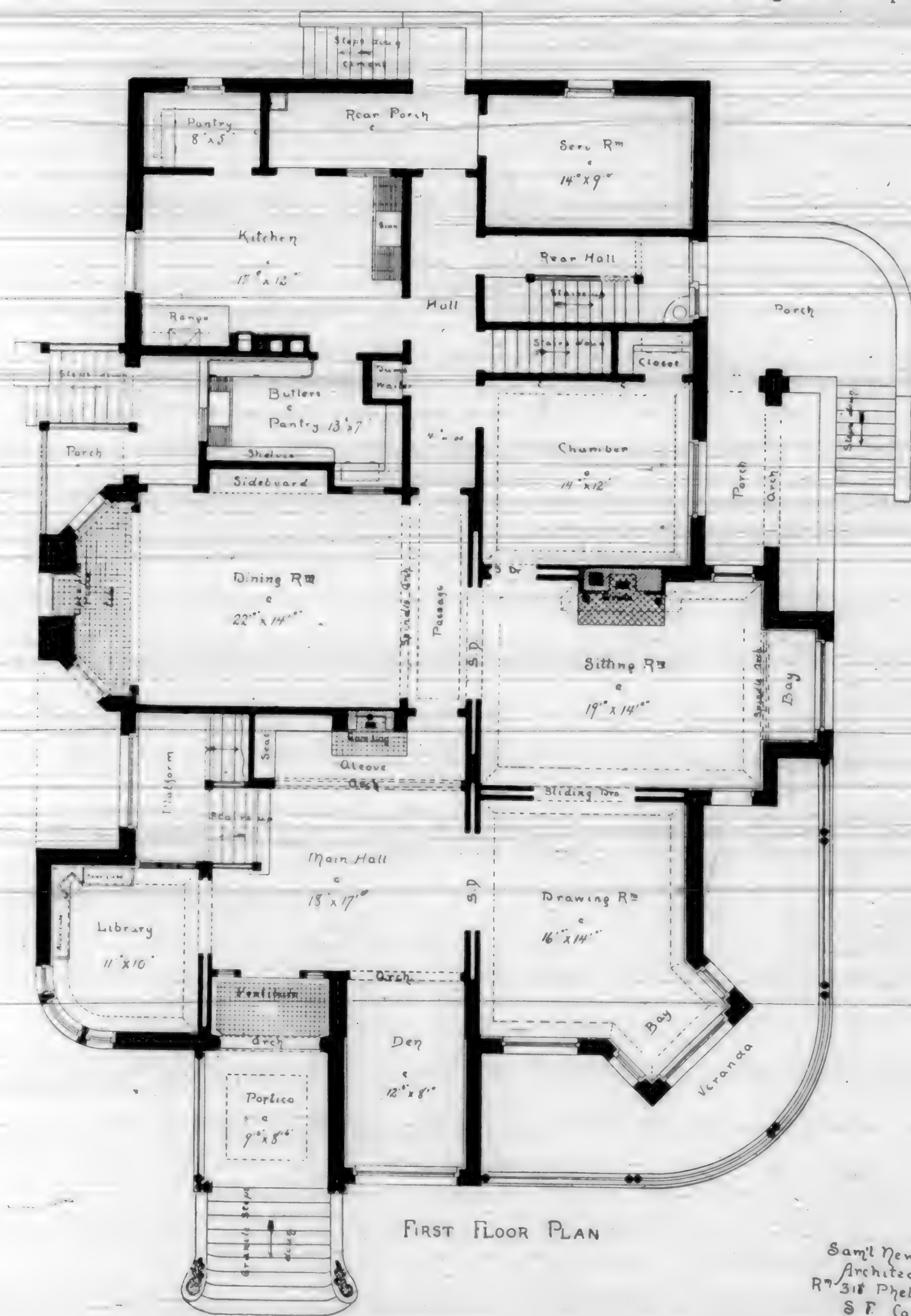


Plate No. 6.

BUILDING LAWS IN NEW YORK CITY.

It is proposed to revise the Building Laws regulating constructions in New York City and a public invitation has been extended to all interested persons to submit suggestions for modifications. The following is an extract from *Building*:

One of the ideas advanced, which will meet with the hearty approval of every architect doing business in the city, was that the Building Department should be made independent of the Fire Department. There is too much politics to the square inch in that department for the healthy transaction of business. The Superintendent of buildings should be a civil engineer by training and education, thoroughly versed in architectural engineering, but he should have in his department a Deputy Chief Superintendent, whose training and education had been that of an architect; in other words, to decide any questions under the Building Law, requires a man, or two men of the very highest order of scientific and artistic attainments. No architect should be obliged to sacrifice some architectural feature of vast importance to his design, simply because it does not conform to the antiquated requirements of a building law, which was devised and drawn up at a time when there was no demand for such design, and, secondly, be interpreted to-day by men who do not know what architectural design is. It actually needs two highly trained orders of intelligence to administer the present law in a spirit of fairness to the architect and safety to the public.

It is quite true that no law can be passed that will cover every point that arises, as new ideas in the shape of not only new materials, but new methods of construction are being continually advanced by architects, engineers and builders. More discretionary power should be left with the Superintendent than is now left to the Board of Examiners. * * * * *

In view of the many inconsistencies of the present law, and the impossibility of amending them without producing more misunderstanding and confusion than now exists, it would appear that the wisest thing to do would be to have a committee appointed from the American Institute of Architects, the Master Builders' Association, the Institute of Civil Engineers, Mechanical Engineers, Electrical Engineers, the Master Plumbers' Association, the Board of Underwriters, the Real Estate Board, the Board of Health, and the present Building Bureau, to draft a new set of laws and petition the Legislature to enact them, and abolish the old. A committee from these bodies would produce something clear, tangible and worthy of confidence.

PAINTER.—Thoroughly competent, accustomed to management of men, desires to take charge of Painting for large Builder or Architect. Address PAINTER, "Architect" Office.

CITY BUILDING NEWS.

Bluxome and Fifth. Brick and carpenter work for brick warehouse; owner, Mary E. Von Schroeder; architect, T. J. Welsh; contractor, Thos. H. Day; signed, Dec. 14; filed, Dec. 20; cost, \$10,700; time, 72 days; payments, 75 per cent. monthly as work progresses; balance, 25 days. Thinning and galvanizing; time, 15 days; contractor, Wm. Cronan; filed, Dec. 20; cost, \$3,196; surety for \$1,500, Geo. Duffy. Grading and brick work; sub-contractors for Thos. H. Day, Riley & Loane; filed, Dec. 21; cost, \$9,700; payments, same as other contracts.

Buchanan and Vallejo. To build except plumbing; owner, H. F. Woods; architect, Wm. F. Smith; contractor, W. N. Concanon; signed, Dec. 19; filed, Dec. 21; cost, \$7,000; payments, \$1,327.50, framed; \$1,327.50, ready to lay; \$1,327.50, plaster on; \$1,327.50, completed; \$1,770, 35 days.

Buchanan and Broadway. Plumbing and gasfitting, five houses; owner, John Hinckle; contractor, Geo. Humphreys; signed, Dec. 14; filed, Dec. 17; cost, \$2,850; payments, \$587, first three houses roofed in; \$357.50, remaining houses roofed in; \$357.50, first three houses completed; balance, 35 days.

Castro and Jersey. Six-room dwelling; owner, J. A. Remmel; architect, A. J. Barnett; contractor, John J. Boyle; sureties, H. R. Lewis and R. Harvey; \$2,000; cost, \$2,000; signed, Dec. 17; filed, Dec. 21; payments, \$750, brown coated; \$750, completed; \$500, 35 days.

Douglas and Twenty-fifth. 1-story frame; owner, Sarah Zammatt; architect, T. W. McKee; contractors, M. Oakley, et al.; cost, \$1,200; signed, Dec. 10; filed, Dec. 13; payments, \$275, enclosed; \$275, brown mortared; \$300, completed; \$350, 35 days.

Front and California. Passenger elevator; owner, Moses Rosenbaum; contractors, W. H. Birch & Co.; cost, \$3,525; time, Feb. 1, '90; signed, Dec. 10; payments, 75 per cent. as work progresses; balance, 35 days.

Gough, between Post and Sutter. Brick, carpenter work, etc.; owner, Samuel Weitz; architects, Salfeld & Kohlberg; contractors, Fuchs & Bucher; sureties, F. Krueckel and G. H. Wozniak; signed, Dec. 6; filed, Dec. 17; cost, \$9,400; time, 110 days; payments, \$1,000, basement up; \$2,000, enclosed; \$2,000, partitions set; \$2,050, accepted; \$2,350, 35 or 60 days. Plumbing, gasfitting, etc.; contractors, S. Ickelheimer & Bros.; signed, Dec. 16; filed, Dec. 17; cost, \$820; payments, \$400, gasfitting done; \$215, accepted; \$215, 60 days. Painting and graining; contractor, Otto Schultz; cost, \$525; signed and filed, Dec. 17; payments, \$200, paint ready to grain; \$175, accepted; \$150, 60 days.

Grove and Van Ness Avenue. Plumbing, etc.; owner, Isaac Harris; contractor, R. R. Thornton; cost, \$1,275; signed and filed, Dec. 24; payments, \$400, brown mortared; \$400, white mortar on; \$475, completed.

Guerrero, between 24th and 25th. To build; time, Jan. 20, '90; owner, Ana Smith; contractors, Glover & Jones; sureties, S. E. Slade and C. A. Thayer; \$400; signed, Nov. 29; filed, Dec. 17; cost, \$1,375; payments, \$300, first floor joints on; \$250, enclosed; \$250, brown coated; \$200, plaster finished; \$356, completed and bills paid, or 35 days.

Guerrero Fifteenth. 2-story frame; owner, Nicholas Fuchs; architect, Henry Gellhaus; contractors, Tegeler & Mullen; cost, \$6,546; payments, \$966, framed; \$966, partitions set; \$966, brown coated; \$966, white coated; \$966, completed; \$1,616, 35 days.

Guerrero and Twentieth. Grading; owner, D. W. Parkhurst; architect, A. J. Barnett; signed, Dec. 11; filed, Dec. 17; cost, \$2,447.16; payments, 75 per cent. as work progresses at 42 per cent. per cubic foot, nothing for filling; balance, 35 days.

Powell and Price. To build; owner, Paolo Badgalupi; architects, Salfeld & Kohlberg; sureties, A. W. Starbird and Frank P. Latson; \$6,300; signed, Dec. 13; filed, Dec. 17; cost, \$6,300; payments, \$1,200, frame up; \$1,000, partitions set; \$1,200, brown coated; \$1,700, completed; \$1,700, 35 days.

Jackson and Kearney. Alterations; owner, G. Dussol; architects, Pissis & Moore; contractors, Richardson & Gale; signed, Dec. 14; filed, Dec. 16; cost, \$3,130; payments, \$500; \$700 with work done; \$500, Jan. 1, 1890; \$500, Feb. 1, 1890; \$500, March 1, 1890; \$500, April 1, 1890; balance, May 1, 1890.

IMPORTANCE OF VENTILATION.

In order to enjoy life and health, it is necessary to eat pure wholesome food, and drink pure water—it is of still greater importance to breathe fresh air.

In fact few realize its vital importance: for while life can be supported for days without food and drink, a few minutes without air is fatal. How quick the death resulting from a failure in the supply of oxygen to the lungs was clearly shown last month by the death of two unfortunate gentlemen who lost their lives by venturing into the hold of the ship *Durham*, and the very narrow escape of their companion.

People who are most careful in the selection of their food are not always as thoughtful in regard to the air they breathe, though the latter point is not a whit less important than the former.

The following extract is from a letter written by a local physician to the editor of an evening paper:

"It is indeed time that the people should arouse themselves and be made aware that a large amount of sickness is entirely avoidable if people would live in houses that were properly ventilated. I am fully satisfied that the average rate of mortality would be materially decreased if there were a law which required and compelled the adequate and proper ventilation of our schools, public assembly halls and churches."

The Doctor's views are correct, and as "an ounce of prevention is worth a pound of cure", let the people look to it that they get an abundance of fresh air. It will make them healthier, happier and more rugged than those who are forced to inhale impure air, or that long confined in close rooms. Let them see that the chambers they sleep in and the rooms they work in are properly ventilated, and ventilated in such a manner as not to need constant attention to prevent draughts and currents of cold air, though means, of course, should be provided to regulate the amount of new air requisite, which will vary with the number of occupants and other causes. How many lives lost through carelessness in shutting off the gas might have been saved had the room been so ventilated as to remove the dangerous gas and substitute a supply of air.

Jackson and Devisadero. Frame; owner, A. E. Buckingham; architect, M. G. Bugbee; contractors, Ingerson & Gove; signed, Dec. 14; filed, Dec. 16; cost, \$3,200; payments, \$800, enclosed; \$500, brown coated; \$500, accepted; \$500, 35 days.

Jackson between Webster and Fillmore. To build; time, 40 days; owners, Katie and Sarah Jacobs; architect, Salfeld & Kohlberg; contractor, John T. Grant; signed, Dec. 11; filed, Dec. 17; cost, \$1,340; payments, \$1,000, completed; \$340, 35 days.

Jackson and Van Ness Avenue. Plumbing, sewers, etc.; owner, Simon Wenban; architects, Pissis & Moore; contractors, Duffy Bros.; signed, Dec. 16; filed, Dec. 18; cost, \$4,421; payments 75 per cent. as work progresses; balance, 35 days.

Market, Golden Gate Avenue, Taylor street. Grading, excavating, etc.; owner, Jas. A. Donohoe; architect, A. Page Brown; contractor, L. B. Sibley; signed and filed, Dec. 17; cost, \$2,350; payments, installments, 1st and 15th of each month as work progresses; balance, 35 days.

Oak and Broderick. 2-story frame; owner, H. G. Wilson; architect, M. J. Welsh; contractor, L. Lariver; cost, \$3,700; signed, Dec. 16; filed, Dec. 18; payments, \$925, framed; \$925, brown coated; \$925, completed; \$925, 35 days.

O'Farrell and Octavia. Alterations, etc.; owner, S. S. Smith; contractors, B. Farrer & Son; cost, \$1,300; signed and filed, Dec. 10; payments, \$500, moved; \$475, completed; balance, 35 days.

Pine and Jones. 3-story building; owner, Mrs. I. S. Allen; architect, Fred E. Wilcox; contractor, David Perry; sureties, W. B. Hill, \$6,000; signed, Dec. 4; filed, Dec. 9; cost, \$12,000; time, May 7, '90; payments, 75 per cent. as work progresses; balance, 35 days. Party of second part to accept as part of last payment, lot N. Green street, near Hyde; amount to be allowed, \$1,500.

Polk near Fulton. Raising and altering; owner, Della Hasty; architect, M. J. Welsh; contractors, R. Doyle & Son; cost, \$2,745; payments, \$657, framed; \$657, brown coated; \$657, completed; balance, 35 days; signed, Dec. 5; filed, Dec. 9.

Post and Baker. 2-story and basement framed; owner, Henrietta Fink; architects, John & Balczynski; contractor, F. L. Hansen; cost, \$3,025; signed, Dec. 6; filed, Dec. 10; payments, \$600, framed; \$600, outside finish ready; \$557, inside finish ready for painting; \$750, 35 days.

Pine and Devisadero. 3-story frame; owner, Jos. Platz; architects, John & Balczynski; contractor, F. L. Hansen; cost, \$4,550; signed, Nov. 27; filed, Dec. 11; payments, \$-00, framed; \$400, roof on; \$800, rough mortar on; \$800, inside ready for painting; \$1,100, 35 days.

Post and Taylor. 3-story frame; owner, John C. Coleman; architect, Geo. E. Voelkel; contractors, Jones & Glover; signed, Nov. 23; filed, Dec. 24; cost, \$7,100; payments, \$400, frame up; \$900, roof thinned; \$1,000, outside finish on; \$625, plaster finished; \$1,200, inside finish on; \$1,200, completed; \$1,775, 35 days.

Sacramento and Davis. Piling and capping; owner, Mrs. A. M. Parrott; architects, Pissis & Moore; contractor, S. F. Contracting Co.; cost, \$12,500; signed, Dec. 12; filed, Dec. 23; payments, 75 per cent, on 1st and 15th of each month; balance, 35 days. Brick work, contractor, John McCarthy; cost, \$31,250; signed and filed, Dec. 23; payments, on 1st of every month, of 75 per cent, work done; balance, 35 days. Carpenter work, contractor, W. M. Fletcher; signed and filed, Dec. 23; cost, \$26,140; payments, on 1st of month of 75 per cent, work done; balance, 35 days.

Stockton and Vallejo. Owner, Robt. R. Hunt; architects, Ashton & Stone; contractors, Faucher & Connor; signed and filed, Dec. 12; cost, \$28,000; payments, 75 per cent, as work progresses; balance, 35 days.

Sutter and Taylor. Plumbing, etc.; owner, Isabella Levy; architects, Kenitzer & Kollofath; contractor, R. A. Nance; cost, \$200; signed and filed, Dec. 13; surety, Joseph Budde; payments, \$50, pipes in; \$100, completed; \$225, 35 days.

Sutter and Taylor. Brick work for 1-story, frame; owner, Geo. Chisner; architects, Chas. R. & J. M. Wilson; contractors, Brennan & Flaherty; cost, \$2,215; signed, Dec. 20; filed, Dec. 27; payments, \$1,000, foundation walls up; \$500, chimneys up; \$150, completed; balance, 35 days. Carpenter work, contractor, Winslow Hall; cost, \$11,400; payments, 75 per cent, as work progresses; balance, 35 days. Plumbing and gasfitting, etc.; contractors, Sweeney & Kearns; cost, \$1,797; payments, \$675, rough work on; \$750, completed; \$450, 35 days. Lathing and plastering, contractor, Alexander Neff; cost, \$1,648; payments, \$618, brown coated; \$415, completed; \$412, 35 days.

Sutter and Taylor. Painting; owner, Isabella Levy; architects, Kenitzer & Kollofath; contractors, Lynch & Armstrong; signed and filed, Dec. 17; cost, \$785; surety, M. Numan; \$600; payments, \$300, completed; \$135, 35 days.

Washington near Steiner. 2-story frame; owner, Wm. Craig; architect, Chas. L. Havens; contractor, John Furness; signed, Dec. 8; filed, Dec. 26; cost, \$6,870; payments, \$1,250, rough frame up; \$1,250, brown coated; \$1,250, hard finished; \$1,100, completed; \$1,220, 35 days.

Washington and Kearny. Painting; owner, Louis Schmitz; architect, Wm. Mosser; contractor, John S. Mellon; signed, Dec. 11; filed, Dec. 17; cost, \$2,700; payments, 75 per cent, as work progresses; balance, 35 days.

Pilling in earth, time, 60 days; owners, Boyd & Davis; architect, J. M. Curtis; contractor, Geo. Goodman; sureties, J. N. Taylor & Jeremiah Mahoney, \$5,000; signed, Dec. 4; filed, Dec. 24; cost, \$9,000; payments, 75 per cent, as work progresses; balance, 35 days.

Ellis from corner Powell to Buchanan and Post. Moving, etc., 3-story house; owner, Fannie White; architects, R. McLaughlin & Son; contractors, John Davis & Son; signed, Dec. 21; filed, Dec. 30; cost, \$1,200; payments, 75 per cent, as work progresses; balance, 35 days.

Laguna and Turk. Plumbing, gasfitting; 3-story building; owner, A. Legallier; architect, T. J. Welsh; contractors, Ford Bros.; signed and filed, Jan. 2; cost, \$1,450; payments, \$345, rough pipe in; \$545, completed; \$560, 35 days.

Linden Ave., No. 212. Alterations; owner, Mrs. E. Goldberg; contractor, John Martin; signed, Dec. 30; filed, Dec. 31; cost, \$2,200; payments, \$450, ready to lat; \$850, brown coated; \$850, white coated; \$150, finished; \$450, 35 days.

Let and Golden Gate Ave. 2-story frame; owner, D. Gerken; architect, S. Hatfield; contractor, A. H. Plummer; sureties, Blyth & Trott, \$5,000; signed, Jan. 3; filed, Jan.

4; cost, \$4,057; payments, \$600, frame up; \$1,039, rustic on; first coat plaster on; \$1,039, plaster done; first coat paint on; \$1,011.25, accepted; \$1,289.75, 35 days.

Steiner and Germania. To build; owner, Mary E. Empey; contractor, John Foster; sureties, P. Swift and J. Smith, \$5,000; signed, Dec. 21; filed, Dec. 30; time, March 10, '90; cost, \$1,400; payments, \$900, frame up; \$500, brown coated; \$800, plaster finished; \$700, completed; \$1,100, 35 days.

Twentieth and Hampshire. 2-story frame; owner, John M. Anderson; architects, John & Balczynski; contractor, Henry Munster; signed and filed Jan. 2; cost, \$1,942; payments, \$1,000, frame up; \$800, enclosed; — partitions set; \$800, rough mortar on; \$1,042, accepted; \$1,300, 35 days.

York and Twenty-Second. 2-story frame; owner, W. H. Bouge; architect, F. Koldenstedt; contractors, Tegeler & Muller; signed and filed Dec. 31; cost, \$5,100; payments, \$200, brick work done; chimneys up; \$750, frame up, etc.; \$750, brown coated; \$750, white coated; \$950, completed; \$1,300, 35 days.

Quincy and California. Additions; owner, Henry Callie; architect, Emilie Denierre; contractor, J. G. Glasson; signed and filed Dec. 31; cost, \$750; payments, 75 per cent, as work progresses; balance, 35 days.

ALAMEDA.

Chestnut and Central Avenue. Owner, G. T. Watterson; architect, J. Marquis; contractor, G. Richley; cost, \$8,500; signed, Dec. 11; filed, Dec. 18; cost, \$2,300; payments, \$750, brown mortared; \$750, brown mortared; \$750, 35 days.

Perry Tract, block A. 2-story frame; owner, N. L. Freese; contractors, Higgins, Davidson & Co.; signed, Dec. 16; filed, Dec. 20; cost, \$2,300; payments, \$750, enclosed; \$750, brown mortared; \$750, completed; \$750, 35 days.

Santa Clara Avenue and Prospect street. Double dwelling; time, 105 days from Jan. 1, '90; owner, Michael Kane; architect, Chas. L. Shaver; contractors, J. J. Boyle and J. M. Wood; sureties, J. A. Remmel and Robert Harvey, \$2,000; cost, \$1,292; signed and filed, Dec. 18; payments, \$1,073, rafters on; \$1,073, window frames in; \$1,073, brown mortared on; \$1,073, completed.

Taylor and Page Tract. Dwelling; owner, J. A. Remmel; contractor, R. Gillis; sureties, Angus McKelthen and Wm. Behrens, \$2,000; signed, Dec. 17; filed, Dec. 18; cost, \$2,000; payments, \$750, brown mortared; \$750, completed; balance, 35 days.

Railroad Avenue, between Walnut and Willow. Frame; owner, Chas. Laubenheimer; architect, Fred P. Fisher; contractors, D. Straub & Son; signed, Sept. 5; filed, Dec. 29; cost, \$3,330; time, 120 days; payments, \$600, frame up; \$900, brown mortar on; \$900, inside finish done; \$830, completed.

FRESNO.

In summing up the statement of the amount of building as given by the *Fresno Daily Morning Republican* as an accurate record of the large buildings erected there, we find that \$850,000 has been spent upon 32 buildings during the year; \$278,000 upon 7 now in the course of construction; and already \$137,000 to be expended upon 5 projected buildings, making the total amount for Fresno, 44; costing, \$1,265,000. This is for large buildings only, bringing the average cost to more than \$25,000 for each building erected.

STOCKTON.

Bids for the school house at Stockton were rejected as being too high. Seven bids were made ranging in amounts from \$13,450 to \$17,979.

SAN RAFAEL.

Hotel Rafael is having an addition of forty rooms built.

LOS ANGELES.

Building during the past year has reached into the millions, showing that business is still brisk and the building interests extending. The statement of the *Herald* for 1889 gives Los Angeles \$1,134,430.

The Supervisors of Sutter Co. have adopted the plans of Curlett & Cuthbertsen for their new Record Hall at Yuba City.

OAKLAND.

The steady growth of building in Oakland, though not figuring up into as many millions as some other cities on the Pacific Coast, is a good sign of prosperity. The *Tribune and Engineer* give the following approximate figures upon the subject:

These figures are taken from the Plumber's reports, and of necessity are incomplete.

Eddy street, No. 288. Two houses; owners, G. Tomasovic and John Turchau; contractor, R. Gillis; cost, \$300; signed, Nov. 30; filed, Dec. 10; payments, \$450, shingles on; \$450, completed.

Jefferson, near Second. 2-story barn and shed; owners, Oakland Iron Works; contractors, Newman & Paddock; cost, \$250; payments, \$50, rustic on; balance, completed.

East Fourteenth and Park streets. Frame; owner, Oscar Derby; architect, Clinton Day; signed Dec. 14; filed, Dec. 18; cost, \$10,469; payment, \$1,500, sheathed; \$2,250, brown mortar on; \$1,400, exterior finished; \$1,200, doors and windows hung; \$1,551, completed; \$2,618, 35 days.

BUILDING NEWS FROM THE GREAT NORTHWEST.

The history of building in Washington for the year 1889 is one that can hardly find a parallel in the annals of the country, and especially so if we take into account the remote situation of her towns and cities from the source of supply for the materials needed.

We quote from the *Seattle Post-Intelligencer*:

IN SEATTLE. NUMBER. VALUE OR COST. 3,465. \$13,547,979

Tacoma. 1,367. \$6,000,000

In this number, there is 3,049 feet of brick business blocks; 3 buildings with 175 feet front, 6 stories high, 2 buildings, 175 feet front, 5 stories high, and 7 buildings, 675 feet front, 4 stories high.

Spokane.

Five hundred (since the fire) costing \$5,200,000, and mostly for business purposes.

Ellensburg. 35 new brick. (since the fire July 4th.)

Before the fire this young city had a frontage of 1,468 feet brick to brick buildings, which has now been increased to 3,650 feet.

Port Townsend. \$1,100,000

This does not include the \$250,000 appropriated by Congress for the Custom House now being constructed.

Whatcom.

Three hundred business and residence houses, besides various mills and factories.

Selhome.

Three hundred business and residence houses, to which may be added a bank and a school house.

North Yakima.

Two hundred and three residences and business houses, including 9 brick buildings, costing \$178,000.

Snohomish.

One hundred residence and business houses, costing \$130,000, besides various manufacturing building in and about Snohomish, to the value of over \$250,000.

Vancouver.

Has recovered from the fire of last June, and the year 1890 will find the burnt district covered with new brick structures.

PORTLAND, OREGON.

A Brick Manufactory is being erected by the Pacific Metal Works, cost \$7,000.

TRADE SUPPLEMENT.

VOLUME 11.

JANUARY 18, 1890.

NUMBER 1.

BUSINESS MOSAICS.

THE DUNHAM, CARRIGAN & HAYDEN Co., Nos. 17 and 19 Beale street, and 18 to 24 Main street, have an immense stock of Builders Hardware, every conceivable article, almost, in the hardware line is obtainable at their establishment, from the plainest to the highest grade of bronze art-ware.

THE WEST COAST FURNITURE CO., 432 and 434 Fourth street, commence the year with a new assortment of fine Furniture, Wooden-mantles, etc., of the latest designs and styles of finish.

THE VULCAN IRON WORKS, Nos. 135 to 145 Fremont street, are prepared to furnish castings of all manner of constructive iron works. These Works are well known for the finely finished ornamental cast iron work of their manufacture.

W. T. Y. SCHENCK, of Nos. 222 and 224 Market street, secured a patent upon his Paragon Hose Reel and all its improvements. This reel which has been fully recognized as a valuable aid in preventing the spread of fire, has been recently improved so that the reel swings around in such manner as to adjust itself to the direction of the line of hose when run off. In either form, the strain of the bearings is confined to bracketed joinings, thus leaving the water pipe and valve free from such strain.

ONE OF THE OLDEST PIONEERS and veteran cement workers in this city is George Goodman of 307 Montgomery street, the name is synonymous with good materials and good work, and further, he is not afraid to stamp his name on it, either.

The Norton Door Check is in use all over the country. It is placed in the most prominent buildings in this city and shows its usefulness to thousands daily by its easy shutting of the opened door. Frank D. Morrell, the agent for this Door Check, says that he is receiving orders from all points on the Coast for more of them. Wherever the Norton Door Check goes, there it stays, with very little need of repairing, for very frequently they last six or seven years without the least appearance of disorder.

In the case of the Pacific Rolling Mill Co. vs. the Telegraph Hill Railroad to recover \$2,788 for material furnished, Judge Lawler decided in favor of the plaintiffs. The case has been for a number of years before the Supreme Court having been originally filed in 1884. The Pacific Rolling Mill Co. is one of the oldest established corporations upon the coast and its specialty is the manufacturing of railroad and merchant iron, rolled beams, cast steel castings, etc. Their main office is 202 Market street, San Francisco.

AN IMPROVED HOSE REEL.

Attention is called to the card of Chapman's Empire Hose Reel, which appears for the first time in this issue. Although a comparatively new invention, the superior mechanical construction of this device, its handsome appearance and improved method of connection with the stand-pipe have secured for it the favorable consideration of some of our most prominent builders, and already a considerable number have been placed in position in this city and elsewhere. With this reel the hose is attached to a hollow axle at a point between the wheels, much in the same way as in the old reels, but one of the principal features of the Empire and a point of superiority which is at once apparent to the mechanical mind is the connection of this axle with the stand-pipe by a revolving water-tight stuffing box which is situated entirely outside the supporting end brackets. This method of construction not only prevents the weight of reel and hose bearing upon the packing of the stuffing box, but secures another most important point, namely—the reel may be attached to the stand-pipe in an upright position, so that when placed in closets or out-of-the-way corners the hose may be pulled off readily to right or left with even more facility than is possible with a swinging reel.

The Empire is manufactured by Mr. R. S. Chapman, a gentleman of practical experience pertaining to fire prevention and extinction; he having been, until recently, for a number of years connected with the San Francisco Fire Underwriters Inspection Bureau in the capacity of insurance surveyor.

Two very superior brands of rubber-lined cotton hose are used by the manufacturer in equipping this reel. The first in point of excellence is the "Treated Safety Mill Hose," manufactured by the Fabric Fire Hose Company, of New York. This hose is balanced woven upon circular looms, which insures uniformity of tension when under pressure and securing great strength with comparatively light weight. In addition, each thread before woven is treated with a preparation of wax and gum which renders the fabric mildew and rot proof. The Treated Safety Mill also has an absolutely smooth water-way, an important item in getting an effective stream where the hydrant pressure is moderate. The other grade of hose is known as the "Empire Mill." This is a strong, serviceable white cotton hose with a pure para rubber lining, and is guaranteed to be the equal in appearance, durability and strength of any mill hose offered on the Coast. Parties interested are cordially invited to call at 18 California street, where one of the reels may be seen in actual working connection with the water main.

FIRE PROTECTION.

The amount of building done in Seattle, Spokane Falls and other parts of the Northwest during the past year only proves the great resources of the Pacific Coast. Recent fires in the East show that brick, concrete and terra cotta, while not fire proof, stand the test of fire better than any other material. Still different clay produces different grades of brick, some inferior and others of the best quality. Recently works have been established at Vallejo which have produced clay unexcelled anywhere on the coast. These yards are owned by the Union Pressed Brick and Terra Cotta Company who are daily shipping to Seattle and other northern points many carloads of pressed brick. Their terra cotta trade with northern cities is also very great. At the present time the company is turning out splendid stained mortars which are being shipped all over the state. Among the prominent builders who are using the company's brick mortars and terra cotta, W. Z. Price has contracted with the company for material for his new villa at Redwood City. In San Jose this company's pressed brick is being used in the new four-story Porter Hotel, Clarence O. Arey, architect.

THE WATER CLOSERS manufactured by Joseph Budde, No. 43 Fremont street, grow in favor as the years pass on, for the simple reason that he uses the best of materials, adding from time to time, such improvements as may be required to meet the demands of the advance in sanitary science.

Retail Price List of Lumber.

PINE, FIR AND SPRUCE.		Per 1,000 ft.
Rough Pine, m'cantable to 40 ft. inclusive.		\$20 00
" " " 41 to 50 " "		21 00
" " " 51 to 60 " "		23 00
" " " 61 to 70 " "		27 00
" " " 1x3, fencing.....		22 00
" " " 1x4, ".....		21 00
" " 1x3, 1x4 and 1x6, odd lengths.		19 00
" " second quality.....		17 00
" " selected.....		25 00
" " clear except for flooring.....		31 00
" " for flooring less than flooring.....		1 00
Clear V. G. No. 1 Flooring, when ordered, extra.....		5 00
Fire Wood.....		11 00
Dressed Pine, flooring, No. 1, 1x6.....		32 00
" " " 1x4.....		34 00
" " " 1 1/2 x 4, 1 1/2 x 6 and odd sizes.....		37 00
" " " all sizes, No. 2.....		27 00
" " Stepping, No. 1.....		43 00
" " " 2.....		33 00
Ship Timber & Pl'd, rough selected		27 00
" " " select'd pl'd, 1 sd		aver. 29 00
" " " " 2 "		40 ft 31 00
" " " " 3 "		33 50
" " " " 4 "		35 00
Deck Plank, rough		35 00
" " " dressed		average 35 feet. 40 00

JOHN H. WISE,
President.H. T. SCOTT,
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UNION PRESSED BRICK & TERRA COTTA CO.

Works: Vallejo, California. General Office: Room 31, Flood Building, San Francisco, Cal.

— MANUFACTURE THE FINEST QUALITY OF —

Plain, - Moulded - and - Ornamental - Pressed - Brick,

ARCHITECTURAL TERRA COTTA,

FIRE PROOFING, PAVING TILE,

Also Red, Brown and Black Mortar.

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WASTES OF SOCIETY.

Fresh Air is something which God has set great value upon, but which most men think little of. In this is the heritage of health.

Very few Buildings or dwellings are suitable to live in from want of proper ventilation.

The unfortunate Architect seldom finds an Owner of a Dwelling, who is willing to live as God meant he should, by breathing Fresh Air, all for the sake of saving a few dollars, which ought to be expended in the providing for ventilation. Men of wealth pay more attention to the architecture and adornment of their homes, than to proper ventilation. Their homes indeed look beautiful from without, but within, they are filled, not with dead men, women and children, but with dead breaths of their occupants. These homes are literally dens of poison.

There is nothing more poisonous than the effluvia and exhalations that proceed from man.

In a close room, where a family is assembled, they will, in twenty

minutes, breathe the air over once—in another twenty minutes three times, and by that time every person in the room will have inhaled the effluvia of every other person in the room.

What wonder that our streets are filled with wan-visaged men, women and children!

It is really lamentable to see people, slowly and surely undermining their health, by persisting in building houses, without providing for ventilation without draughts (which can be had by the expenditure of a few dollars,) and thus sacrificing the greatest blessing heaven bestows upon man—by persisting in no ventilation or ventilation from Open Windows.

The Homes of the Rich and Poor alike should be ventilated by Abrahamson's Patent Ventilator without draughts.

The following is one of the thousand testimonials written:

SAN FRANCISCO, NOV. 9th, 1890.
PETER ABRAHAMSON, Esq.—Dear Sir: Allow me to say that I have, not only in my own house, but in six of the Public Schools of this city, had abundant opportunity to witness the excellent effect of your perfect ventilator. I have it in my sleeping room, and in my study room, and having experienced the great benefit resulting from having it, I would not be without it. If people could be made aware of its advantages, I feel sure that you would not be able to supply the demand. Had I the power, I would have it placed in every window and wall in our schools, believing that such action would conduce more to the preservation of the health of the children and of the teachers than anything else that could be done. We most heartily recommend it to all.
Very respectfully,
J. W. ANDERSON, Supt. Common Schools.

W. W. MONTAGUE & CO., Agts., San Francisco.

Pickets, rough, B. M.	20 00	Casing Stock, 1, 1 1/2 and 1 3/4 Rough, 7 to 11.	25 00
" 1x1 1/2 " 4 ft. long.	5 00	" 1x3, 1x6, Clear, under 7.	22 00
" 1x1 1/2 " 4 ft. long.	6 00	Tank Stock, 2 and 3 inches, clear, (surfaced	27 00
" 1x1 1/2 " 5 ft. long.	7 00	" or rough, under 12 feet.	27 00
" 1x1 1/2 " 6 ft. long.	8 50	Pickets, (fancy), 4 ft., B. M.	25 00
" 1x1 1/2 " 7 ft. long.	10 00	" (rough, pointed), B. M.	18 00
" 1x1 1/2 " 8 ft. long.	11 50	" (" square), B. M.	16 00
Furring, 1x2.	1 00	Battens, 1x3.	per lineal ft. 01
Lath, 1 1/4 x 4 ft.	2 75	Shingles.	per M. 2 25
" 1 1/4 x 4 ft.	3 00	" fancy.	" 3 50
Spence, rough.	19 00	Posts, split.	per M. 15
" dressed, shiplap.	36 00	Shakes, split.	per M. 11 00
" 1 inch.	36 00	" sawed.	13 00
" clear.	33 00	Lumber delivered on board cars will be charged	
Rough damage, delivered.	20 00	\$1 per M extra. Lumber delivered along side of	
		vessel or wharf, 50 cents per M extra. Scale of	
		credit not to exceed 60 days without interest being	
		added.	
REDWOOD.		Tongued and grooved beaded on two sides \$2.50	
Rough Redwood, merchantable.	19 00	extra.	
" second quality.	16 00		
" selected.	25 00		
" clear.	34 00		
Dressed " merchantable boards.	24 00		
" " No. 1 do.	31 00		
" " No. 2 do.	25 00		
" " T & G, 1x6, 12 ft. and	34 00		
" " over, No. 1.	37 50		
" " other sizes, No. 1.	25 00		
" " 7 to 11, No. 1.	22 00		
" " under 7.	35 00		
" " Rustic, No. 1.	31 00		
" " T & G, 1x6, 12 ft. and	34 00		
" " over, No. 1.	37 50		
" " other sizes, No. 1.	25 00		
" " 7 to 11.	22 00		
" " under 7.	22 00		
" " Sliding, 1/2 inch.	25 00		

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Chisholm, Chris	110 Chattanooga	Hanson, F. L.	1125 Treat Ave	Quinn, Charles	138 Oak
Crichton, Dan	109 Baker, bet Page and Oak	Hoffman, Victor, Jr.	515 1/2 Fourth	Rehley & Vierhus	28 Pearl
Christy, Chas	828 Kirkham Oakland	Houston, Geo	512 Haight	Robertson, C. F.	116 Jones
Classen, J. C.	292 Francisco	Hatch, H. E.	1717 Chase, Oakland	Robertson, John M.	494 Minna
Coady, Chas	2927 Mission	Hurbit, R. F.	539, 541 Brannan	Rogers, A. C.	561 Folsom
Cogswell, J. B.	Alameda	Hyde, E. W.	330 1/2 Sanchez	Rolling, Henry	Palmer, opp. Sanchez
Collins, P. J. & Son	534 Fifteenth	Irwin, James	308 Sixteenth	Rountree Bros.	319 1/2 Clay
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Couard, H. A.	625 California	Jackson, A.	12 Middle	Steinman, F. V.	30 1/2 4th
Chandler, R. O.	1340 Pierce	Keenan, Hugh	219 Scott	Simpson, R. F.	326 Telegraph Ave., Oakland
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Davis, R. O.	322 Penn Ave	Klahu, Aug.	5 Chenery	Smith, James W.	1320 Eddy
Discher, Aug.	296 1/2 Langton	Klatt, F.	814 Twenty-first	Tegeler & Muller	20 Laskie
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Dunn, J. J.	417 Ridley	Laherty, C. A.	515 Sixth	Thompson, H. C.	1103 1/2 17th
Drushee, C. E.	511 Sanchez	Lang, Geo. R.	E. 14th St. and 14th Ave., Oakland	Thornton, R. R.	26 Montgomery
Elam, Thomas	511 Sanchez	Langstaff, Wm	617 Jessie	Von Borstel, Theo	1780 Golden Gate Ave
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Fancher & Cannon	1810 Green	Linden, Wm	312 Vicksburg	Whalen, J. R.	618 Van Ness Ave
Farrell & Bell		Logan, J. F.	922 Minna	Whelan, Wm. H.	Green and Laguna
		Lynch, M. C.	28 Stanley Place	Whelan, Alex. J.	Ninth Ave., near California
		Lynch, Patrick F.	328 Fell	White, O. E.	579 Seventeenth
		Mahony Bros.	307 Van Ness	White Bros.	1208 Page
		Maher, J. W.	105 Precita Ave	Wickersham, W. H.	1125 York
		MacDonald, Allen	1303 Buchanan	Wilcox, J. R.	608 Willow Ave
		Martin & Maguire	135 Gough	Williams, F. A.	33 Lapidge
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TECHNICAL SOCIETY, meets first Friday of each month at
408 California Street.THE regular monthly meeting of the San Francisco Chapter
of the American Institute of Architects was held Friday
evening, February 14th. Reports were received from the
Trustees, the Executive Committee, and several special Com-
mittees. Following is the report of the Committee on awarding
the prize offered by the Chapter to the students in the drawing
class.In November last it was determined by the Chapter to
inaugurate a competition for the benefit of the Chapter's classes,
and in pursuance thereof a prize of ten dollars (to be expended
in books) was offered for the best design—with honorable men-
tions for second and third designs—in the order of their merit.
Messrs. Pissis, Cuthbertson and Sanders were appointed a Com-
mittee on awards. The work of the class for the preceding
year was also to receive the attention of the Committee. The
designs were to be handed in at the first meeting of the Chapter
in January, and the award to be announced at next meeting in
February. In pursuance of the above, the designs were duly
received and your Committee have made the following awards.First prize to Mr. Sam C. Benson for panel of vine leaves,
unsymmetrically arranged and flatly treated, the leaves com-
pletely fill the panel, and all carved out of the solid. It is
adaptable for various purposes of both internal and external
wood work, and is notable for care in execution, and practical
character of design, though it is not without faults; among
which may be mentioned as the most noticeable, the spot caused
by the massing of a single bunch of grapes unsymmetrically in
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To the San Francisco Chapter A. I. A.:

GENTLEMEN—We, on behalf of the Furniture Workers and
Wood Carvers respectfully present to you the desire of those
Trades we represent, to secure as far as possible, to the me-
chanics of this city, the inside finishing and fitting up of the
buildings constructed in this city. We believe it is not neces-

sary to argue upon the desirability of this work being done at home, for as we are raising our families here and form a part of this community, the wages we receive for our labor are thus returned to the general circulation. If the work on which we depend for our support goes to other cities, how are we to exist here? Believing that you are in sympathy with us, more particularly now that many of our men are idle, we would ask you to use your great influence to keep the work of this city, in this city.

Very respectfully, the joint committee,
HENRY CARSTENSEN,
Secretary.

The President in reply to the communication assured the committee that the members of the Chapter were well aware of the desirability of retaining as far as possible all such work for our own mechanics, and would do all in their power to further that end. After transacting the other business of the Society, the meeting adjourned.

WHERE is probably no large city in the United States so poorly represented in the matter of public buildings as the city of San Francisco. With a tumble down Post Office, an insecure jail, and an uncompleted City Hall, the citizens truly have little to be proud of, but if they can live on hope for an indefinite number of years to come, they may yet have their dreams of progress and improvement realized. Fair progress is being made with the New City Hall. There is some possibility if not probability of a lot being purchased as a site for a new post office, and when the jail shall no longer afford storage room for the unfortunates now overcrowded in its unhealthy cells, the authorities will per force be obliged to take some action towards providing fitting accommodations, so that when a chinaman is arrested for violating the cubic air law, he will not be incarcerated in a cell affording him still less of the blessed air than he obtained in his own stifling bunk in an underground hole in the Chinese quarter.

The recent burning of the Girls High School may not be an unmixed evil. The Board of Education propose to replace the burned building which was a frame structure, with a fire proof building of substantial construction and artistic appearance, and if it teaches the lesson that it is true economy to build substantially it will be worth the present loss incurred.



THE LATE GENERAL VALLEJO.

General Mariano Guadalupe Vallejo, died on the 18th of January in Sonoma at the age of 81 years, surrounded by nearly all the members of his numerous family. General Vallejo was a pioneer among pioneers, and the most distinguished native Californian. He had occupied the most prominent positions, having been Governor of California during the Mexican rule and State Senator during the present government. He was a high minded, honorable gentleman, with fine taste and considerable learning, which, considering the difficulties in obtaining books and the means of education in early days, was really remarkable. His hospitality, liberality and progressive ideas were proverbial. Every visitor at his home was welcome at all times, and with true Spanish hospitality, could stay as long as he desired. Many instances are related when he made presents to people of thousands of acres of land. He gave Andreas Hoepner, a Russian gentleman, a ranch of over 4,000 acres for teaching music to his children. The General inherited from his ancestors great talent for construction; the standard author in mathematics in Spain, in the beginning of this century, was a Vallejo. His father, Don Ignacio Vallejo, one of the original settlers in California who came with Father Junipero Serra, was an engineer and built many of the presidios and irrigating works at the time of the Missions. He at one time projected, and proposed to the authorities of Monterey, the conduction of water to that city from the river Carmel. That project has been carried out by the Pacific Improvement Company, at an expense of half a million dollars. The father of General Vallejo estimated the cost at \$10,000, by employing the Mission Indians. General Vallejo was the founder of Sonoma; he built the first structures in that place, consisting of his residence, officers' quarters, barracks, and the church. We give a drawing representing them as they existed before 1848, from a description and sketch by the General's son, Dr. Vallejo. The capital of California was at one time, the city of Vallejo founded by the General; he projected and partly built at his own cost all the State buildings, but the removal of the capital to Sacramento, prevented him from finishing them. With the death of General Vallejo, the State has lost one of her prominent men and the best authority in historical facts in California.

E. J. MOLERA.

THE STRUCTURE OF SANDSTONE.

Read before the Liverpool Architectural Society, by Mr. T. Mellard Read.

Sandstones, or, in masons' language, "freestones," from the freedom with which most of them are worked when freshly taken from the quarry, are plastic or sedimentary rocks. That is, they are composed of separate particles which have once existed as sand, like that we see on our own shores, or in the sand dunes of Hoylake or Crosby. Sandstones are usually more or less laminated, and are stronger to transverse stress at right-angles to their natural bedding than in any other direction, a fact recognized in every architect's specification, which states "all stones must be laid on their natural bed," a direction that unfortunately sometimes begins and ends in the specification. The cause of the superior strength is not, however, generally understood.

I have devoted some considerable time to an investigation of the internal structure of sandstones, which I have communicated from time to time to various scientific societies and publications, and will now briefly explain in a manner I judge will be most likely to interest architects and engineers. The particles or grains of which the rock is built up are of various forms and sizes, from a thoroughly rounded grain, almost like shot, to a broken and jagged structure, and to others possessing crystalline faces. These grains, most of them possessing a longer axis, have been rolled backward and forward by the tides or river-currents. The larger grains naturally lie on their sides when freshly deposited, with their axes in the plane of bedding; the smaller and more rounded particles naturally tend to occupy the interstices between the others, and in this way rude divisional planes, or laminations are formed. Each layer forms a sort of course like coursed-rubble in a wall, and by the necessities of deposition a certain rude geometric arrangement results, by which the particles of the future rock overlap each other, and thereby gain what is known to architects as bond.

But, so far, this is only like "dry walling," the mass wants cementing together to make it solid. The cementing process happens in this way in our rocks, which are almost purely silicious: Water containing a minute quantity of carbonic acid in solution, which most rain-water does, especially when it comes into contact with decaying vegetation, has the power of dissolving silica to a slight extent. This is proved in various ways, and is shown in the fact that all river water contains more or less silica in solution.

The circulation of water through the sand deposit of which our rocks are made dissolves part of the grains, and the silica taken up is redeposited on others. I cannot explain the chemical reaction that produces this deposition, but that it takes place in the rock during some period of its history is certain. I exhibit a quartzite pebble taken from the triassic sandstone at Stanlow Point, which, as can be easily seen, was at one time worn perfectly smooth by attrition and long-continued wear, for the quartzite is very hard. Upon this worn surface you will see spangles and facets which reflect the light, and on closer inspection it will be evident that they are crystals of quartz that have been deposited upon the surface of the worn pebble after it became finally inclosed in the rock.

A microscopic examination of the granules of the rock itself will show that many of them have had crystalline quartz deposited upon their surfaces, and in some cases rounded grains have in this way become almost perfect crystals.

An examination of the best sandstones for building purposes shows that they possess more of these crystalline particles than the inferior ones, and a good silicious sandstone shows its good quality by a fresh fracture sparkling in the sun. In addition to these crystalline deposits of silica I believe it exists also as a cement which binds the particles together when in contact.

It certainly is, however, with this secondary silica that the original sand has become a building stone, and the particles have become interlaced and bound together. Thus, in building parlance, the grains are the rubble of the wall, the currents the quarrymen, masons and laborers, and the silicious infiltration the mortar.

It is a remarkable fact that most of the pebbles included in the red rocks are quartzites, or indurated silicious sandstones; and, as showing that their solidity and hardness are due only to a further continuation of the deposit of silica in the interstices, it has been proved that the purple quartzites are purple only by reason of the original coloration of the grains which have been inclosed between the original grains and the secondary silica.



BUILDING BY E. J. LENNOX, ARCHITECT, IN *Canadian Architect*.

DAMAGE TO ADJOINING STRUCTURES FROM HEAVY BUILDINGS.

With the increasing size and weight of modern office buildings there come not only serious problems of safe and economical construction, but the still more difficult question of how to prevent damage to adjoining structures, not merely from undermining of foundations which can be avoided by suitable underpinning, but from the actual compression of the soil.

If anyone will take the trouble to examine the old and comparatively light buildings alongside of which some high and heavy structure has recently been erected, the chances are that he will find the old buildings more or less damaged by their new neighbor, and cracked walls and sills, and especially cracked lintels over the nearest windows, will show that the old wall next the more recent structure has been carried bodily downward. As before intimated the settlement in most cases is not caused by any defect in or injury to the foundation of the old building, but by the fact that the heavier structure has compressed the soil and taken the lighter one down with it.

As the evil is progressive, increasing as the new building goes up, and for some time after it is finished, it cannot be provided against once for all, but the remedy must be progressive also, and the only way to prevent the injury is to keep the old wall wedged or screwed up while the new one goes down. The only instance we know of where this has been done is in the case of a large building now being erected in Chicago, where the soil is so compressible that such a building is expected to settle three or four inches during construction, and where one fine tall building has had one corner carried down four or five inches by a heavier building alongside, with the result of very badly cracking the older structure from top to bottom through the nearest line of windows. To avoid such a disaster the wall of the old building some seven stories high, next which the new building just mentioned is being put up, is temporarily supported on screws, and is by them kept slightly above its normal position so as to allow for settlement between times. These screws will support the old wall for some six months after the new building is finished, and until all settlement is over. With a less compressible soil, or a lighter building, perhaps iron counter-wedges between stout bearing stones would give sufficient lift, and could be left in when the new building was completed.—*The Engineering and Building Record*.

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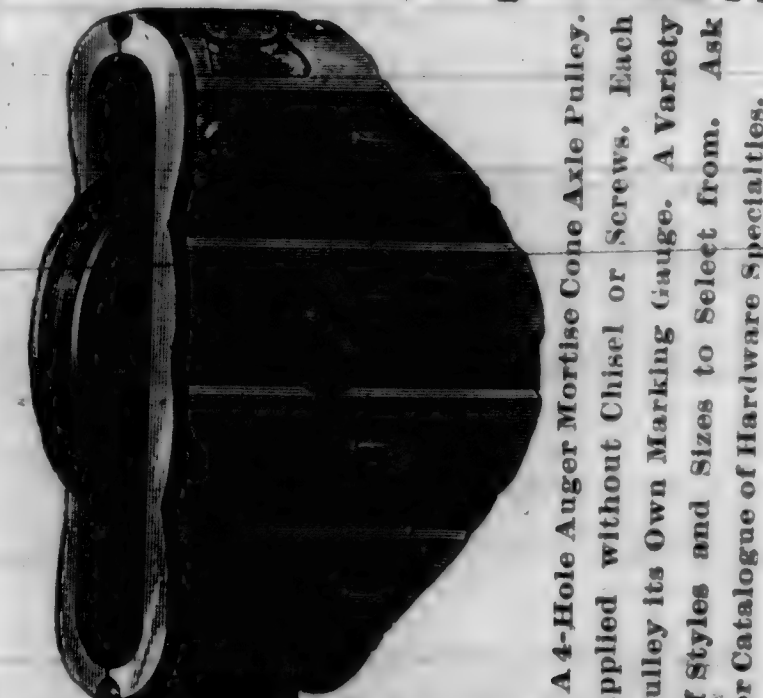
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SAN FRANCISCO, CAL.

1890.

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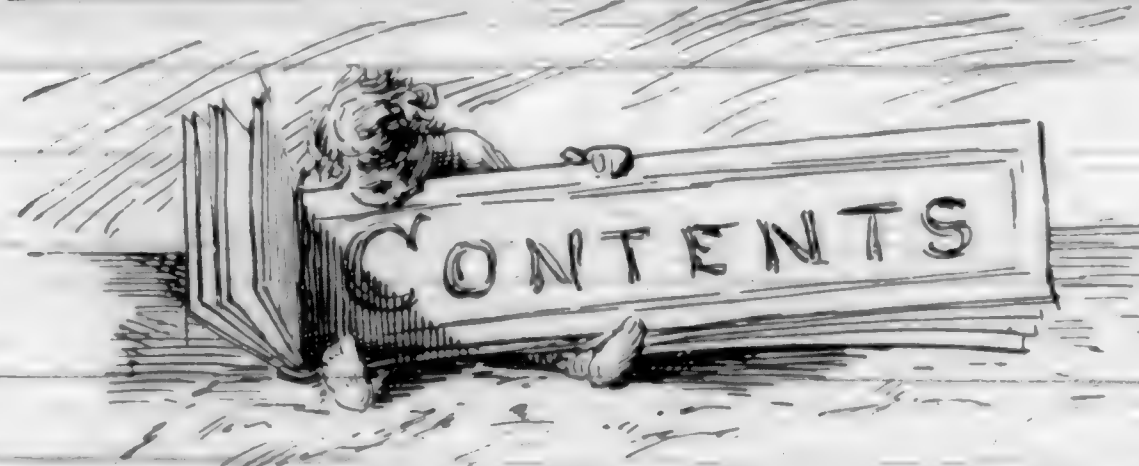
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NOTICE OF MEETINGS.SAN FRANCISCO CHAPTER, AMERICAN INSTITUTE ARCHITECTS,
meets second Friday of each month at 408 California Street.
TECHNICAL SOCIETY, meets first Friday of each month at
408 California Street.THE regular monthly meeting of the San Francisco Chapter
of the American Institute of Architects was held Friday
evening, February 14th. Reports were received from the
Trustees, the Executive Committee, and several special Com-
mittees. Following is the report of the Committee on awarding
the prize offered by the Chapter to the students in the drawing
class.

"In November last it was determined by the Chapter to
inaugurate a competition for the benefit of the Chapter's classes,
and in pursuance thereof a prize of ten dollars (to be expended
in books) was offered for the best design—with honorable men-
tions for second and third designs—in the order of their merit.
Messrs. Pissis, Cuthbertson and Sanders were appointed a Com-
mittee on awards. The work of the class for the preceding
year was also to receive the attention of the Committee. The
designs were to be handed in at the first meeting of the Chapter
in January, and the award to be announced at next meeting in
February. In pursuance of the above, the designs were duly
received and your Committee have made the following awards."

First prize to Mr. Sam C. Benson for panel of vine leaves,
unsymmetrically arranged and flatly treated, the leaves com-
pletely fill the panel, and all carved out of the solid. It is
adaptable for various purposes of both internal and external
wood work, and is notable for care in execution, and practical
character of design, though it is not without faults; among
which may be mentioned as the most noticeable, the spot caused
by the massing of a single bunch of grapes unsymmetrically in
the midst of a flat area of leaves. Had the bunch of grapes
been more broken up, with others appearing in the other parts
of the field, the effect of the panel would have been greatly
improved.

The honor of first mention is awarded to Mr. Joseph Rowell
and Mr. Van Vlack for their respective designs. The first, for
thistles filling a spandrel, exhibiting considerable originality in
design, but unfinished and crude in treatment, the lines being
stiff and the foliage wanting in conventional adaptation to
material. The second, a symmetrical arrangement of vine,
graceful and careful in arrangement, very neatly executed, but
wanting in originality of design, are judged by the Committee to
be equal in merit.

The flat studies were also examined. First mention being
awarded to Mr. Van Vlack, on account of the number and gen-
eral excellence of his studies. Second mention is awarded to
Mr. Rowell for the same reason in a less eminent degree."

Messrs. Carstensen, Pries and O'Connor, a joint commit-
tee from numbers 15 and 25 of the International Furniture
Worker's Union of North America, and the Wood Carver's As-
sociation appeared before the Chapter and presented the follow-
ing communication:

To the San Francisco Chapter A. I. A.:

GENTLEMEN—We, on behalf of the Furniture Workers and
Wood Carvers respectfully present to you the desire of those
Trades we represent, to secure as far as possible, to the me-
chanics of this city, the inside finishing and fitting up of the
buildings constructed in this city. We believe it is not neces-

sary to argue upon the desirability of this work being done at home, for as we are raising our families here and form a part of this community, the wages we receive for our labor are thus returned to the general circulation. If the work on which we depend for our support goes to other cities, how are we to exist here? Believing that you are in sympathy with us, more particularly now that many of our men are idle, we would ask you to use your great influence to keep the work of this city, in this city.

Very respectfully, the joint committee,
HENRY CARSTENSEN,
Secretary.

The President in reply to the communication assured the committee that the members of the Chapter were well aware of the desirability of retaining as far as possible all such work for our own mechanics, and would do all in their power to further that end. After transacting the other business of the Society, the meeting adjourned.

There is probably no large city in the United States so poorly represented in the matter of public buildings as the city of San Francisco. With a tumble down Post Office, an insecure jail, and an uncompleted City Hall, the citizens truly have little to be proud of, but if they can live on hope for an indefinite number of years to come, they may yet have their dreams of progress and improvement realized. Fair progress is being made with the New City Hall. There is some possibility if not probability of a lot being purchased as a site for a new post office, and when the jail shall no longer afford storage room for the unfortunates now overcrowded in its unhealthy cells, the authorities will per force be obliged to take some action towards providing fitting accommodations, so that when a Chinaman is arrested for violating the cubic air law, he will not be incarcerated in a cell affording him still less of the blessed air than he obtained in his own stifling bunk in an underground hole in the Chinese quarter.

The recent burning of the Girls High School may not be an unmixed evil. The Board of Education propose to replace the burned building which was a frame structure, with a fire proof building of substantial construction and artistic appearance, and if it teaches the lesson that it is true economy to build substantially it will be worth the present loss incurred.



THE LATE GENERAL VALLEJO.

General Mariano Guadalupe Vallejo, died on the 18th of January in Sonoma at the age of 81 years, surrounded by nearly all the members of his numerous family. General Vallejo was a pioneer among pioneers, and the most distinguished native Californian. He had occupied the most prominent positions, having been Governor of California during the Mexican rule and State Senator during the present government. He was a high minded, honorable gentleman, with fine taste and considerable learning, which, considering the difficulties in obtaining books and the means of education in early days, was really remarkable. His hospitality, liberality and progressive ideas were proverbial. Every visitor at his home was welcome at all times, and with true Spanish hospitality, could stay as long as he desired. Many instances are related when he made presents to people of thousands of acres of land. He gave Andreas Hoepner, a Russian gentleman, a ranch of over 4,000 acres for teaching music to his children. The General inherited from his ancestors great talent for construction; the standard author in mathematics in Spain, in the beginning of this century, was a Vallejo. His father, Don Ignacio Vallejo, one of the original settlers in California who came with Father Junipero Serra, was an engineer and built many of the presidios and irrigating works at the time of the Missions. He at one time projected, and proposed to the authorities of Monterey, the conduction of water to that city from the river Carmel. That project has been carried out by the Pacific Improvement Company, at an expense of half a million dollars. The father of General Vallejo estimated the cost at \$10,000, by employing the Mission Indians. General Vallejo was the founder of Sonoma; he built the first structures in that place, consisting of his residence, officers' quarters, barracks, and the church. We give a drawing representing them as they existed before 1848, from a description and sketch by the General's son, Dr. Vallejo. The capital of California was at one time, the city of Vallejo founded by the General; he projected and partly built at his own cost all the State buildings, but the removal of the capital to Sacramento, prevented him from finishing them. With the death of General Vallejo, the State has lost one of her prominent men and the best authority in historical facts in California.

E. J. MOLERA.

THE STRUCTURE OF SANDSTONE.

Read before the Liverpool Architectural Society, by Mr. T. Meillard Reade.



BUILDING BY E. J. LENNOX, ARCHITECT, IN *Canadian Architect*.

DAMAGE TO ADJOINING STRUCTURES FROM HEAVY BUILDINGS.

With the increasing size and weight of modern office buildings there come not only serious problems of safe and economical construction, but the still more difficult question of how to prevent damage to adjoining structures, not merely from undermining of foundations which can be avoided by suitable underpinning, but from the actual compression of the soil.

If anyone will take the trouble to examine the old and comparatively light buildings alongside of which some high and heavy structure has recently been erected, the chances are that he will find the old buildings more or less damaged by their new neighbor, and cracked walls and sills, and especially cracked lintels over the nearest windows, will show that the old wall next the more recent structure has been carried bodily downward. As before intimated the settlement in most cases is not caused by any defect in or injury to the foundation of the old building, but by the fact that the heavier structure has compressed the soil and taken the lighter one down with it.

As the evil is progressive, increasing as the new building goes up, and for some time after it is finished, it cannot be provided against once for all, but the remedy must be progressive also, and the only way to prevent the injury is to keep the old wall wedged or screwed up while the new one goes down. The only instance we know of where this has been done is in the case of a large building now being erected in Chicago, where the soil is so compressible that such a building is expected to settle three or four inches during construction, and where one fine tall building has had one corner carried down four or five inches by a heavier building alongside, with the result of very badly cracking the older structure from top to bottom through the nearest line of windows. To avoid such a disaster the wall of the old building some seven stories high, next which the new building just mentioned is being put up, is temporarily supported on screws, and is by them kept slightly above its normal position so as to allow for settlement between times. These screws will support the old wall for some six months after the new building is finished, and until all settlement is over. With a less compressible soil, or a lighter building, perhaps iron counter-wedges between stout bearing stones would give sufficient lift, and could be left in when the new building was completed.—*The Engineering and Building Record*.

Sandstones, or, in masons' language, "freestones," from the freedom with which most of them are worked when freshly taken from the quarry, are plastic or sedimentary rocks. That is, they are composed of separate particles which have once existed as sand, like that we see on our own shores, or in the sand dunes of Hoylake or Crosby. Sandstones are usually more or less laminated, and are stronger to transverse stress at right-angles to their natural bedding than in any other direction, a fact recognized in every architect's specification, which states "all stones must be laid on their natural bed," a direction that unfortunately sometimes begins and ends in the specification. The cause of the superior strength is not, however, generally understood.

I have devoted some considerable time to an investigation of the internal structure of sandstones, which I have communicated from time to time to various scientific societies and publications, and will now briefly explain in a manner I judge will be most likely to interest architects and engineers. The particles or grains of which the rock is built up are of various forms and sizes, from a thoroughly rounded grain, almost like shot, to a broken and jagged structure, and to others possessing crystalline faces. These grains, most of them possessing a longer axis, have been rolled backward and forward by the tides or river-currents. The larger grains naturally lie on their sides when freshly deposited, with their axes in the plane of bedding; the smaller and more rounded particles naturally tend to occupy the interstices between the others, and in this way rude divisional planes, or laminations are formed. Each layer forms a sort of course like coursed-rubble in a wall, and by the necessities of deposition a certain rude geometric arrangement results, by which the particles of the future rock overlap each other, and thereby gain what is known to architects as bond.

But, so far, this is only like "dry walling," the mass wants cementing together to make it solid. The cementing process happens in this way in our rocks, which are almost purely silicious: Water containing a minute quantity of carbonic acid in solution, which most rain-water does, especially when it comes into contact with decaying vegetation, has the power of dissolving silica to a slight extent. This is proved in various ways, and is shown in the fact that all river water contains more or less silica in solution.

The circulation of water through the sand deposit of which our rocks are made dissolves part of the grains, and the silica taken up is redeposited on others. I cannot explain the chemical reaction that produces this deposition, but that it takes place in the rock during some period of its history is certain. I exhibit a quartzite pebble taken from the triassic sandstone at Stanlow Point, which, as can be easily seen, was at one time worn perfectly smooth by attrition and long-continued wear, for the quartzite is very hard. Upon this worn surface you will see spangles and facets which reflect the light, and on closer inspection it will be evident that they are crystals of quartz that have been deposited upon the surface of the worn pebble after it became finally inclosed in the rock.

A microscopic examination of the granules of the rock itself will show that many of them have had crystalline quartz deposited upon their surfaces, and in some cases rounded grains have in this way become almost perfect crystals.

An examination of the best sandstones for building purposes shows that they possess more of these crystalline particles than the inferior ones, and a good silicious sandstone shows its good quality by a fresh fracture sparkling in the sun. In addition to these crystalline deposits of silica I believe it exists also as a cement which binds the particles together when in contact.

It certainly is, however, with this secondary silica that the original sand has become a building stone, and the particles have become interlaced and bound together. Thus, in building parlance, the grains are the rubble of the wall, the currents the quarrymen, masons and laborers, and the silicious infiltration the mortar.

It is a remarkable fact that most of the pebbles included in the red rocks are quartzites, or indurated silicious sandstones; and, as showing that their solidity and hardness are due only to a further continuation of the deposit of silica in the interstices, it has been proved that the purple quartzites are purple only by reason of the original coloration of the grains which have been inclosed between the original grains and the secondary silica.

Yellow sandstone is colored also by iron, and I have frequently seen the red sandstone shading off to yellow without any division whatever. The various shades and tints of sandstone are necessarily due to the coloration of the individual grains.

Most of you will, no doubt, have observed the sort of marbling or grain upon the stone of our old buildings, such as the town hall, which I believe was obtained from quarries occupying the site of the St. James cemetery. This is due to what is called current bedding; that is to say, the grains have been arranged along oblique lines and curves instead of in parallel laminae. This stone, which is geologically equivalent to the Storeton stone, and of the same nature, has stood very well. Some of the Storeton stone, if free from clay galls, although very soft when quarried, becomes hardened by exposure, and will stand the weather much better than a harder and more pretentious material.

The rocky substratum of a district can be well seen in its ancient buildings, for in old times carriage was so important an item that the old builders could not go far for their stone; hence we see that the old churches of part of Lancashire and most of Cheshire, and a large portion of Shropshire, are of red sandstone. Some of it has stood very well, while some has decayed into shapeless masses. There is a tendency to exfoliate parallel to the exposed or worked surface, in all stones, irrespective of the way of the bed, but more so where the stone is set up on edge, or at right angles, to its quarry bed. It is interesting and peculiar to see in some of the old buildings erected with pebbly sandstone how the white quartz pebbles stand out from the surface like warts. This is due to the greater indestructibility of the quartz pebbles, and the weathering away, or denudation, of the sandstone face.

Before leaving the subject of local sandstone it will be necessary to refer to one quality they have which is of excellent utility as regards the storage of water, but which is a decided disadvantage in building stone—that is, their porosity. I have proved by actual experiment that a cubic foot of Runcorn stone will take up three quarts of water by capilarity, and that it is possible to make a syphon of solid sandstone which will empty a vessel of water into another vessel with capilarity alone. This shows the absolute necessity of damp-proof courses, not only in the main walls of buildings of stone, but even in fence walls, for the continual sucking up of moisture from the earth, and its evaporation at the surface of the stone, make it rapidly decay. I think I could show you this fact in almost any stone building in Liverpool or elsewhere the stone is in direct connection with the earth. It also shows the necessity of taking care that no stones go through the wall to the interior surface, and of precautions, for backing up stone walls with less porous materials, or the introduction of a cavity. If you could suppose such a sandstone wall 40 feet long, 20 feet high and 1 foot 6 inches thick fully saturated, it would hold almost a ton of water. Of course, it never would be fully saturated, because of the evaporation from the surfaces, but with a southwest aspect, and very wet weather, it might become half saturated. But what does evaporation mean? It means the loss of so much heat and the burning of so much coal to supply its place. From this it will be seen that a pure sandstone wall is a thing to be avoided.

The subject is so wide a one that I have felt compelled to restrict my remarks to local sandstones, but the general principles of structure apply to all sandstones alike.

It is difficult by written description to tell you how to select a good stone, but one essential is that there shall be a good deposition of secondary quartz, as shown by the crystalline sparkling on the freshly fractured surface.

It must also be free from very decided laminations, for these constitute planes of weakness and are often indications of the deposition of varying materials, or the same material in various grades of fineness. It must also not be full of argillaceous and iron-oxide inclusions. It should possess a homogeneous texture. The best way to study building stones is to study them in old buildings, for nature has then dissected their weaknesses.—*Stone.*

The *Boston Transcript* applauds the idea of having an architect's name conspicuously placed on the building he has designed. It would save so much time to persons who purpose to build in making up a list of architects to be avoided.—*Ex.*



EL REFUGIO, Mexico, Jan. 5th, 1890.

TO THE EDITOR OF THE

CALIFORNIA ARCHITECT AND BUILDING NEWS—

Dear Sir:—As I promised you before leaving San Francisco for a year's stay in Mexico, I have made notes of such of my observations as I think will be most likely to interest the subscribers to your journal, and take this opportunity to send them by a courier who leaves to-day. I will not bore you with a description of the journey, more than to say it occupied nearly two weeks, the last hundred and forty miles being done on mule's backs over the roughest kind of mountains, and along trails where a mis-step would have been fatal.

I enclose several photographs of the scenery in this vicinity, and of the towns and villages on the route. The cathedral appears to be the principal architectural feature of the towns. It is said to be a fact that when the cathedral at Chihuahua was built, about one hundred and fifty years ago, that no staging or scaffolding of any description was used, but as the walls were



CATHEDRAL.

built up, the interior of the church was filled with earth, which was also banked up on the outside of the walls to a corresponding height, and only removed upon the completion of the building.

I noticed in passing through Chihuahua that the poles for scaffolding purposes were made of small sticks bound together with rawhide, so spliced that from short pieces a scantling was formed answering for a three-story building. The window openings in a Government building under construction, instead of being temporarily closed with boards or cloth as is customary with us, were built up with adobe.

The towns and villages we passed through on our way to this place looked (at first sight) like huge brickyards with the kilns unburnt (all the buildings being of adobe.)

The general plan of the dwelling houses is a square with only one opening on one side, with a central court yard from which



TOWN OF JESUS MARIA, CHIHUAHUA, MEXICO.

doors open into the rooms. No windows are considered necessary. This may have been originally designed as a protection against the Indians, (at one time very troublesome) but is now doubtless continued from habit. The sameness in the appearance of these dwellings is very monotonous. The roofs are almost flat and are covered with mud, though this method of roofing seems strange at first sight, yet you must consider that mud is plentiful and wood and timber very scarce in many parts of Mexico, and the people very lazy; in fact most of the work is done by peons, or what were peons before the law set them free. But as most of them don't know they have been liberated, they go on working for their employers as before, earning two or three bits a day, and always in debt to their employers. The Indians who carry our mail are paid only three bits a day, and their position is no sinecure either, as they have to traverse on foot a distance of one hundred and forty miles in two days—yet they are a contented lot notwithstanding, and if they earned more would only gamble it away, and be no better off. All their desires are fulfilled if they get plenty of beans to eat, a few rags to wear, a blanket to sleep in, and firearms for their personal use.

I received the sample copy of the journal you sent me and congratulate you on the improvement you have made in its appearance since the new management took control.

We had a new cable for the mine sent us last month and it came in on a mule train as do all our supplies. Much difficulty is experienced with loads like this, however, and the *modus operandi* is quite curious. To begin with as much of the rope is coiled on the back of the first mule as he can carry, a loop of ten feet or so is then left slack and the cable then coiled to form the load of the mule following, and this proceeding is followed until the entire cable is loaded, when the train starts off on a journey of several days' duration. As a man is required for each mule the expense of transportation by this method is necessarily considerable. The cost in this instance amounted to five hundred dollars.

With best wishes for the continued success of your journal,
I remain, Yours very truly,

ALEX. H. EVERETT.

ECONOMY IN THE USE OF STEEL IN BUILDING CONSTRUCTION.*

By W. L. B. Jenney, Architect.

Fireproof work has become the rule rather than the exception in all important buildings. Our cities are growing rapidly, land in business centers becoming more and more valuable, and as a necessary consequence the buildings are built higher and higher.

Chicago has a very wise law, namely, that all buildings over 100 feet high shall be fireproof.

No hotel, theater, or apartment house can be popular unless fireproof. Any business man would think himself inexcusably careless if he left a thousand-dollar bond over night in other than a fireproof vault, and yet we trust our greatest treasures, our wives and children, in very combustible buildings, and ourselves are often away on business for weeks at a time. Too many sad examples are recorded of the folly of such risks. It is pleasing to see that at length the importance of fireproof dwellings has come well to the front and is meeting with universal endorsement.

*A few paragraphs on this subject having appeared anonymously in the *Chicago Tribune*, and, as such an article, to be of value, must have the stamp of authority, Mr. Jenney has, at our request, reviewed and enlarged it.—*Editors INLAND ARCHITECT.*

This extended use of iron in building, at a time when other demands are fully equal to the average, has advanced the price of raw material and encouraged the "combination" to advance the price of beams three-tenths cents per pound.

Evidently, it becomes the duty of the architect to study how he may economize and produce the desired results at least expense. An opportunity is offered in the use of steel instead of iron.

The I-beam is the important factor in fireproof construction. When we consider that the ultimate tensile strength of iron beams is but 48,000 to 52,000 pounds per square inch of sectional area, while that of steel is from 63,000 to 70,000, it is easy to see that if the section of the beam is such as to give the greatest practical value to the metal used, there is a saving in the weight of metal by the use of steel instead of iron, amounting to one-quarter or even one-third.

As the price per pound is the same for steel and for iron beams the saving in money is enormous. For example, I have under construction a building which will require \$250,000 worth of steel beams. Should iron beams be used, it would add at least \$50,000 to the cost, with no advantage, but rather with the disadvantage of the additional load on the columns and foundations. To effect this saving, the architect must base his calculations on a tensile strength of say, 60,000 pounds per square inch, and must be sure he obtains it in the steel.

To be certain of getting this result, the specifications must not only demand it, but also that test bars be taken from each "blow" or charge of the converter and tested in the presence of an agent appointed by the architect; and that no beams will be received unless up to the required strength. That it is not difficult to obtain this strength is seen from the "test sheets," showing the testing of 276 "blows" of the converters at the mills, made by an engineer from my office. Of the 276 tests only thirty are below 64,000 pounds and the lowest is 61,500.

As the quality of the steel improves these figures enlarge. I think that even now we might insist upon a minimum tensile strength of 64,000 pounds per square inch, without any increase in the cost to the consumer.

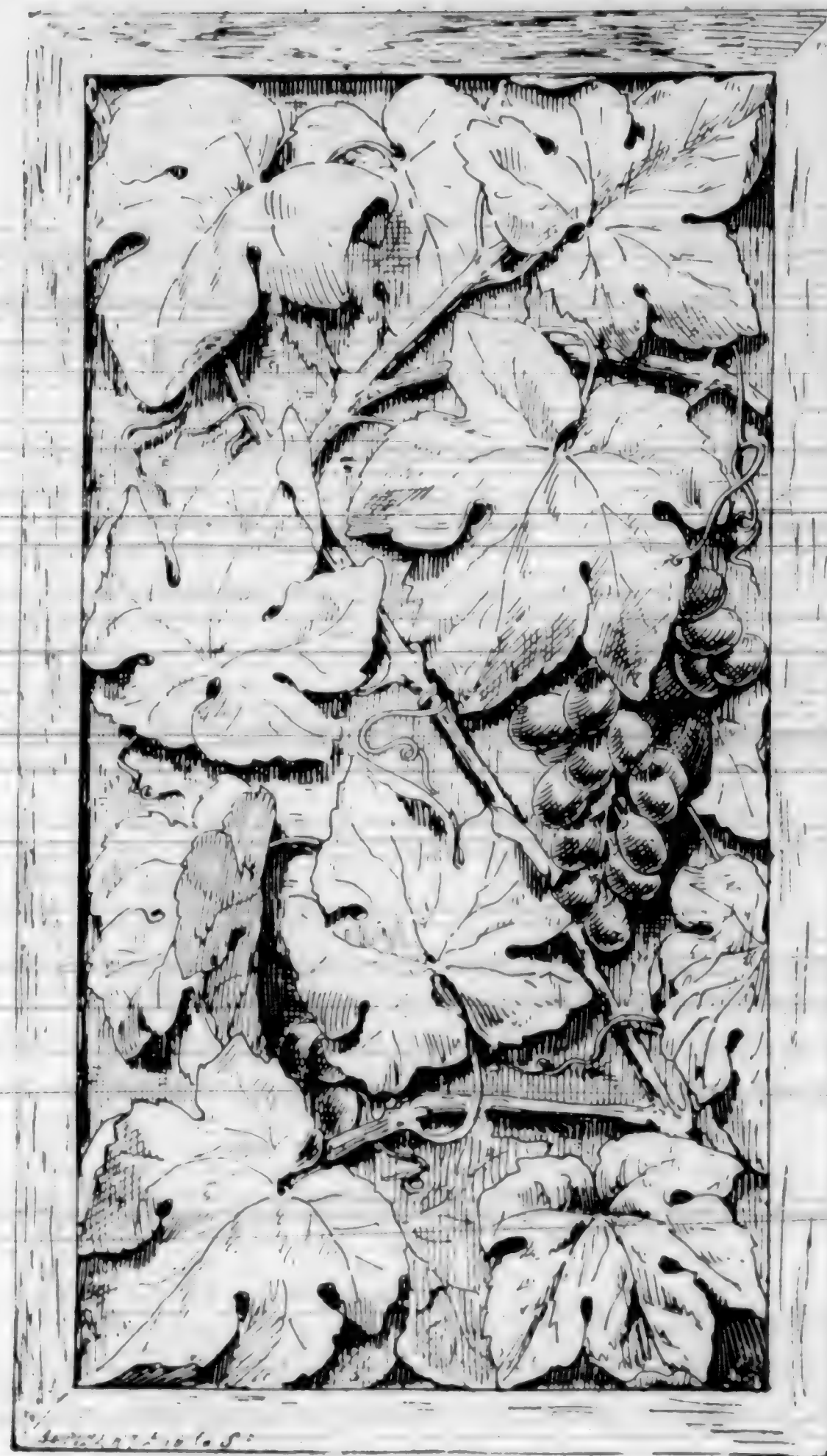
There are other tests required, for example, to insure that the beams shall not take a permanent set if moderately overloaded; that the beams can be punched without splintering and bent without breaking. After all the physical tests are satisfactory, the beams must be inspected for surface defects, and none but perfectly rolled, straight beams must be received.

It is true that such careful, thorough inspection is expensive to the architect, but the saving is so great that there is no other detail in an architect's practice by which he can save so much money for his client, and it should never be neglected.

There has been so much discussion of late as to the relative value of rolled steel columns and cast-iron columns. In bridges the cast-iron has entirely passed out of use. In a building to be filled with heavy running machinery, the architect should insist upon rolled steel columns, but for an office building, a store, or a warehouse, when the load is steady, it becomes a question of cost.

For cast-iron columns the architect must insist that from each heat of the cupola two test-bars be cast, each of which is tested by placing it on supports and loading in the center with a weight proportionate to the size of the bar and the distance between points of support. Should the bars break, the metal is inferior and not acceptable. Each column should be drilled in two directions for measuring the thickness of metal, and then careful examination made for surface defects. Cast-iron has the disadvantage of being liable to internal defects that the most rigid inspection might fail to detect, and consequently the columns are made heavier than otherwise would be necessary. Even with the disadvantage of greater weight, the "proposals" for furnishing cast-iron columns are at present usually less than for rolled steel. To avoid the uncertainty which forces the architect to specify cast-iron columns one-quarter heavier than he otherwise would do, some of the leading foundries are now considering the policy of adding to their plant a large testing machine, in which each column may be tested up to double the load which it is calculated to bear. Any foundry that has such a machine can command the best work at the highest price, for it will save to the owner twenty-five per cent. at least in weight of metal now considered necessary for safety.

These are but a small portion of the engineering features that the demand for tall, expensive, fireproof buildings has introduced into a Chicago architect's office.—*Inland Architect.*



FIRST PRIZE DESIGN BY S. C. BENSON.

CO-OPERATION IN ENGLAND.

The question of *how* to keep the man, or men, who act in a subordinate capacity seldom enters into the calculations of the head of any enterprise, whether mercantile, professional, or mechanical. There are however, some exceptions to this, as to every statement that may be made. We sometimes hear of a business house or financial institution giving its employees a stated share of the profits should there be any. We now hear from England that the building firm of Peto Bros. have been awarded a large contract on a public building, and will take this opportunity to try the effect of profit-sharing with their men. They make the announcement through a circular, that it will only apply to this contract, but if it works well, will extend to future cases.

The agreement will be to divide one quarter of the net profits among the men when the building is done and the accounts settled as a bonus above their wages in proportion to the wages they have earned. The conditions under which each man is entitled to his share are that he shall have worked long enough on the contract to have earned five pounds, at the regular rate of wages; that he shall not have neglected his duty, or misconducted himself or wasted his time, or in other ways have acted so as to diminish the profits of the contract, or injure the reputation of the firm for good and honest work; and, that he shall not have engaged in any strike for shorter hours, or for wages above the schedule of wages which prevailed at the time the contract was made, and upon which the contract was based. That the workmen may assure themselves of the fairness with which the division is carried out they are invited by the circular to send a representative to watch the making up of the accounts by the auditor of the firm, and to sign the balance sheet. In order to identify the claimants every man must obtain a printed

ticket from the time-keeper, on beginning his work, countersigned by the foreman, and noting the day and hour when his employment commenced, with his name, number and wages. This is to be again signed and countersigned when he leaves, and must be produced to secure a share in the dividend. What will be the effect of this innovation among the laboring element of England is, as yet, problematical. The trade-unions of that country may not take kindly to permitting some of their fellows doing as they please and thus bring about a contest that may try the executive ability of Messrs. Peto to cope with.

W. C. Prime, L. L. D. has made some interesting figures as to how much of the earth's surface would be required, in one section to properly bury all the men, women and children who have died since the creation. He says: The population of the earth is about 1,500,000,000. Suppose the human race to have existed for 6000 years and to have been always as great as now. In 6000 years you have sixty centuries and 180 generations, each a generation of 1,500,000,000. Now lay out a cemetery for one generation giving each man, woman and child five feet by two, or ten square feet. That gives a graveyard of 15,000,000,000 square feet and as a square mile contains 25,000,000,000 square feet, you want a graveyard not less than fifty five miles long by ten wide for one generation. Multiply this by your 180 generations, and get a strip of land 1800 miles by 55 wide, or a graveyard for the deaths of 6000 years. On that basis of figuring Texas contains ground enough for the burials of the 6000 years that are past and the 6000 years to come. But some one says the race of man has been on earth 100,000 years. Suppose it to be true and suppose the population to have been always as now. We have provided for 6000 years, and now want figures for seventeen times as many years. That is, you want 1,700,000 square miles or a spot 1700 miles long and 1000 miles wide. It would be only a *part* of the United States, and it is safe to say, that had the human race been in existence 100,000 years, a separate grave could be provided for each individual in the land east of the Mississippi River.



We illustrate this month a country residence from the designs of F. Lobbell architect, of Los Gatos.

An example of Japanese architecture promised in our last number to accompany the paper of Mr. Shimoda.

And on the double plate several interesting drawings descriptive of the new Auditorium Building designed and erected by architects, Alder and Sullivan.

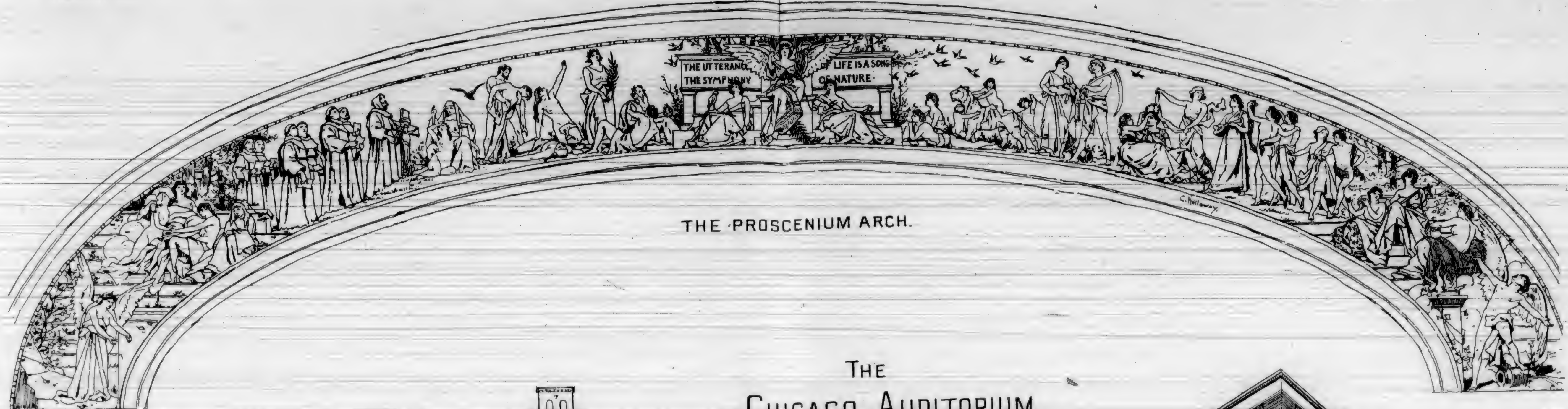
Two fire places and mantels are being designed by Curlett & Cuthbertson for the rooms of the Sutter Club now being finished in the New California State Bank Building at Sacramento. The lower portions are of red stone and the upper of hard woods.

Our double plate shows some interesting drawings of the celebrated Auditorium Building lately completed in Chicago. the architects, Messrs. Adler and Sullivan have designed and constructed a building, that is not only a credit to themselves, but to the profession in America as well. From the foundation to the finishing, the various requirements of strength, durability, utility and fitness have been carefully studied and provided for. The following facts are compiled from the Daily Inter Ocean, which contained a long and interesting description of the building. The building has a frontage of 162 feet on Wabash Avenue, 362 feet on Congress street and 187.6 feet on Michigan Avenue, covering an area of 62,000 square feet.

The foundations consist of a four foot base of concrete, resting on a floor or platform of pine lumber.

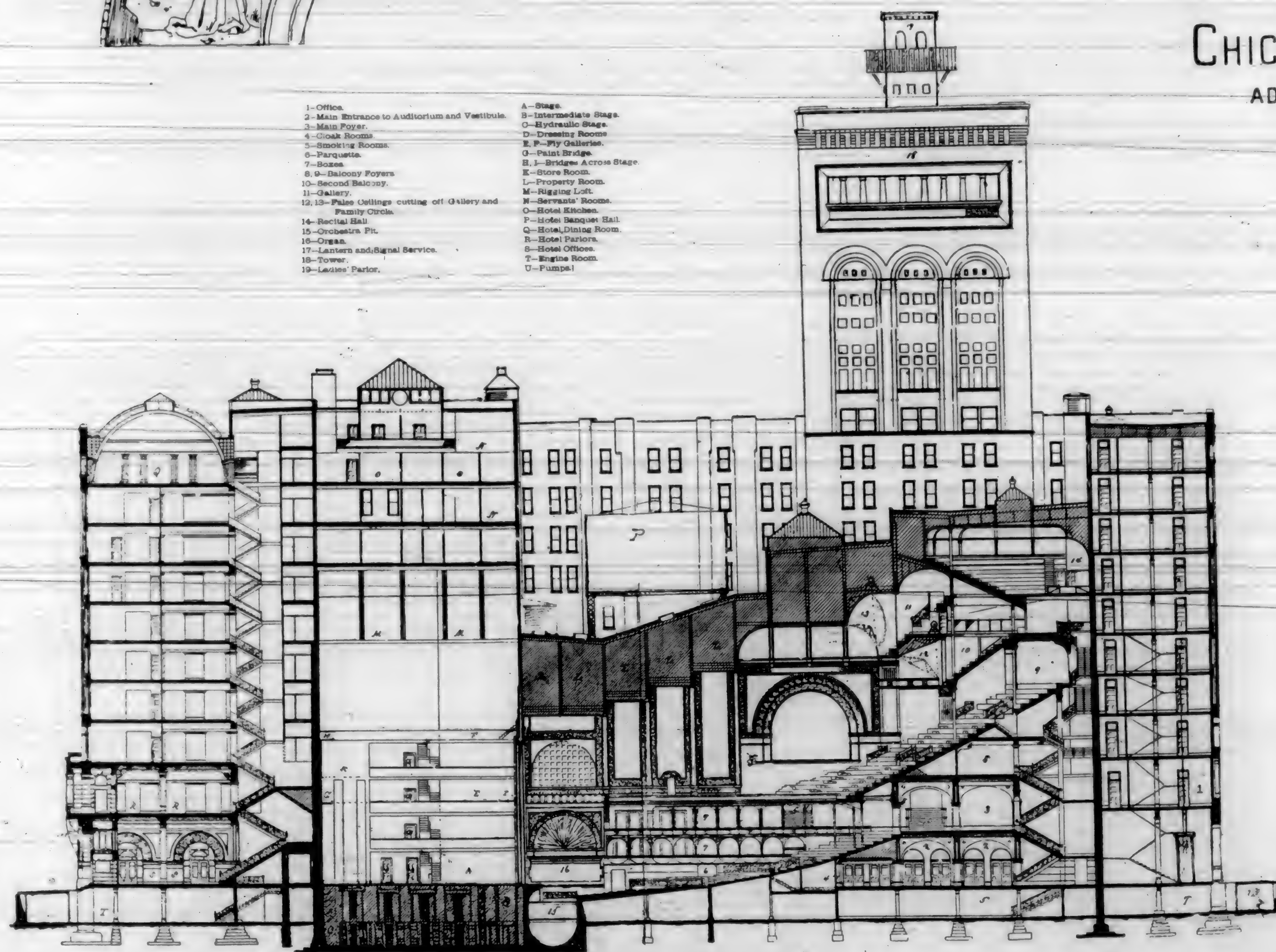
Seventeen million bricks enter into the walls of the building, which are faced with Maine granite and buff Bedford stone.

There are eleven dynamos, eleven boilers, twenty-one pumping engines, and thirteen elevators; ten thousand electric lights, two hundred and thirty miles of electric wires and cables; over twenty-five miles of gas and water pipe; over fifty thousand



THE
CHICAGO AUDITORIUM.
ADLER & SULLIVAN,
ARCHITECTS.

- | | |
|--|-------------------------|
| 1-Office. | A-Stage. |
| 2-Main Entrance to Auditorium and Vestibule. | B-Intermediate Stage. |
| 3-Main Foyer. | C-Hydroelectric Stage. |
| 4-Clock Room. | D-Dressing Rooms. |
| 5-Smoking Rooms. | E-P-M-Galleries. |
| 6-Parquet. | F-Paint Bridge. |
| 7-Boxes. | G-Bridges Across Stage. |
| 8, 9-Balcony Foyers. | H-Gore Room. |
| 10-Second Balcony. | I-Property Room. |
| 11-Gallery. | M-Rigging Loft. |
| 12-13-Plaza Galleries cutting off Gallery and Family Circle. | N-Servants' Room. |
| 14-Rectal Hall. | O-Hotel Kitchen. |
| 15-Orchestra Pit. | P-Hotel Banquet Hall. |
| 16-Organ. | Q-Hotel Dining Room. |
| 17-Lancers and Signal Service. | R-Hotel Parlors. |
| 18-Tower. | S-Hotel Office. |
| 19-Ladies Parlor. | T-Engine Room. |
| | U-Pumps. |



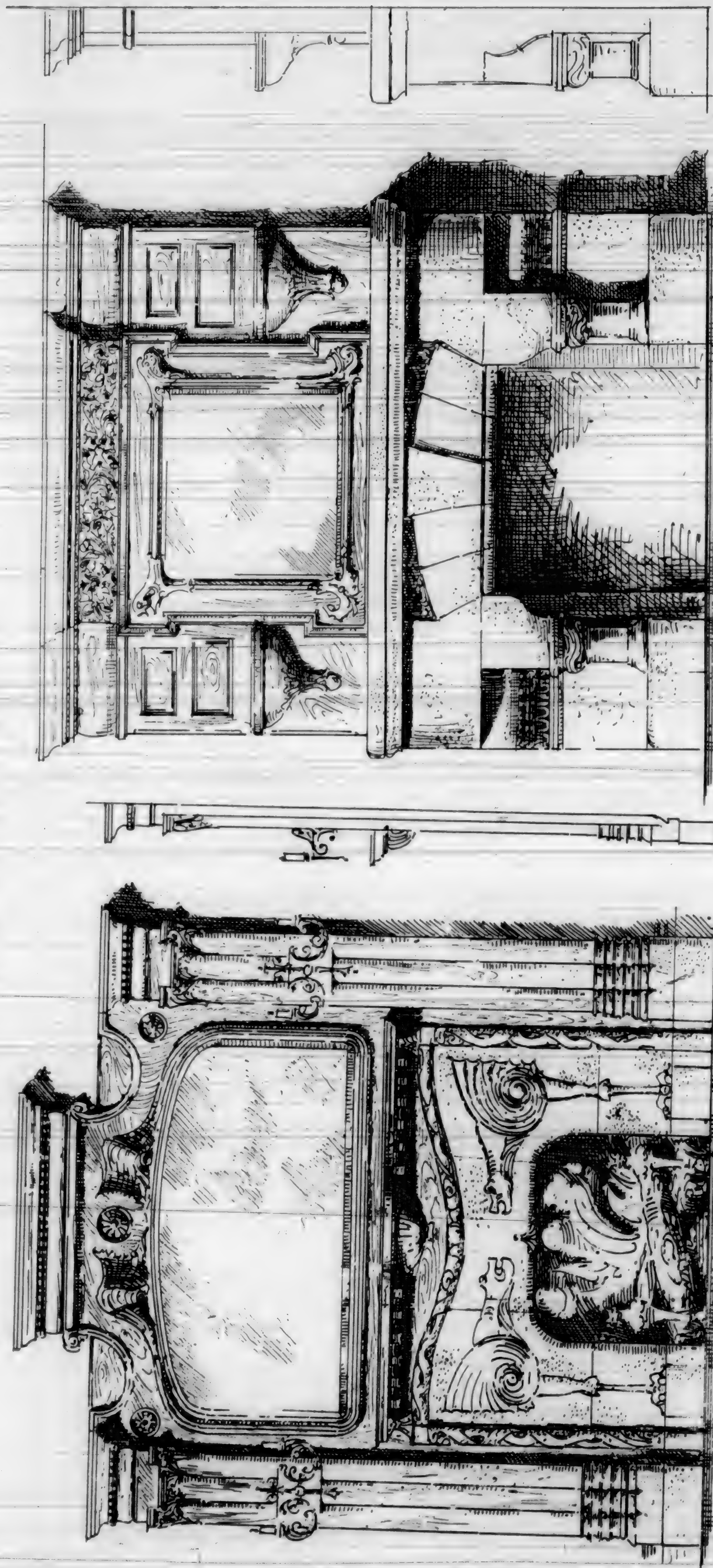
A CROSS SECTION OF THE AUDITORIUM.



FEBRUARY 1890.

MANTELS FOR THE SUTTER CLUB, SACRAMENTO.

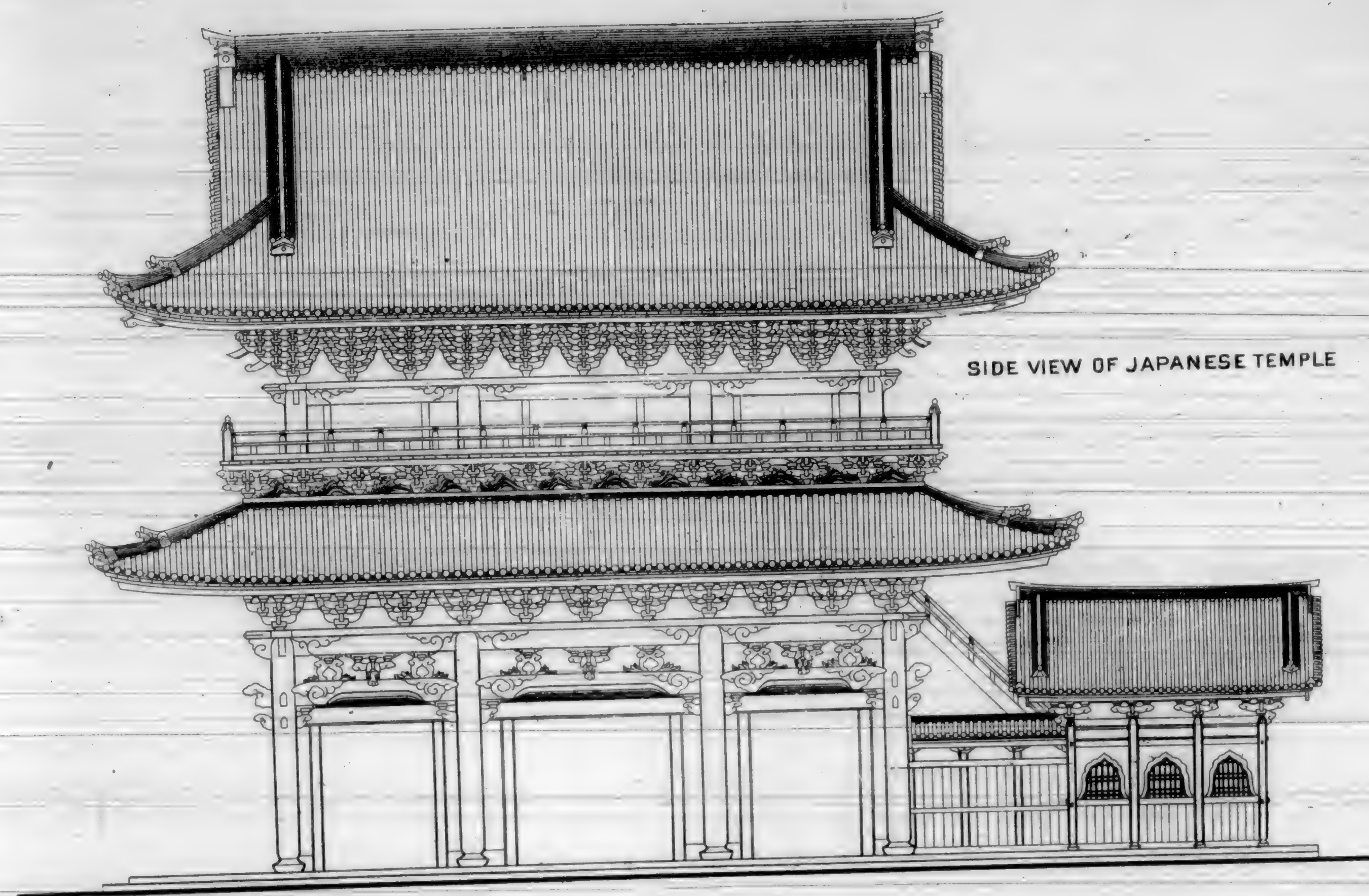
Curlett & Culbertson, Architects.



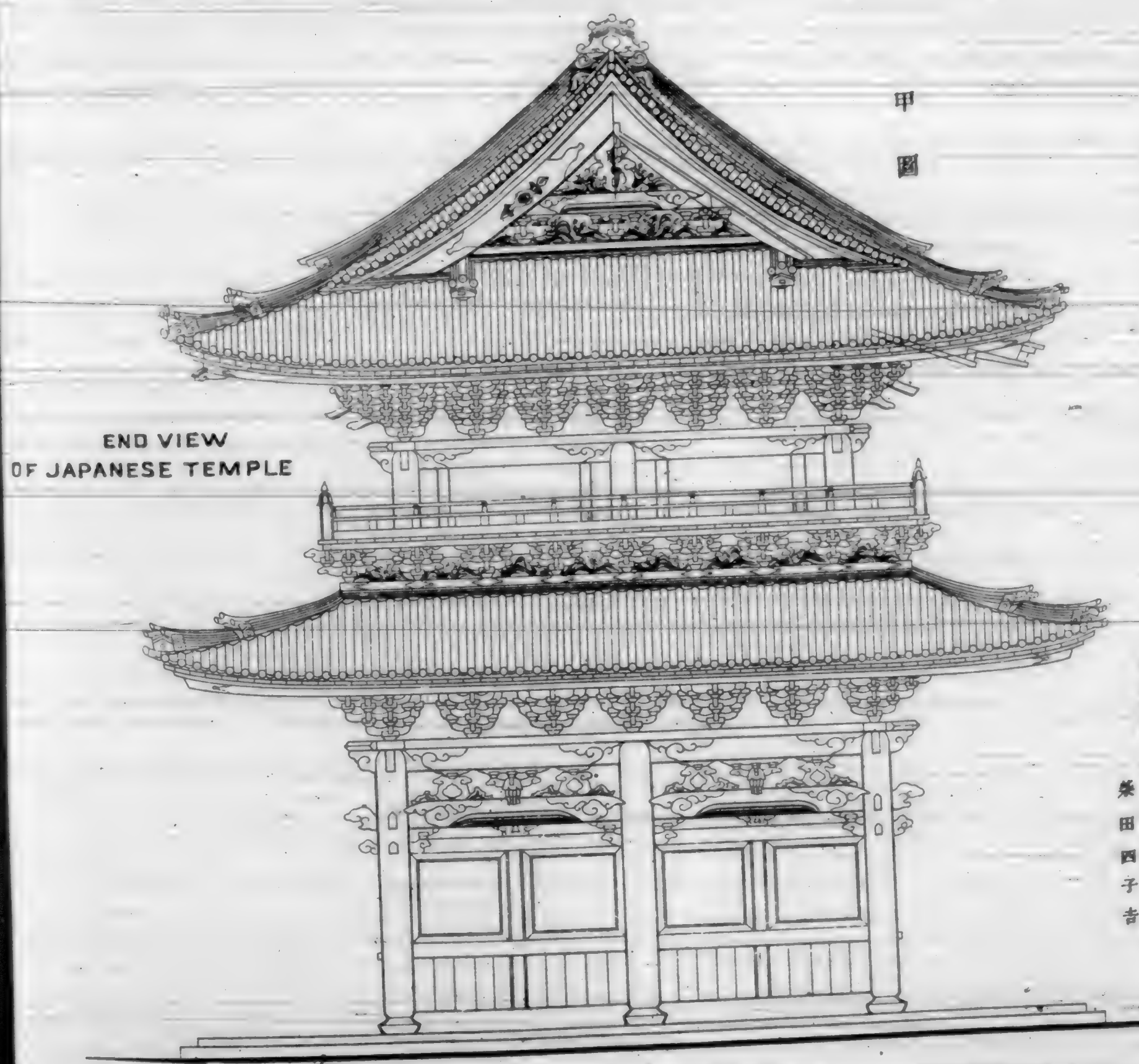
Library

PARLOR

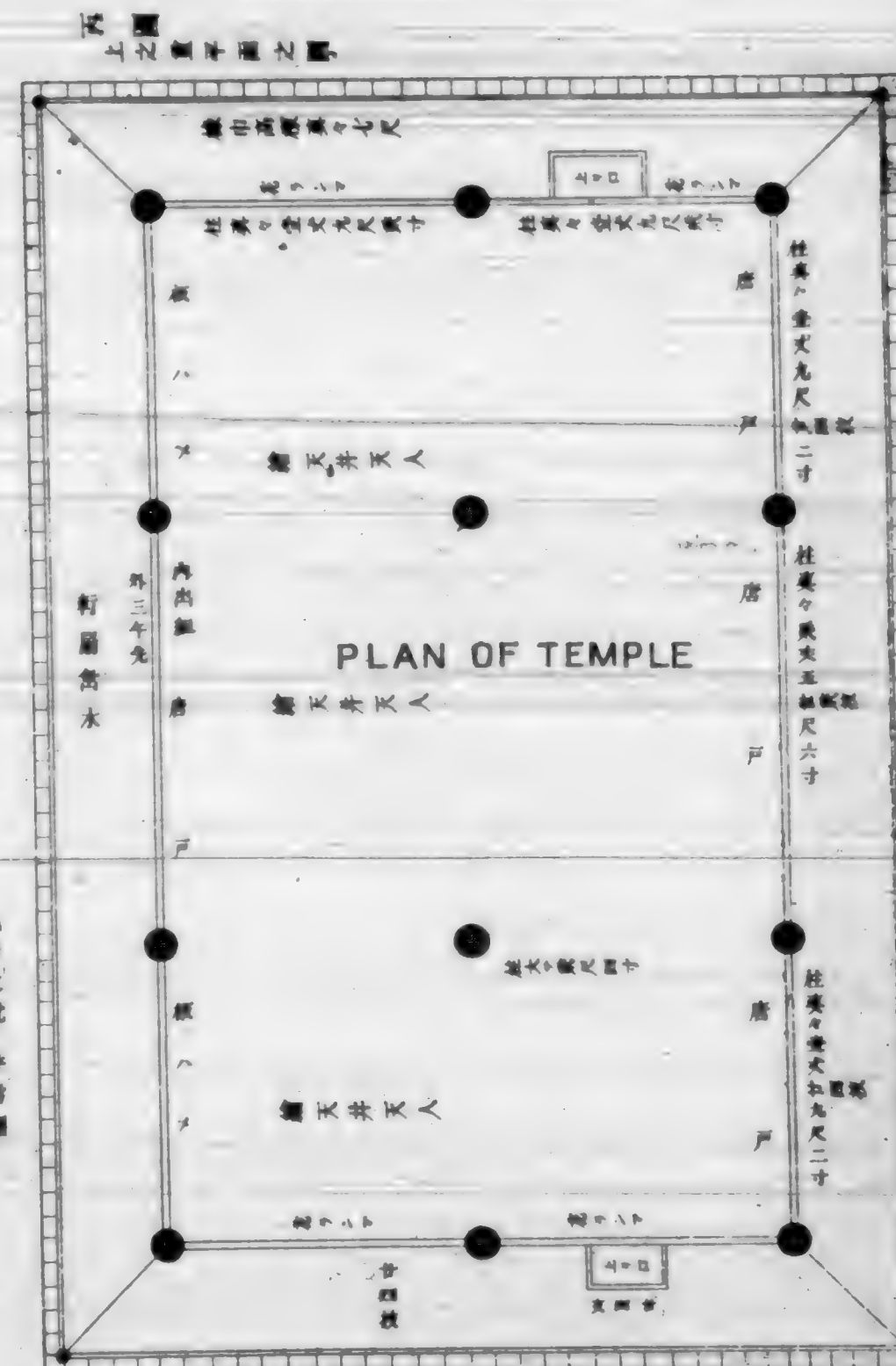
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SIDE VIEW OF JAPANESE TEMPLE



END VIEW OF JAPANESE TEMPLE



PLAN OF TEMPLE

square feet of Italian marble mosaic floors, containing over fifty million separate pieces of marble.

The cost of the building with its equipments, etc., reached nearly three million dollars.

The office portion of the building is located in the ten stories fronting on Wabash Avenue, and is reached by a broad flight of marble and iron steps, and three elevators. There are one hundred and twenty-six offices finished in antique oak.

The hotel occupies the ten stories on Michigan Avenue and Congress street fronts, and has four hundred rooms.

The entrance to the theatre is from Congress street. Its high arched ceiling studded with electric lights, and supported by massive pillars of porphyry, its inlaid mosaic floor, its graceful box offices of bronze, its marble walls of scintillating colors contrasting with the polish of the mahogany trimmings, make a scene to vie with Aladdin's palace.

The seating capacity of the various portions of the theatre are as follows: Balcony, 1432; Family circle, 437; Gallery, 526; Parquet, 1442; 40 Boxes, 200. Total, 4937.

PROTECTING ELECTRIC WIRES.

The rules of the Boston Manufacturers Mutual Fire Insurance Company for guarding insured property against the hazard of stray currents of electricity generated outside of mill yards are as follows:

First—No foreign wires of any kind shall be attached to buildings insured by this company for the purpose of carrying electric currents across the yard to any point.

Second—All electric wires which may be required by the insured shall enter the premises at one point near the headquarters of the nightwatchman, where they can be kept under supervision; each of said wires shall be guarded by a protector against strong currents, operating by opening the circuit, and by a lightning arrester.

Third—Such protectors against strong currents shall be located in a dry, accessible place inside the building, and as near the point of entrance of wires as possible, and shall be without ground connection; such protectors shall be mounted on non-combustible and insulated supports, which shall be provided with a receptacle for the burning or melted parts of such apparatus.

Fourth—The lightning arresters on all wires must be placed between the protector against strong currents and the electrical portion of the apparatus within the building to which such wires are connected. No ground wires for such lightning arrester shall be attached to gas pipes within the premises of the insured.

Fifth—All electric wires which may enter the premises of the insured must be insulated between the line wire on the insulator attached to the buildings outside and the protecting device within with the best quality of waterproof insulation. Moreover, such wires must enter at a distance of not less than three (3) inches from any other wire or any conducting material.

Sixth—If any wires carrying high tension or strong currents are to be carried over or under other wires on the property of the insured they shall be attached to poles so near to each other, with one wire so far above the other that if a break should occur the pendant wire between these poles may not be long enough to come in contact with the wire below, or, if not carried on poles, these wires shall be so placed or protected with guard wires as to render a contact between different wires impossible.

Seventh—If the high and low tension systems are in use in the same yard, even when developed within the works, the wires must be kept separate, and so wide apart that no contact or cross arc can be made.—*Fire and Water.*

ANNUAL MEETING OF THE CALIFORNIA ELECTRICAL SOCIETY.

The annual meeting of the California Electrical Society was held at their rooms the 3d instant. By the reports of the officers for last year, the Society is in a good financial condition. The following named officers were elected for the ensuing year: N. S. Keith, President; Orion Brooks, Vice-President; W. W. Wight, Secretary; W. Hanscom Jr., Treasurer, and Edward Roe, H. T. Bestor and A. W. Smith as the three other members of the executive committee. On account of their aid in the science of electricity the following named gentlemen were proposed and unanimously elected honorary members of the Society: A. G. Davis of Baltimore, G. H. Pride of New York, and P. B. Cornwall, L. L. Baker and Alvinza Hayward of this city.

THE MYSTERY OF THE SPHINX.

BY CHARLES S. ROBINSON, D. D., LL.D.

At the foot of the pyramids of Ghizeh, immediately below one who is sitting up on the ledges, there rises out of the verdureless sands, confronting the observer like a statue which looks toward him but not at him, one of the most singular creatures that ever the art of sculpture has given to the ages. A fantastic imagination of some forgotten artist has planted there in the desert an image with one of the oddest heads and one of the awkwardest bodies that can be conceived.

This is what has been known as the Great Sphinx. It is massively constructed, and carved with admirable ingenuity, but no line of any style of beauty has it anywhere to exhibit. The ears are enormous, and disreputably long; the nose is gone beyond criticism; the mouth is now ragged, thick-lipped, and uncouth; the beard is boorish; the open eyes stare blankly into space; the wig bags flatly and flaringly out on either side; the chin has lost half of its stony hair and all of its ancient semblance of dignity; the face was formerly painted, but the red color has been washed off by the sand-showers on the weather side. Altogether the structure seems pretty much gone under the effects of age and decrepitude, and has quite the look of a used-up heathen idol.

And still all tourists agree that there remains a tranquil majesty in the mien of it, which every one would recognize the moment his eyes caught a glimpse of the forehead aloft in the air. Even the fastidious Dean Stanley appears to have considered it "a giant representative of royalty." And he further pronounces that "it fitly guards the greatest of royal sepulchers." So finally he offers his testimony that "with its half-human, half-animal form, it is the best welcome and the best farewell to the history and to the religion of Egypt."

There it stands very quietly, and everybody must be allowed, with due charity, to cherish his own opinion. Coarse in its construction as a work of art, stiff and clumsy in every lineament, it is yet able, as the notebooks of a thousand visitors testify, to impress the souls of Eastern travelers with the vague sense of its greatness. It is better seen from below. The first sight of it, when caught as a part of that matchless landscape displayed from the top of the Great Pyramid, inevitably belittles and dwarfs its proportions. It looks grandest of all from the long and winding approach of the old path. Most persons know that the general figure is of a colossal form, sculptured roughly from the cliff on which it reclines; indeed, it is a lofty rock cut into a symbolic shape representing a lion lying down, with the face of a human being, erect above the forepaws,—a brute's body with a man's head and neck. The body seems to lie reclining at length in the sand; the head is poised finely, with noble features; the figure stands more than fifty feet high, and once had a royal helmet above; the stone is nummulitic, full of millions of minute marine shells, thus showing that years ago this part of the plain lay under the waters of the distant sea.

The entire effect is much lowered because of the overpowering achievement of size in the pyramids close by. Harriet Martineau has an amusing account of her eager anticipation as she went forth upon these excursions around Cairo. Always she said to herself, "Whatever else my eyes will see, they will see the Sphinx." But when she rode up toward the Great Pyramid she was so absorbed that she missed the sight altogether of this idol, and thought afterwards it had been only a heap of rock piled up there amid the interminable sands of the desert. But an attentive contemplation of it subsequently enabled her to reach, and even retain, her former enthusiasm. She says it made her half afraid of it. She noticed particularly that they had placed a man "sitting in a fold of the Sphinx's neck, as a fly might settle on a horse's mane; in that crease he reposed, while far over his head extended the vast pent-house of the jaw, and above that the dressed hair upon either side of the face, each bunch of it a mass of stone which might crush a dwelling-house; so life-like, so huge, so monstrous,—it is really fearful. The full gaze and stony calm of its attitude almost turn one to stone."

It is likely, however, that the Sphinx owes much of its singular impressiveness to the sense of mystery which for generations has inexplicably surrounded it. It is, perhaps, the most written-up and advertised curiosity in the East. Poetry and legend, painting and etching, have vied with each other in throwing a glamor around this forlorn idealization of mythology. The Bedouin say that there are spirits who in the night-time visit the Sphinx. One wears the form of a giant man; the other, that