

the bottom of the slab for a period of fifteen or twenty minutes, by means of a garden force pump, and the load then removed.

"On examining the underside of, the section it was found uninjured; and the next morning, being then entirely cold, the deflection had disappeared—the slab had returned to its former level.

"In order to confirm these results a second trial was made. This time the load was left upon the slab, which, during the firing, deflected as before, but upon cooling returned to its original level, lifting the load with it. In proof of the heat of the furnace it may be mentioned that in the course of this experiment the faces of all the side bricks in actual contact with the fire were melted."

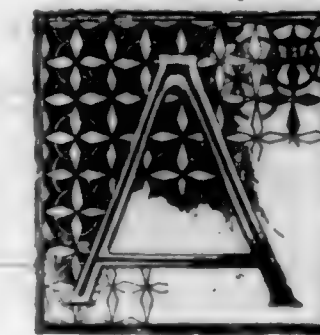
In addition to the experiments described others of less moment were made, as to the non-conducting power of various substances, such as plaster of Paris of different densities, and concretes more or less porous, also air spaces; the result of all being that the best material to protect the metal against heat was found to be that which was the strongest in compression, viz: Portland cement concrete of best quality, no advantage for any purpose being found from fibres of any kind, not even *asbestos*.

Mr. Hyatt is the inventor of effectively combining Portland cement concrete with iron or steel as a building material in a way that supporting iron or steel beams are no longer required for support of fire-proof floors, side-walks and the like, saving two-thirds their cost.

CONSISTENCY.

THE OWNERSHIP OF DRAWINGS MADE FOR AND BY AN ARCHITECT.

[Continued from March Number.]



N architect is paid for his services either by salary, by fee, by commission, or by time. The term "salary" applies to all payment (generally as an annual one) for continuous professional services necessary to the satisfactory discharge of the duties of the position held by the salaried architect, whether such services be rendered daily or only occasionally, and whether the hours of work be fixed or left to his discretion. There may still occur a case in which an amateur gives to an architect just free from pupilage a moderate salary to look after an estate generally, and to assist in improving it and the mansion. In such a case, all finished drawings absolutely belong to the employer, whoever provided the materials, but they pass to the architect by verbal or written consent, being, in fact, a part of the patronage which supplies him with a portfolio of (not academical) drawings of work that has been, or has been likely to be, executed. All unfinished (in rough) works, such as dimensions in a note-book, measuring-book, or field-book, with calculations therefrom and abstracts thereof, belong to the salaried architect; he has always had it in his power to throw them aside (replacing, if necessary, the material) if he suspected them, and so preferred to take reproach of indolence rather than of carelessness, ignorance or incapacity.

There is, next, the case of the amateur who takes into residence, or pays by salary, or both, a clever, but yet unsuccessful, architect to draw out what the amateur designs, or thinks he designs, or wishes to see designed or drawn. The patron will (perhaps jealously, certainly legally) insist upon securing every scrap of paper used by the architect in setting forth an idea, and every alteration suggested until the completion of the finished drawings, even if these run into

complicated details at full size, or highly-finished perspective views. This patron naturally holds that it is not honorable in his salaried architect to make tracings of the finished drawings, either in or out of office hours. This arrangement is sure to fail unless an office room and fixed hours are part of the bargain.

The last phase of salaried business to which attention need be given here is that of the architect attached to a public building or institution. If he acts as steward, which in some places is part of the business, his ledgers belong to the office; and if his work includes building, his contracts and bills examined, or ready for examination, belong to the office. But at the death or departure of the architect, all all rough work excepted in the positions above mentioned, ought not to be asked for by the client, who should be satisfied to think himself fortunate in getting any finished drawings made in explanation of the contract drawings for new works in progress. As to designs for new works proposed, the successor should prepare his own design for his own work, and not lazily avail himself of the labor (which he may misunderstand) of his predecessor, who, if alive, is not to be damaged in reputation by having his work spoilt, or if it be unsuccessfully executed, to be made responsible for the liabilities that may occur.

When an architect takes a salary for the guardianship of a building, the drawings which he may make of defects in the existing structures, for the purpose of pointing out them and the remedies ought to remain in the office for his successors. But all drawings made outside the usual hours of work where daily service is required, or even (by open or tacit agreement for an equivalent) during those hours, or in the intervals of occasional service, for any object apparently connected with the salaried situation, but really foreign thereto, belong entirely to the architect until he parts with them for a fee or other consideration.

The term "fee" applies to payment for a report, whatever be the nature of the document, and whether illustrated or not by drawings. The property in finished work done for a fee is generally supposed to pass so entirely to the client when he accepts the work as to prevent publication by the reporter without the consent of the client, while any attempt on the part of the reporter to prevent publication by the client would be reprobated by his professional brethren. The plan, as of an estate, made by a surveyor is, in fact, a report of the shape, extent and nature of the estate, and the drawing is itself his report; but all wrongly-plotted plans or rough draughts belong to the surveyor, and would not be yielded to the client by any man of respectable position in business. If they were demanded by a troublesome client, the surveyor would probably destroy them, and communicate the fact of their non-existence as his reply to the demand. So, also, if an architect is required to report on the condition of a building, or part of a building, his rough draught of his report might be demanded by a troublesome client; and, inasmuch as the architect's first impressions might have been modified by subsequent surveys, the destruction of the rough draughts of reports would be prudential. Indeed, destruction seems to be the only way by which to promptly meet a demand for papers upon which statements apparently incriminating the architect or surveyor might be founded. It is for the finished work, not for the preliminary studies, that the amount of the fee is fixed; otherwise the architect or surveyor might tender the rough work, or studies, and require in exchange the fee; and the order of the client to stop and deliver the unfinished work on part payment of the proposed fee would be as futile in an action against him for the entire profit of the transaction as if he refused to accept the finished work without the rough work.

Continued in our next.

BOOKS AND PERIODICALS.

THE PHOTOGRAPHIC TIMES for April 6th contains an interesting account of an interview with Edison, and a description of his latest invention—the Kinetoscope. The article is illustrated by some photographic reproductions of pictures taken by the instrument. There is also an account of the life and work of Mr. H. P. Robinson, the renowned artist photographer, with some samples of his latest and finest productions recently exhibited at the London Photographic Salon. The rest of the magazine is made up of matter interesting to every photographer, amateur or professional.

LIPPINCOTT'S Monthly Magazine for April contains "The Flying Halcyon" a complete novel by Richard Henry Savage. The reader will find this an interesting story with a dash of California life, a little of Mexican adventures with plenty of chances and changes, and lots of people made happy by being married off in the end.

The Librarian, among his books by Julian Hawthorne, will interest many that way inclined, while "Co-operative Housekeeping" by H. C. Walsh will come to every house-keeper as a new revelation.

VE SPANISH TILE. An illustrated leaflet by Merchant & Co., giving details of the advantage of Metal Tiles over Terra-Cotta Tiles.

GRAPHITE AS A LUBRICANT—Scientifically, and practically considered—a small pamphlet of a very convincing nature. If you want a copy send to the Jos. Dixon Crucible Co., Jersey City, N. J., who will be pleased to forward you one free of charge.

NOTICE OF MEETINGS.

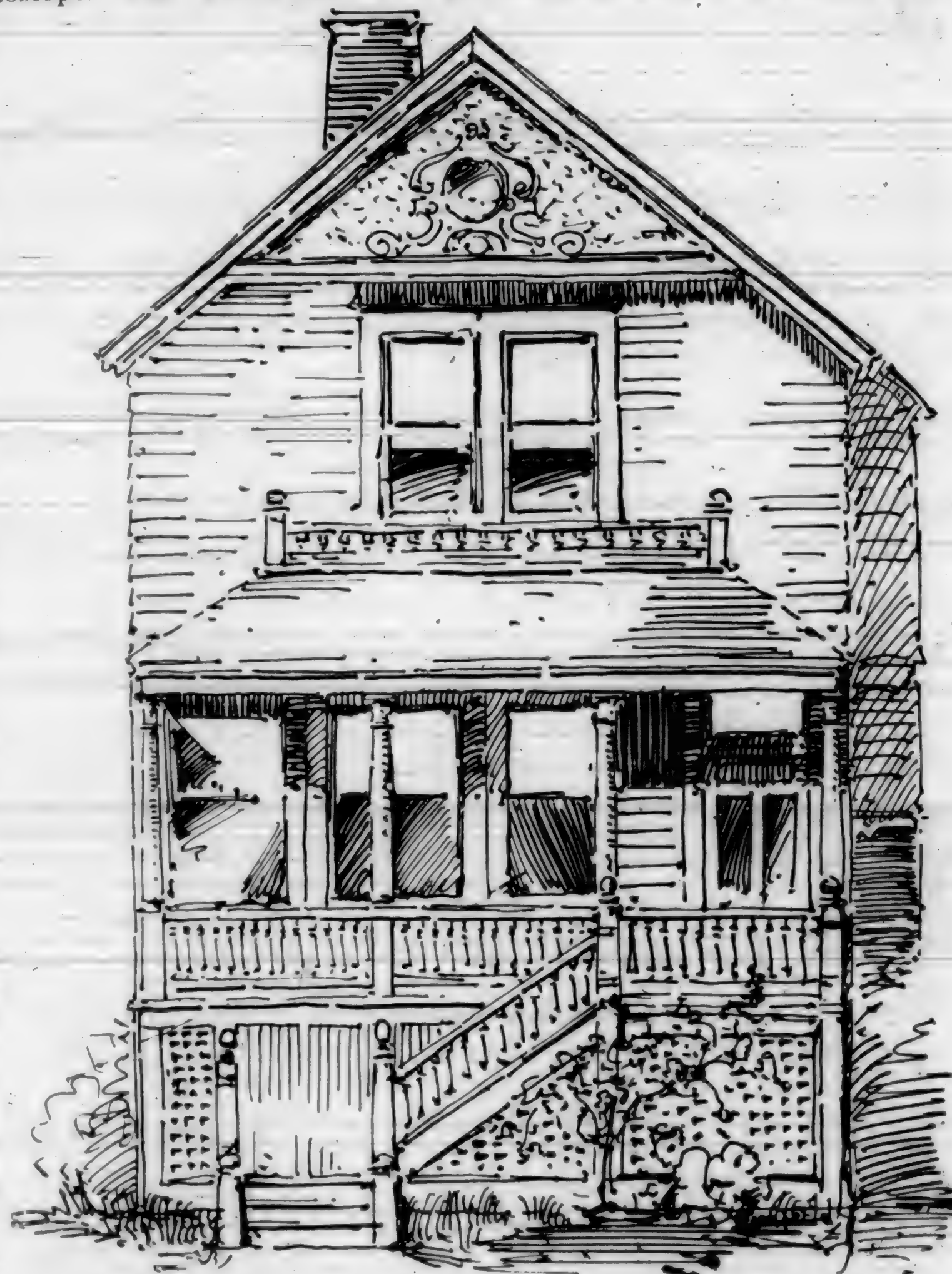
SAN FRANCISCO CHAPTER, AMERICAN INSTITUTE OF ARCHITECTS, meets second Friday of each month at 409 California street.
SETH BABSON, Pres. GEO. W. PERCY, Vice-Pres.
OLIVER EVERETT, Sec. JOHN M. CURTIS, Treas.

TECHNICAL SOCIETY OF THE PACIFIC COAST, meets first Friday of each month at Academy of Sciences Building.
C. E. GRUNSKY, Pres. GEO. W. DICKIE, Vice-Pres.
OTTO VON GELDERN, Sec. W. C. RALSTON, Treas.

CALIFORNIA ELECTRICAL SOCIETY, meets the first and third Monday evenings of each month at the Academy of Sciences Building.
GEO. P. LOW, Pres. C. O. POOLE, Vice-Pres.
MAX CASPARI, Sec. H. T. BESTOR, Treas.

TILE AND IRON HOUSE DRAINS.

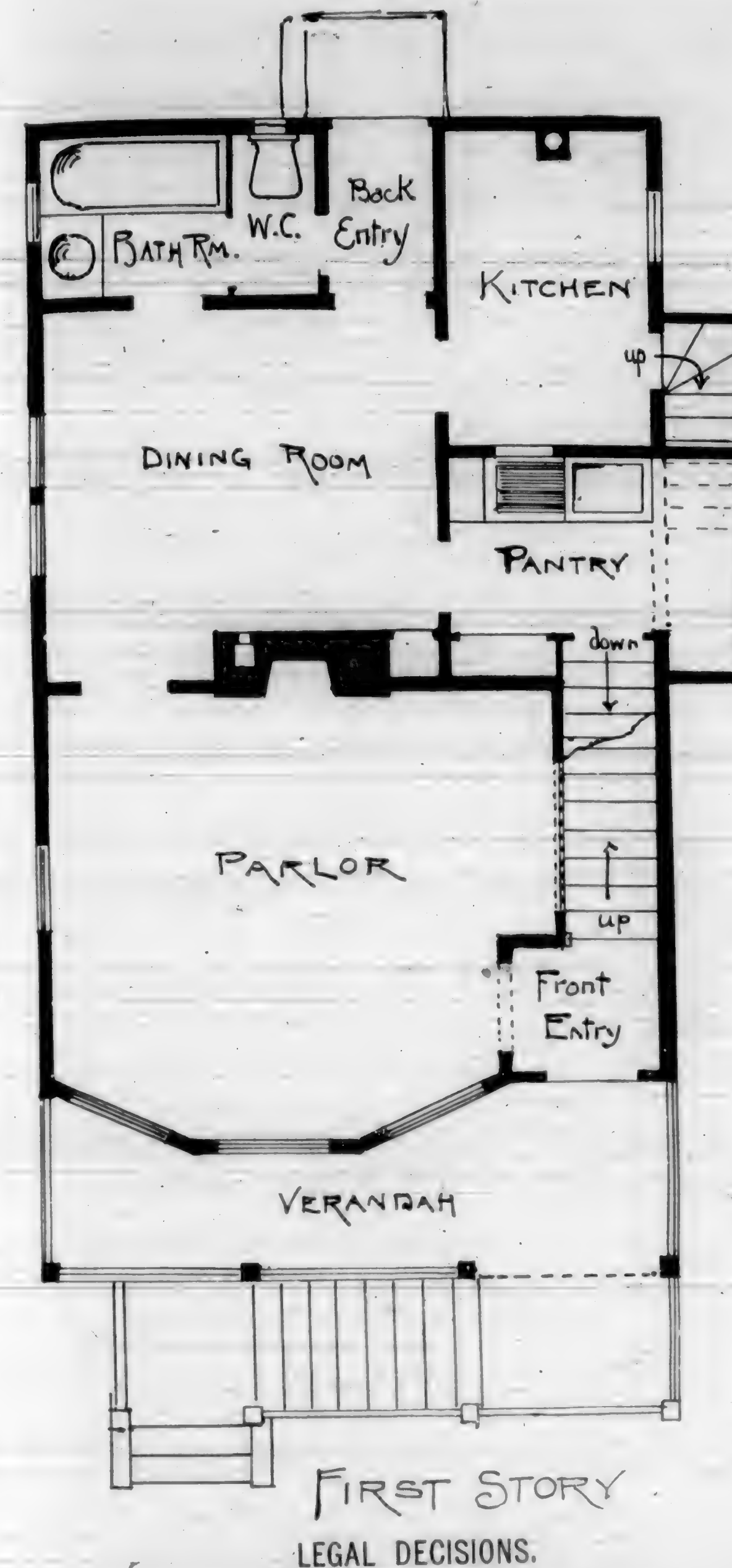
THE Morning Advertiser, of Rochester, N. Y., is discussing the question of tile and iron house drains. We are sorry to see that the Board of Health of that city has rescinded their former action, which prescribed all horizontal drains within the house to be of extra heavy cast iron pipe. The tile house drain has certain serious disadvantages which there seems at present to be no way of overcoming. The first of these is the fact that the joints are not properly made



COTTAGE AT OAKLAND VIEW, W. JONES CUTHBERTSON, ARCHITECT.

by ordinary workmanship. The second is its extreme brittleness. A comparatively slight blow or small settling of the foundation of the house is sufficient to break a tile drain. A reasonable system of testing under a small pressure, might perhaps overcome the danger from imperfectly made joints, but it is doubtful whether there is any feasible way of securing safety against breakage. The almost universally bad condition in which old house drains are found is a pretty serious argument against the material. This is an unfortunate fact, because on account of its internal smoothness, freedom from corrosion, and general durability when of a proper quality, it has many points of superiority over any other material which can be used for the same purpose.—The Sanitary Plumber.

MRS. S.—"Well, here we are in another boarding house. We are regular Arabs." MR. S.—"Yes; folding Bed-ouins!" —Life.



From a large number of Legal Decisions of the higher Court, of the different States of the Union, we select and publish in this column, such as appear applicable to this section of the country.

CERTIFICATE OF ARCHITECT ON BUILDING CONTRACT.—A building contract, which provides that final payment shall be made within thirty days after completion, "provided that ** the architect shall certify in writing that all the work * * has been done to his satisfaction," constitutes the architect the agent of the owner, and his decision as to completion of the work is final. A certificate under such contract sufficiently complies with the terms of the contract where it states that "there is now due to" the contractor "the final payment on his contract," specifying the amount. Snaith v. Smith, Common Pleas of New York City and County, General Term, 27 N. Y. Supp. 379. 90.

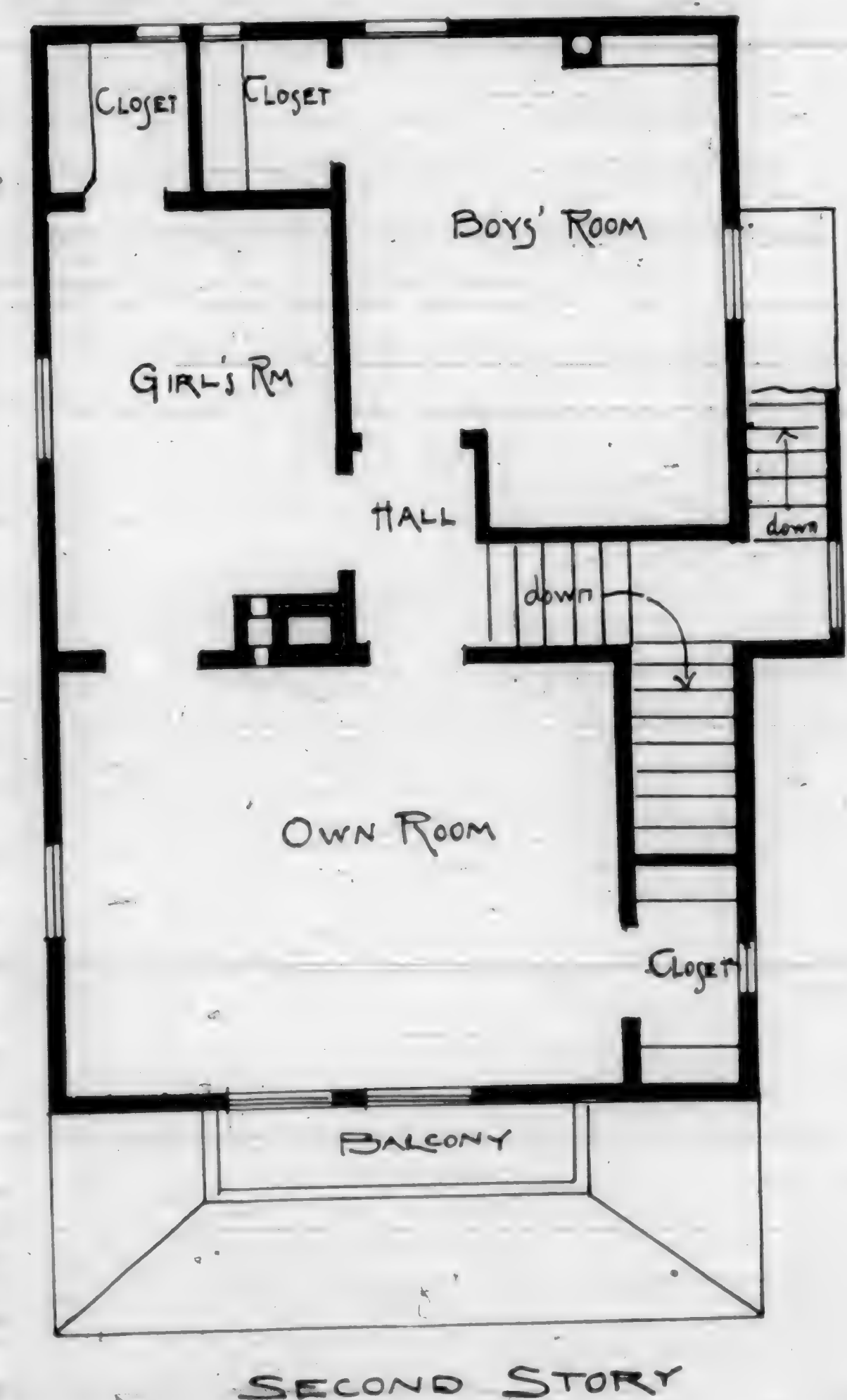
INTERPRETATION OF BUILDING CONTRACTS.—Where one let a contract to another, to do the stone work on a building, providing for monthly payments, not to exceed eighty per cent of the estimated value of "the work performed on the building." The most expensive part of such work was quarrying and dressing the stone before it was put in the building. The contract intended that the payment should be based on the stone prepared for the building as well as that actually put in. Smith v. Molleson, Supreme Court, General Term First Dep't, 26 N. Y. Supp. 653. 82.

NOTICE TO OWNER OF MECHANICS' LIENS.—Under the statutes requiring the owner of a building to retain sufficient funds to pay a claim for materials, furnished by a material man who has given notice of his claim to such owner, a material man who serves the required notice acquires a prior right to the fund in the hands of the owner, due the contractor, though the contractor subsequently abandons the contract. Russ Lumber & Mill Co. v. Roggenkamp, Supreme Court of California, 35 Pac. Rep. 643. 71.

ARBITRATION OF DISPUTES IN BUILDING CONTRACTS.—A building contract provided that the owner might at any time during the progress of the work "make any alteration, deviation, addition, or omission in the work hereby contracted for," the value of which should be added to or deducted from the contract price, and that any dispute should be determined by arbitrators. The provision for arbitration did not apply where the owner refused to pay for the work on the ground that the contract had not been substantially performed. Oberlies v. Bullinger, Supreme Court, General Term, Fifth Dep't, 27 N. Y. Supp. 19. 86.

RISKS ASSUMED BY SERVANT.—Where one was employed to shovel away from the bottom of a chute debris, consisting of bricks, etc., which the owner was removing from the upper story of a building, and, while so engaged, he was struck by a brick. The chute was in good condition, and was the usual appliance for the purpose for which it was used. The employee had observed the character of the debris coming down, and knew the danger. The injury resulted from a risk incident to the employment. Tennessee v. Western Union Tele. Co., Superior Court of New York City, General Term, 26 N. Y. Supp. 796. 88.

WHAT CONSTITUTES ABANDONMENT OF CONTRACT.—Where a claimant who has released his lien on the agreement of the owner to pay the claim afterwards, reinstates his lien because of the refusal of the owner to make the payment, he hereby abandons the agreement with the owner, and can not afterwards sue on it. Cassidy v. Aldhouse, City Court of New York, General Term, 27 N. Y. Supp. 267. 52.



THE PRAIRIE SOD HOUSE.

"THE sod house of the Kansas and Nebraska plains is following the buffalo and antelope into the land of legends," said William F. Arbuckle of Topeka to a representative of the *Washington Post*. "A good many of the queer structures are still standing, and in some instances are yet used as human habitations, but most of them are utilized as stables for horses or cattle and are slowly crumbling away to become indistinguishable in their original earth. When I first went West, years ago, my father took up the acres as far as his eye could reach in what is now Eastern Nebraska. There was not a tree in sight of the knoll he had selected as the spot upon which his residence should be erected, and the nearest place lumber could be secured was sixty miles away. He put up a small tent in which to cook and eat—the family slept in the wagons—and, with my brothers and a hired man to help, set about making a house. The thick sod was cut from the prairie in slabs about two feet wide by three feet in length, and on the side of the knoll, where an excavation had been made in its side, these slabs were placed, one on top of the other, until the required height was reached. It was arduous work, and I remember

what a lot of excitement there was when my father and my brother Lem started off early one morning to go after the ridge pole and rafters that were to support the roof. They took only the running gear of our small wagon and I cried like a good fellow when they started off because I thought they had broken up my pet vehicle. They were gone nearly a week and reached home in the middle of one night after their journey of 120 miles. They had brought a long, round piece of timber, like a slender telegraph pole, with numerous other small pieces, and my mother nearly had a fit of delight when they proudly displayed a door and two window sashes, with a bundle of glass for the latter. There was great rejoicing when that ridge pole was put in place and the rafters run down from it to rest on the sod walls, and then came the laborious task of putting on the sod roof so that it would keep out the rain and snow. At last it was completed and we moved in. The house had four rooms, which was unusual for such structures, and its two windows soon made it known all over that section of the West as the "Shack with the Glass Eyes." There never was a more comfortable building erected than a sod house. They are not all damp, as one would suppose, and are warm as you could desire in winter, while in summer they are the most delightfully cool places imaginable. But they are rapidly disappearing now, and when you see one you are sure to find near it a modern cottage with its windmill, just as you do out at our place."

BUSINESS MOSAICS.

Samuel Kellett who as successor to Kellett & McMurray manufacturers of Plaster Decorations whose work at the Fair grounds have been so much admired, will take charge of the business at 28 Ellis street, San Francisco, 375 Twelfth street, Oakland, all business intrusted to Mr. Kellett in the way of decorating, plastering, repairing, etc., will be sure of being properly done you give the order and he does the work in the most satisfactory manner.

"I went to a fine dinner, last night, where all the folks and knives and spoons were of silver." "Let's see them."—*Hallo*.

When you want a Door Check and Spring be sure you call for the "Norton" which is always at hand and prevents slamming of doors. It is almost human in its action; use it and prevent any temptation to use bad words. Frank D. Morrell, 224 Market street near Front, San Francisco. Who wants to hear a door shut with a slam that sounded like a wooden dam.

"Johnny," said the teacher, "is a jackass a biped or a quadruped?" "Please, sir," said Johnny, "that depends on the jackass."

The California Art Glass Bending and Cutting Works.—An old saying has it, that "The profit counts for naught at home," this might be true as to profits proper, but does not apply to a home "Art Industry" we are to speak about. These remarks were prompted to us through inspecting the beautiful display of Art, Cut, Beveled and Embossed Glass in the annex of the Manufactures and Liberal Arts building at the Midwinter Fair, ex-

hibited by the California Art Glass Bending and Cutting Works of 39½ Fremont street, of this city.

This firm undoubtedly could not have succeeded in placing such an elaborate and artistic display, which represents an outlay of several thousand dollars, as it stands, if they "counted for naught" in this community, for although their work can be found in cities all along the coast, it is principally this city and suburbs that enables them, by innumerable orders for their product, to employ such a corps of artists and artisans as can be seen at their works.

The exhibit is not merely a lot of samples placed indiscriminately, but a princely pavilion designed in the early Renaissance style, where art glass is placed in its proper sphere.

As the pavilion is only "A means to the end," that is, to show the ornamental glass to best advantage, we will abstain from describing the same although it would deserve mention from an architectural point of view.

The samples represented are of all kinds, suitable for churches, residences, public halls, etc.

One for instance, has the portrait of Beethoven in medalion shape in centre, while the balance of the light is filled with roundels of appropriate shading; it would make an admirable window for a music room. Front door lights, dining room, vestibule, hall windows with beautiful beveled glass scrolls, and delicate tints of opalescent glass, are represented.

We also saw splendid specimens of ornamental ground and cut glass suitable for interior lights such as in doors between dining and sitting room, etc. Advertising signs made by different processes form no mean part of the display; several are made in art glass, one on cut and ground glass, while others are embossed and silvered.

On inspecting the work closely we find that the workman-

ship is up to the quality of the artistic part of the same and in no way inferior to any work we have seen east. And now comes the most important part in the matter, that is the cost; we find that the price for the work done by this firm is one-third less than that for the same work done east, which is very natural as the commission to the agents and the freight on the goods, represents the difference. There are still more advantages than mere cost to the patron of this firm, these are promptness in furnishing the work; they can also oversee the construction of the same and if any changes are to be made, order them personally, instead of through third parties by letter. The home firm also takes pride in every piece of work that leaves its establishment, while the one, thousands of miles away, thinks anything is good enough in the Wild West.

We could give hundreds of other reasons why parties in need of ornamental glass should patronize home industry, but what we have said is enough, for as we remarked above the orders pouring in continuously to the works of this old firm on Fremont street, show conclusively that, "A Prophet" not always "counts for naught at home."

Little Boy—"I stayed in the parlor all last evening when Mr. Squeezem was callin' on sister, just as you told me. **MOTHER**—"That's a good boy, and here is the candy I promised you. Did you get tired?" **LITTLE BOY**—"Oh, no, we played blind man's buff, and it would have been lots of fun, only I was "it" nearly all the time."—*Good News*.

A. Steiger Sons, manufacturers of Architectural Terra-Cotta, Hollow Tile Fire Proofing, etc., have a very complete exhibition of the various articles manufactured by the firm, all neatly arranged and forming an object lesson in their line of goods, that a few years since would have been considered impossible to produce upon this coast, thus showing as the demand increases California is found able to produce any style of manufactured goods required; not alone for building purposes but to supply the wants of all departments of civilized life. A. Steiger Sons' manufactory is at San Jose, California, office, 16 Post street, Builders' Exchange, 5253, San Francisco, Cal.

Bobby (at breakfast)—"Clara, did Mr. Spooner take any of the umbrellas or hats from the hall last night?" **CLARA**—Why, of course not. Why should he?" **BOBBY**—"That's what I'd like to know. I thought he did, cos I heard him say when he was going out: "I'm going to steal just one, and why, what's the matter, Clara?"—*New Castle Chronicle*.

Paraffine Paint Company.—In the Manufactures and Liberal Arts building, Exhibit No. 487, will be found a good representation of the products of the Paraffine Paint Co., 116 Battery street, San Francisco, including P. & B. Building Paper, as well as the roofing paper. A very clever method of proving that the building paper is water-proof and odorless may be seen in this exhibition is a case of raisins upon the fruit drying paper; this silent testimony is more convincing of the truth of the claim made for this paper than any words that could be written.

The fact that everything used in the manufacture of P. & B. goods is the production of the Pacific Coast is a strong argument why this company should be preferred when ordering goods in their line—the well-known reliability of this house is a good guarantee that everything that is sold by them is sure to be as represented.

Pullman Steel Frame Sash Balance. All intending builders are continually looking out for the best articles and materials in every line, consequently we take time and space to call the attention of the architects and others to the very best article on the market for the raising and lowering of windows, the Pullman Sash Balance. This balance is by no means new, having been on the market for about nine years and has been tested and used in thousands of houses, public buildings, flats, and factories and has given the very best of satisfaction.

On another page we show a cut of the side balance style and call attention to the fact that it is noiseless in its operation; that it is easily applied to old as well as new windows. In fact it is a perfect window balance in every respect.

Little Girl—(looking at impressionistic landscape)—Mamma, what made him think it looked like that?"—*News Letter*.

Gas Lighting and Heating—This might properly be addressed to women only, as few women who have not made the experiment, know how much can be saved by using gas for cooking purposes. We know the general exclamation is "It costs too much!" It costs less, saves your time and temper, avoids all the bother and discomfort of coal and ashes and smoke, and the smell and discomfort in coal oil stoves. We advise all housekeepers to give gas a trial, and once tried, you will find you save money, time and annoyance.

"Are you going to the opera to-night?" asked a Parisian. "No; we had tickets, but we were afraid of bombs, and we gave them to some dear friends of ours."—*Hallo*.

Harris & Jones continue to fill all orders for yellow pine, sugar pine, white cedar and all kinds of building lumber, as well as doors, sash and blinds, their address is 728 Bryant street, bet. Fifth and Sixth, San Francisco.

Physician—"The truth can no longer be hidden, madam. I am obliged to tell you that your little son is—er—weak-minded. That is—well, it must be said—he is an idiot." **MRS. HIGHUPP**—"How fortunate it is that we are rich! No one will notice it."—*New York Weekly*.

The Misses Wilson & Kelley, Mills Building, room 45 6th floor, telephone 5661, do typewriting of all kinds in the most satisfactory manner—making however a specialty of architectural specifications.

Lena—"Fred didn't blow his brains out because you jilted him the other night; he came and proposed to me." **MAUD**—"Did he? Then he must have got rid of them in some way."—*Ex*.

Any one who has used the new and improved Chapman Fire Hose Reel will never be content to use any other. This admirable contrivance in the new design can truthfully be called an ornament, especially desirable for fine residences, as well as for hotels, theatres and modern office buildings. One satisfaction in ordering from Mr. R. S. Chapman is the purchaser can depend upon being furnished with a machine fully guaranteed to be what it is claimed to be; the most efficient and reliable Hose Reel Apparatus in the world.

Beautiful young lady (at hosiery counter)—"These stockings strike me as being rather loud." **POLITE SALESMAN**—"But consider how they would keep your feet from going to sleep."—*Harvard Lampoon*.

CITY BUILDING NEWS.

Baker near Page. Two-story frame; owner, Kate J. O'Donnell; architects, Martens & Coffey; contractors, Ackerson & Patterson; signed, March 24; filed, March 29; cost \$4,500.

Broadway near Mason. Three-story frame; owner, M. Auragay; architect, Emil John; contractors, Schutt & Kreeker; signed, March 30; filed, April 2; cost \$6,070.

Bryant and Butte. Two-story frame; owner, J. F. E. Ehlers; architect, H. Gellfuss; contractor, F. Klatt; signed, March 27; filed, March 27; cost \$2,870.

California and Pierce. Block of six houses; owner, Mrs. M. L. Selfridge; architects, Reid Bros.; contractors, Bassett Bros.; signed, March 27; filed, March 30; cost \$20,015.

California and Pierce. Plumbing, etc.; owner, Mrs. M. L. Selfridge; architects, Reid Bros.; contractor, H. Williamson; signed, March 27; filed, March 30; cost \$4,454.

California and Pierce. Alterations and electric lighting; owner, Mrs. M. L. Selfridge; architects, Reid Bros.; contractors, Will & Fink; signed, March 27; filed, March 30; cost \$802.

California near Pierce. Grading, concrete and brick work; architects, Reid Bros.; contractor, T. R. Bassett; signed, March 31; filed, April 4; cost \$3,200.

Church near 15th. Two-story frame; owner, Matthew Murphy; contractor, H. L. Joslin; signed, March 26; filed, March 27; cost \$1,050.

Clay near Mason. Three-story frame; owners, L. Peirano and I. Solari; architect, Emil Dieppert; contractor, L. Cereghino; cost \$1,980.

Cumberland near Dolores. To build; owner, S. L. Sutton; contractor, Eddie Cox; signed, March 27; filed, April 2; cost \$2,040.

De Haro and Santa Clara. Craryenter work; owner, Fishback & Grootz; architect, J. E. Kraft; contractor, Jas. Campbell; signed, April 7; filed, April 10; cost \$5,300.

De Haro and Santa Clara. Brick work; owner, Fishback & Grootz; architect, J. E. Kraft; contractor, L. F. Wagner; signed, April 7; filed, April 10; cost \$1,924.

Devisadero near Golden Gate. To build; owner, D. Courneer; contractor, R. Sinnott; cost \$5,600.

East near Mission. Fit up saloon; owner, Claus Flotham; contractors, Bader & Fincke; filed, March 16; cost \$1,230.

Ellis and Jones. Moving and raising; owner, Julia Green; architect, W. H. Lillie; signed, March 20; filed, March 20; cost \$7,000.

Ellis near Pierce. Mill work on two two-story houses; owner, M. J. Kelly; architect, A. J. Barnett; contractors, Excelsiors M. Co.; signed, April 4; filed, April 6; cost \$1150.

Fell near Lot. To build; owner, Edward Warton; contractors, Peterson & Person; signed, March 27; filed, March 27; cost \$4,800.

Fifth Ave. and Clement. To build; owner, C. Mohemann; contractor, E. Gintey; signed, April 2; filed, April 2; cost \$1,800.

Fourth Ave. near California. To build; owner, Oswald Schultz; contractor, Richard Fahy; signed, April 3; filed, April 6; cost \$12,000.

Fillmore near Jackson. Plumbing, etc.; owner, Sarah Kahns; architect, E. A. Hermann; contractor, H. Williamson; signed, April 8; filed, April 10; cost \$1,534.

Fremont near Market. Alterations, etc.; owner, Huntington, Hopkins Co. contractors, Robinson & Gillespie; cost \$1,275.

Fourteenth and Guerrero. To build; owner, M. Roth; architect, M. J. Lyons; contractor, E. McHugh West; signed, March 23; filed, March 26; cost \$3,025.

Grove near Polk. To build; owner, M. Corney; architect, D. M. Stanley; contractor, S. G. Worden; cost \$2,075.

Geary near Franklin. Carpenter, mill work, etc.; owner, Babetts Brown; architects, Salfeld & Kohlberg; contractor, Henry Rohling; signed, April 2; filed, April 6; cost \$6675.

Haight near Broderick. To build; owner, W. Jones; architect, J. J. Clark; contractor, W. W. Rednall; signed, March 21; filed, March 22; cost \$2,282.50.

Hermann near Stevenson. To build; owners, John and Sarah Whalan; architect, T. J. Walsh; contractor, James Geary; signed, March 22; filed, March 26; cost \$3,998.

Howard near First. Three-story building; owner, E. Roesch; architect, Oliver Everett; contractor, James Campbell; filed, March 13; cost \$4,240.

Howard near 23d. To build; owner, Henry Stelling; architects, Martens & Coffey; contractor, J. Bucher; cost \$8,850.

Jackson near Locust. To build; owner, L. B. Cooper; contractor, F. G. Kronnick; signed, March 27; filed, March 27; cost \$3,200.

Jackson near Laguna. Plumbing and sewerage; owners, Walter Speyer and wife; architects, B. McDougall & Son; contractor, H. Williamson; signed, March 23; filed, March 23; cost \$1,448.

Jackson near Webster. Painting school building; owner, Board of Education; architect, C. I. Havens; contractor, W. J. Bell; signed, April 3; filed, April 6; cost \$2280.

Landers near Fourteenth. Two-story frame; owner, John Kelvin; architect, A. J. Barnett; contractor, Jas. Cochran; signed, March 23; filed, March 27; cost \$2,100.

Market near Fifth. To remove old building and excavate; owner, F. Gutzkow; architect, E. Kollofrath; contractor, A. E. Buckman; signed, March 17; filed, March 17; cost \$1,250.

Market near Fifth. Excavating foundation; owner, Mrs. A. M. Parrott; architects, Pissis & Moore; contractor, A. F. Burdett; signed, March 24; filed, March 28; cost fifty cents per cubic yard.

Market near Fifth. Concrete work, etc.; owner, Mrs. A. M. Parrott; architects, Pissis & Moore; contractor, Geo. Goodman; signed, March 24; filed, March 28; cost twenty cents per cubic foot.

Market near Post. Hollow partitions, etc.; owner, Walter S. Hobart by Exrs.; architects, Pissis & Moore; contractors, Schutt & Kreeker; signed, March 21; filed, March 21; cost \$1,275.

Market near Post. Alterations and repairs; owner, Walter S. Hobart by Exrs.; architects, Pissis & Moore; contractors, Schutt & Kreeker; signed, March 21; filed, March 21; cost \$1,275.

Market near Post. Iron furring; owner, Walter S. Hobart by Exrs.; architects, Pissis & Moore; contractors, Schutt & Kreeker; signed, March 19; filed, March 21; cost \$2,128.

Market street, 730. Saloon and cigar store fixtures; owner, Jessie E. Marks; architect, A. J. Barrett; contractors, Ackerson & Peterson; signed, March 20; filed, March 21; cost \$2,000.

Market street, 740. Additions and alterations; owner, Robert Flint; architect, H. B. Magee; contractor, J. W. Wissinger; signed, March 22; filed, March 22; cost \$7,110.

Market street, 810. Show case and fixtures; owner, Geo. Hass; contractors, Fink & Schindler; signed, March 21; filed, March 22; cost \$2,300.

Market near City Hall Ave. Cast and wrought iron; owner, B. Schweitzer; architect, Chas. R. Wilson; contractor, Jos. Kemp; signed, March 23; filed, March 24; cost \$1,141.

Market near City Hall Ave. Excavating, etc.; owner, B. Schweitzer; architect, Chas. R. Wilson; contractor, Andrew Lynch; signed, March 23; filed, March 24; cost \$1,075.

Main near Mission. Two-story brick; owner, Mrs. E. A. Rutherford; contractor, S. S. Emery; signed, March 22; filed, March 30; cost \$12,000.

McAllister near Jones. Marble work to 4-story brick; owner, E. Adam and E. Kibbe; architect, J. E. Kraft; contractors, Ruffino & Bianchi; signed, March 30; filed, April 5; limit 40 working days.

Mission near Main. Brick; owner, S. S. Emery; contractors, Richardson & Gale; signed, April 4; filed, April 4; cost \$4,800.

Mission near Virginia. A brick car house; owners, Pacific Improvement Co.; contractors, T. H. Day & Sons; days work; cost \$46,000.

Mission near Park. One-story cottage; owner, Cornelius Cronin; contractor, Thomas Mitchell; cost \$1,330.

Natoma and First. Four-story brick; owners, Mrs. Eliza F. Grosh; architect, Wm. Patton; contractors, Richardson & Gale; signed, March 12; filed, March 13; cost \$11,225.

Oak near Scott. Alterations, etc.; owner, John Postel; architect, H. Gellfuss; contractor, F. Klatt; signed, March 20; filed, March 21; cost \$1,355.

O'Farrell near Laguna. Two-story frame; owner, Sarah N. Morris; architect, F. H. Littlefield; contractors, Blanchard & Clark; signed, March 13; filed, March 17; cost \$4,260.

O'Farrell and Taylor. To build; owners, Rose Boland and Emily Flood; architect, T. J. Walsh; contractor, T. R. Bassett; signed, March 27; filed, March 27; cost \$10,345.

O'Farrell near Stockton. To build; owner, H. Gutzell & J. Molfante; architects, Pissis & Moore; contractors, C. K. Worrell and S. W. Miller; signed, April 2; filed, April 4; cost \$23,667.

Page and Webster. Frame buildings and alterations; owner, Pane Levy; architect, A. T. Barnett; contractor, Jno. Ogle; cost \$1,765.

Pine bet. Scott and Devisadero. Two-story building; owner, Samuel Deusch; architect, M. J. Lyons; contractor, Thos. Kinread; signed, March 19; filed, March 26; cost \$3,550.

Pine near Treat Ave. Brickwork, etc.; owner, Kate C. Kirkham; contractor, Geo. B. Lang; cost \$2,550.

Point Lobos near Ferrie. Alterations; owner, C. Taubles; architects, Bugbee & Gash; contractor, L. N. Fletcher; signed, March 6; filed, April 4; cost \$1879.

Post near Devisadero. To build; owner, H. A. Rosenbaum; architect, M. J. Lyon; contractor, H. Rohling; signed, March 26; filed, April 3; cost \$7650.

Point Lobos and Fifth Ave. Cottage; owner, John Burgogne; contractor, Edward Gintey; filed, March 19; cost \$1,184.

Post and Montgomery. Deposit boxes and vaults; owner, Union Trust Co.; architect, Clinton Day; contractors, Diebold Safe and Lock Co.; signed, 16; filed, March 19; cost \$11,158.

Sacramento near Central Ave. Two-story frame; owner, Chas. Clark; contractor, C. Zwierlien; signed, March 28; filed, March 29; cost \$4,000.

Stevenson near Nineteenth. Alterations and additions; owner, Michael Lynch; contractor, William Burk; signed, April 2; filed, April 2; cost \$1,600.

Steiner near Haight. Materials and mechanical works; owner, Margaret Glein; architects, Townsend & Wyneken; contractor, C. S. Dunshie; signed, March 15; filed, March 16; cost \$2250.

Shotwell near 26th. To build; owner, Martin Seaten; architect, G. Ratto; contractor, H. McCracken; signed, March 19; filed, March 20; cost \$5,122.

Sutter bet. Webster and Fillmore. Cottage; owner, Sophia Ettinger; architects, Townsend & Wyneken; contractor, N. C. Post; signed, March 22; filed, March 22; cost \$2,000.

Twenty-first near Treat Ave. Two cottages; owner, R. H. Cowan; architect, 23; cost \$2,638.

Tenth Ave. near Point Lobos. To build; owner, Wm. Domrone; architect, H. Gellfuss; contractors, Flood & Watson; signed, April 5; filed, April 16; cost \$1850.

Union and Taylor. Excavating; brick, carpenter and mill work, etc.; owner, S. Lazarus; architects, Salfeld & Kohlberg; contractors, T. H. Pauls & W. H. Wilton; cost \$5,727.

Union near Octavia. To build; owner, Bertha Michelson; architect, C. M. Rousseau; contractor, L. B. Schmidt; signed, April 4; filed, April 4; cost \$2980.

Van Ness and Myrtle Ave. Plant for elevator works; owner, C. F. Buckley; architect, M. J. Lyon; contractors, Pettit & West; signed, March 13; filed, March 26; cost \$2,780.

Valencia and Quinn. Moving three houses; owner, S. B. Melone; architect, Clinton Day; contractor, E. E. Otterbach; signed, March 31; filed, April 3; cost \$1000.

Vallejo near Stockton. To build; owner, C. Southern; architect, H. Gellfuss; contractors, Schutt & Kreeker; signed, April 8; filed, April 9; cost \$3198.

Walter near Webster. Two-story frame; owner, E. Taylor; contractor, David Reig; signed, March 21; filed, March 22; cost \$1,675.

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SAN FRANCISCO, CAL., U. S. A.

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NUMBER 5.

A MONTHLY JOURNAL DEVOTED TO THE ARCHITECTURAL INTERESTS OF THE PACIFIC COAST.

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NOW IN THE FIFTEENTH YEAR.

W. J. CUTHBERTSON, President.

OLIVER EVERETT, Secretary.

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NE of our esteemed contemporaries in a late issue calls the attention of the officers of the various fire departments to the unreliability of concrete as a fire-proof building material, and warns them of the dangers which may attend its use, especially in the basement or foundation portions of walls, where during a conflagration it would be subject to the combined action of fire and steam.

In a later issue he approves of the use of concrete in combination with iron, as a material for the construction of floors, and informs us that when constructed in this intelligent manner, concrete is not subject to the same conditions as mentioned in the former article.

Indeed! Why isn't it?



T must be a satisfaction to the Directors of the Midwinter Fair to have such testimony in its favor coming from the authority of H. N. Higinbotham of Chicago, when we remember that Mr. Higinbotham was President of the World's Columbian Exposition, and that the report of praise coming from such a quarter must be welcomed by the managers. Mr. Higinbotham is reported to have said: "As to my visit to the fair I think it was a sight that made me feel at home. It is a beautiful fair; the buildings are imposing

and grand, and it deserves the patronage and best wishes of the entire coast." We have not space in this number to give our impressions of the general effect, and can only say the more you see of this Exposition the more you want to visit it again.



HE reason why long before this the city should not have decided to carry all the tubing, etc., necessary for the public service in a safe and commodious place and in a sensible manner is rather hard to surmise—but so it is. There is, however, a simple and costless method of doing this which we take this opportunity of bringing before our readers. This is a method that no doubt has entered the minds of many—but which, we believe has never been published in a periodical before.

We have already on all our main streets cellars under the sidewalk attached to the stores. Why may not part of these be used for the purpose above mentioned? They are in the street and the space is public property.

Now say that our Supervisors think it about time that the unsightly poles above ground and the never ending disturbance of traffic on the ground and the destruction of good roads by tearing up for the purpose of getting to the public service pipes under ground should be done away with. They then notify the property owners along say Market street

first as being the most important, that the city is about to resume its right to say one-half the space under the sidewalk. It then proceeds to build a wall longitudinally in the centre of the sidewalk, separating public from private part, the public part being that nearest the curb. Meanwhile it recoups each property owner for his expenditures in making that part of the sidewalk taken by the city, and recompenses itself for this by an annual rental to be paid by the several companies now using the public street conduits for telephone, telegraph, water, gas and sewerage and pneumatic tubes for the use of the Post Office, will all run in this alley, which will be lighted and ventilated at and above surface of pavement.

Ordinances are past directing the several companies against destroying the public highway by digging therein and they thus will be compelled to use the Municipal alley or passage.

Such then is in outline a method of making one of the most important public improvements in a manner which will harm nobody and make a vast improvement in the public health and morals.

It will harm nobody—the property owner or tenant will be fully recompensed for his loss of cellar space by the much better facility of making his connections for plumbing, gas-fitting, telephone, etc., as well as the relief from all interference with his business and clientele by the disturbance of the surface of street or sidewalk—which is now quite an item. Also he saves much by being able to get at all times to his sewerage and other pipes in an easy and quick way.

The companies supplying the public will not suffer as the first cost of removing their present tubes will be the only outlay, and that will be repaid to them in a very few years by the amount saved in being able to get at their tubes to repair or replace them or for any other purpose without any cost. The small annual rental will no doubt be charged by them upon their customers which being distributed all over the city will be an infinitesimal amount to each one, and even that will be amply repaid to the inhabitants by the general benefit accruing to them in having good roads and pavements.

The citizens considered as organized into a municipality will also not be damaged, for the original outlay which will be small will be all repaid to it in a short time by the rental of its alley and after that said rental will be pure gain, to be used in further extending the system without any expense to the city.

Finally—both the public health and morals will be improved by this system. The first by the facility by which leaks of noxious gases and fluids can be stopped and the latter by removing an offense and nuisance to the public eye and nose, and saving a certain amount of profanity and ill temper caused by stumbling blocks in the way of the traveller.

The shoot of the rubbish boxes which are now being placed along our streets at the instance of our Ladies Sanitary League for the reception of the orange peels, bits of paper and other rubbish which now so conspicuously adorn our roads and sidewalks, will also be connected with receptacles in the subway and be periodically cleaned out by scavengers; all disagreeable sights and smells being thus immediately removed from the public senses.

Now that the City Hall will be finished before the year is out to what better purpose could the money which will then be at liberty be applied? This should be made a burning question next election.

SHALL TWO ELECTRIC WIRES BE RUN IN A SINGLE CONDUIT.



PROCEEDINGS of the Eighteenth Annual Meeting of the Fire Underwriters Association of the Pacific, which have just been issued, contain a full and complete discussion from a practical standpoint of the question that is so often raised among architects as to the advisability of placing

two wires of opposite polarity in a single tube or conduit. The discussions referred to is contained in the report made by Mr. Geo. P. Low, Electrician of the Pacific Insurance Union and who constitutes the Permanent Sub-Committee of the Electric Committee of the Underwriters' International Electric Association, and is published below in full for the first time.

REPORT OF SUB-COMMITTEE ON INTERIOR WIRING.

C. M. Goddard, Secretary Underwriters' International Electric Association, No. 55 Kilby street, Boston.

DEAR SIR:

The permanent sub-committee on Interior Wiring and Wireways has to report as follows with reference to the proposed amendment "E" to Rule 22 (edition of October 1, 1893), requiring that "wireways must not be supplied with twin conductors, or two separate conductors, in a single tube."

If two wires of opposite polarity are in actual contact throughout their length, trouble may occur in the following ways:

- Case 1—Overheating of the conductors from a dead or partial short circuit, the circuit being excessively fused.
- Case 2—A dead or partial short circuit or a heavy leakage in an excessively fused circuit may burn off a wire at the point of contact, which may occasion—
- Case 3—Arcing, the heat of which will cause—
- Case 4—Ignition of the insulation.
- Case 5—The insulation, if wet, may be ignited from electrolytic action.
- Case 6—A partial short circuit or current leakage resulting in the electrolytic liberation and ignition of explosive gas.

Assuming these wires to be in contact throughout their length and exposed in open air, incipient fire will be caused by the occurrence of any accident except that cited in Case 6, in which the gases will be dissipated and rendered non-explosive. Case 6 presents the only hazard distinctive to wireway construction, in which the liberated gases are confined, but, as yet, the hazard is a theoretical and not a practical one. But one accident that might be attributed to the cause assigned in case 6 has been cited. In this an explosion occurred in a vertical conduit imbedded in a side wall. No fire resulted therefrom and no damage occurred beyond the breaking of plaster. Considering the fact that a short circuit will sometimes occasion considerable violence, it is as probable that the accident was due to this cause as to an explosion of liberated gases, as charged.

But admitting for the moment that the explosion did so occur, it could only have been due to the presence of moisture in the tube. If the ends of interior conduits are closed, per Rule 22, circulation of air through the tube, with consequent condensation and precipitation of moisture, is rendered impossible. The explosion would then be the direct result of a violation of the requirements and would be chargeable accordingly. Again, conditions favorable to condensation within tubes are far more propitious in fire-proof buildings than in wooden ones, which further depreciates this hazard. The opinion is held, therefore, that the occurrence of fire per Case 6 is extremely improbable, if not impossible.

Cases 1 to 5 inclusive resolve themselves into two ultimate classes when the conductors are exposed in air. They

must also be contiguous to ignitable material, otherwise fire could not ensue. These two classes are:

1. Ignition of foreign inflammable material from a heated wire, and
2. Ignition of foreign inflammable material from the flame of burning insulation or of an arc.

It may appear that Class 2 embodies the situation, but experiment proves Class 1 (Case 1) to be distinctive for the reason that invariably overheated wires will ignite some foreign substance, such as wood joist, or cleat, which in turn ignites the melted through insulation—not *per contra*. The danger presented is apparent.

If the wires are encased in wireways, the hazards presented in Cases 1 to 5 and as summarized in Classes 1 and 2, are at once obviated. Experiments made before various underwriters' organizations and elsewhere, have led to the acceptance of the fact that conduit will safely confine two overheated wires, which obviates the danger presented in Class 1. The occurrence of fires from the cause summarized in Class 2, namely, the ignition of foreign inflammable material (1) from the flame of burning insulation and (2) from the flame of an arc, is fully obviated in the facts (1) that combustion (oxidization) cannot exist in a closed tube, and (2) that an arc will burn away the insulation, bringing bare wires into short circuit and throwing the current off the wires through the blowing of the fuse.

The use of two wires in a single tube, therefore, averts the hazards enumerated in Cases 1 to 5 inclusive, which are well established and positive, and presents only the doubtful danger cited in Case 6, which is theoretical. Again, the use of twin wire lessen the hazard from grounding by localizing grounds, owing to the proximity of wires of opposite polarity in a single tube. Furthermore, the carrying out of Rule 22E in its present form increases the cost of conduit installation by from 25 to 75 per cent., varying with the character and size of the building.

The Electric Committee has heartily endorsed and recommended the general use of wireways for rendering concealed wiring permanently accessible because of the extraordinary and perfect facilities afforded therein for universally effecting safe electric wiring. Consistency therewith cannot be attained through the enactment of unnecessary restrictions which vastly enhance the cost of wireway construction and prove effectual in retarding its introduction and general use.

Your permanent committee on Low Potential Inside Wiring, Concealed and in Wireways, therefore, recommends the modification of Rule 22E so as to read as follows:

22. Interior Conduits.

E. Must not be supplied with twin conductors, or two separate conductors, in a single tube, except in ultimate circuits carrying current not in excess of five amperes.

Respectfully submitted,

GEO. P. LOW,
COMMITTEE.

THE BUILDERS' EXCHANGE BANQUET.



MEMBERS of the Builders' Exchange enjoyed themselves and entertained their friends on the evening of the twenty-fifth of April by a banquet spread in their spacious rooms on Post street.

About three hundred persons sat down to the well filled tables, and comfortably disposed themselves to attack the tempting viands, and applauded to the echo the sentiments that fell from the ready tongues of the orators and the wits, when after many bottles of California's best vintages had been emptied, Chas. C. Terrill, the President of the Association, introduced the toast master, Oscar Lewis, who replied to the toast "Our State and Country."

Architect Geo. W. Percy, in behalf of the members of his profession, gave a sketch of the progress of architecture and building since the early days, and commented hopefully on

the downfall of the wooden shams of former times, and the real advancement in the art of building as it exists to-day, where better and more enduring materials are used with better knowledge of their properties and greater skill in their combinations with regard to convenience, durability, use and beauty.

Mr. Terrill in speaking of the "Builders' Exchange and Building Interests" emphasized the fact most strongly that the progress of the building interests kept pace with, and was the best indication of the advancing intelligence and civilization of the human race. That the degree of progress attained by man through all ages, was truly measured by the fitness of the habitations which he constructed, and the evidence of refinement in the homes which he built, and his hearers were quick to see the natural inference, that the present age is applying the knowledge and experience gained by our forefathers in a manner highly satisfactory to its self-esteem.

Mr. M. J. Donovan, one of the orators of the evening, responded to the toast of "Our City and County," and in eloquent language pictured the future greatness of San Francisco and compared her advantages with those enjoyed by the famous cities of the Old World.

Mr. W. Winnie the President of the Oakland Exchange, replied on behalf of "Our Sister Exchanges" and Jas. E. Britt wittingly described the cordial relations that should always exist between the client, his architect and his builder.

Mr. H. T. Bestor, so long connected with the CALIFORNIA ARCHITECT AND BUILDING NEWS, spoke a few well chosen words on "The Press," and Mr. S. H. Kent responded to the toast of "The Ladies."

The meeting was a practical example of the mutual good fellowship that exists between the members of the Exchange, and the cordial relations it is their aim to foster between themselves and the business world.

In conclusion we trust the CALIFORNIA ARCHITECT AND BUILDING NEWS may witness on future occasions equally as enjoyable reunions that will stretch out and beyond into a long vista of similar events, marking the continued success, and increasing popularity of that thriving association, whose hospitality was so greatly enjoyed—The Builders' Exchange.

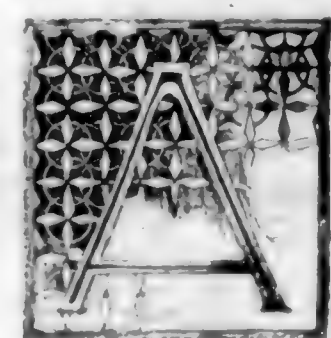
INROADS ON THE ART OF ILLUSTRATING.

IN view of the inroads being made by photography and its allies upon the art of illustration, it is quite time to stop long enough to take an account of stock. If we are by an undue patronage of the photographic devices of the time, to discourage that prince of illustrators, the modern wood engraver—and there are even now signs that his vocation is going—the photograph will have much to answer for. There is a mournful side to the fact that the modern illustrated magazine is "marked down." While the world wants cheap pictures, it cannot afford to do without the artist. Of course the people who prepare the half-tone and its kindred for use, would resent the inference, but nevertheless, however valuable and in some ways superior for the purposes of illustrating, these photographic devices may be, they must still remain in the category of scientific inventions and cannot rise to the class of creative art. Despite the fact the photo-mechanical devices have done so much for bringing out the pen-and-ink artists, giving us *fac similes* of his work, where we used to be obliged to take the engraver's

interpretation of it, it is well to keep constantly in mind that this is about the only field where the photographer and his allies have had the best of it, and it was not the proper field for the engraver at any time. The past three decades have brought out a school of artists-engravers on wood, whose achievements may be said to stand at the head of artistic progress for the period, but reports come with painful frequency that these men are drifting into something else for want of employment in their own calling. We are getting in place of their work mainly the "half-tone" and it is none too soon to set seriously about it and make an estimate of what we are losing artistically by the change.—*The Architect, Builder and Decorator.*

THE OWNERSHIP OF DRAWINGS MADE FOR AND BY AN ARCHITECT.

[Continued from April Number.]



N architect's contract with his employer, where the former works on commission, is that the architect will make the usual professional charges, and will be liable to the client for any responsibility incurred by himself or assistants. But the client and his friends understand the matter very differently. They say: "Architect A contracted with friend B to build B a house for £900; yet it has cost £1,200 and ruined B." The architect says that there was not any contract in that case; that the original order was for a £900 house, that his original sketches were for a £900 house; that B, with his family, made additions in size and quality to match what they saw at their neighbor's; that the lowest tender was £1,200, and that B said, "Cut it down as much as possible, but I shall have something more like what I want than you at first designed;" and that, in process of construction, the builder gets orders from B to an amount that fills up the cutting down. Furthermore, our lawyers fall into the verbal trap, and insist on supposing that the architect's contract drawings bind him to the client; on the contrary, the client is bound by them to the builder, and the builder to the client, no variations being usually allowed unless ordered by the architect, or architect and client, in writing. When an architect takes a commission for the erection (I omit the words "the alteration") of a building, he undertakes the production of such a building to the best of his ability, which may improve as the work proceeds. He may write what directions he likes, and so describe his plan as to make a drawing unnecessary (remembering Michael Angelo's celebrated letter to Vasari about the stairs to the Florentine Library); or he may illustrate his letter with diagrams, or his diagrams may be so full as to leave little occasion for writing to it at all. Still his signature constitutes a letter, for which he is responsible, and which, according to all the text-books on property, belong to the sender, not to the receiver; and, by the way, if a perspective view, highly-colored, be stolen, the value is that of the paper on which it is made.

These diagrams may be a plan, an elevation, a section, a perspective view in free hand or geometrical work; the size of the paper does not affect the fact that they are protected as letters so far that if a piratical publisher sought to print them he would be open to an injunction to leave out all the accompanying explanatory writing. Moreover, the illustrative details in other diagrams, drawn by another person

not in the employment of the architect, become the property of the architect as soon as his signature thereto makes him responsible for the directions given thereon.

If the architect be represented as the owner, and the drawings in question have been appended in fact or in schedule to a contract, the thief may say that they are the client's property (it will be impossible to deny that a contract is the client's property), and so escape conviction; on the other hand, if the client be represented as the owner, and the drawings in question never have been appended in fact or in schedule to a contract, the thief may say that they never were the client's property, or at least, that they are the joint property of the architect and client, and so escape conviction. In both these cases it must be observed that the indictment will be framed for stealing the papers (say value 40s.), and not for stealing the drawing (say value £4 or £40), by which the property in the papers is proved. Under peculiar circumstances (if known to the thief) a third line of defence might be taken; for he may say that the drawings, having been sent by the architect to the client for transmission to the builder, had become the joint property of the architect and client and so escape conviction.

The subject of the joint property of the architect and client in a drawing is one of the highest importance. An architect's drawings for a work executed upon commission, say of five per cent, appended in fact or in schedule to a contract, have the nature of a written document, and are liable to be stamped accordingly; it will be impossible to deny that the contract is the client's property; the property in the drawings passes, with the implied consent of the architect, entirely to the client, who in the present state of the law of artistic copyright, evidently has the power to sell or lend or publish them, as well as to use them again for another locality. The practice is, of course, reprobated by the profession, which herein cannot help itself.

An architect's drawing for such a work not so appended to the contract, whether made before the contract is signed or at any time subsequently, is an explanation of the subject of the contract, and is as entirely his property, to deal with as he likes, as if it were blank paper, until the moment that it leaves his office with his signature authorizing the execution of the work in the way there shown, at which time it becomes invested with the character of a letter. If any number of copies of such a drawing may have been made in the office, they still remain the property of the architect, even when he has selected the best executed among them for signature for transmission, and he may put them as patterns before his pupils for further copies, or he may publish them. The client has no power to interfere.

Moreover, if the architect chooses to tear up, not only his sketches, but his finished drawings, one after the other, as soon as the works which they show are executed, it might not be prudent, but is clearly within his power to do so. If Sir C. Barry neglected, before his disease, to destroy his papers, that neglect did not transfer his right to burn them to the Government. If a member of the Government had chosen to order Sir C. Barry to deliver up, from time to time, his sketches and drawings, so that they might be officially destroyed, the matter would have been so ludicrous that it could not have been sustained. Official destruction is not so far from official preservation as might be supposed. The Government itself cannot produce all the drawings made by its salaried officials from the fire of London to the Reform Bill.

From the first sketch of the ideas of an architect working on a payment by commission, to the picture representing the extent or intended result made by an artist for the architect, the paper on which those drawings are made remains the property of the architect, not of the client, and can be transferred by the former to any one; and further, the client has no right to select such as he would like to possess, even if he tender the value of the materials and workmanship.—*A paper by the late John W. Papworth, published in the Journal of the Royal Institute of British Architects.*

ROUGH-CASTING IN CANADA.

By FRED. T. HODGSON, ARCHITECT.

ROUGH-CASTING, or as it is sometimes called, slap-dashing—both words of which are synonymous with the French *hourdage*, rough work, and *ravalement*, having a similar meaning—is a method of plastering the outside of buildings much used in the northern part of Canada, because of its being durable, cheap and well adapted to keep out cold winds during our long winters. The methods of applying rough-cast and the mixing thereof do not materially differ in this country from the methods adopted in northern Europe or even in the Northwestern States, but it is these minor differences, perhaps, that make the rough-casting done in this country superior, so far as durability is concerned, to much that is done in other parts of the world.

There are frame cottages near the city of Toronto and along the northern shores of Lake Ontario that were plastered and rough-casted exteriorly over forty years ago and the mortar to-day is as good and sound as when first put on, and it looks as though it was good for many years yet if the timbers of the building it preserves remain good. Rough cast buildings are plentiful in every Province in the Dominion from Halifax to Vancouver and from Lake Erie to Hudson Bay, and when well built, and the rough-cast properly mixed and properly applied, the result is always satisfactory. It is quite a common occurrence in Manitoba and the northwest Territories in the winter to find the mercury frozen, yet this intensity of frost does not seem to effect the rough-casting in the least though it will chip bricks, contract and expand timber and render stone as brittle as glass in many cases, and the effect on iron and steel is such as may prove dangerous if exposed to sudden and unexpected strain.

In preparing a frame or log building for rough-casting care must be taken in putting down the foundation. A good stone or brick foundation is of course, the best, but where rough-casting is intended stone or brick foundations are seldom used, because of their cost, and the builder is compelled to use posts of wood. Here the posts are generally made of white cedar, which has a lasting quality of thirty-five or forty years, if sound when used. The posts are put in the ground from three to five feet, the deeper the better, as they should be deep enough in any case to prevent frost from forcing them upward. When a sufficient number of posts have been properly placed a line is struck on them the proper height from the ground and the tops leveled off. The sills are then placed—all joints being broken on top of posts—and the whole made level. These sills and all the other timber, scantlings and lumber should be well seasoned. If possible, for the greatest enemy to the plasterer is unseasoned timber; shrinkage of joists, posts and scantling not only breaks the bond of the mortar, but causes great cracks in corners and angles that no amount of pointing or patching can ever make good.

When the frame is up and the rafters on and well secured the whole of the outside should be covered with good, sound, common inch stock pine, hemlock, spruce or other suitable lumber, dressed to a thickness. If put on diagonally so much the better, but this is not absolutely necessary if the rough-casting is to be of the best quality, as will appear hereafter.

When it can be done it is best to get all partitions set in place and lathed, the roof on and all necessary outside finish or grounds put in place and made ready to receive the lath. The carpenter must prepare his finish or grounds for

finish to accommodate the extra lath, as the wall will be thickened accordingly.

For the cheaper sort of rough-casting in one or two coats the following method of lathing is employed: Nail laths on the boarding—over paper or felt, if paper or felt is used—perpendicularly sixteen inches from centre to centre if four-foot laths are used, or eighteen inches or one foot from centre to centre if three-foot lath are used. The whole surface to be rough-casted will require lathing this way. When done lath as is ordinarily done with No. 1 pine lath, breaking joints every fifteen inches. Put five nails in each lath, driving each nail home solid, coat over with mortar, well haired, and that has been made four or more days; smooth and straighten as well as possible with a darby. When done and while yet soft the rough-cast is thrown on it with such force as to drive the pebbles or small stones deep into it. The mixture or dash as it is called, is composed of fine gravel, clean washed from all earthy particles and mixed with pure lime and water till the whole is of a semi-fluid consistency. This is mixed in a shallow tub or pail and is thrown upon the plastered wall with a wooden float about five or six inches long and as many wide, made of half-inch pine and fitted with a wooden handle. While with this tool the plasterer throws on the rough-cast with his right hand he holds in his left a common whitewash brush, which he dips into the rough-cast and then brushes over the mortar and rough-cast, which gives them, when finished, a regular, uniform color and appearance.

For this sort of work the following proportions will answer: To one barrel of prepared gravel use a quarter barrel of lime putty; mix well before using. This may be colored to suit the taste by using the proper materials, as given further on. It must be understood that the foregoing is the cheapest sort of rough-casting and is not recommended where more durable but more expensive work is required.

The best mode of doing this work as practiced in the lake district of Ontario is about as follows: Have the frame of building prepared as indicated in the foregoing, with partitions all put in and well braced throughout and well secured.

Lath diagonally with No. 1 pine lath, keeping one and a half inches space between the lath. Nail each lath with five nails and break joints every eighteen inches. Over this lath again diagonally in the opposite direction, keeping the same space between the lath and breaking joints as before. Careful and solid nailing is required for this layer of lathing, as the permanency of the work depends to some extent on this portion of it being honestly done. The mortar used for the first coat should have a goodly supply of cow's hair mixed in with it and should be made at least four days before using. The operator must see to it that the mortar be well pressed into the key or interstices of the lathing to make it hold good. The face of the work must be well scratched to form a key for the second coat, which must not be put on before the first or *scratch coat* is dry. The mortar for the second coat is made in the same way as that required for the first coat and is applied in a similar manner, with the exception that the scratch coat must be well damped before the second coat is put on in order to keep the second coat moist and soft until the dash or rough-cast is thrown on. The rough-casting is done exactly in the same manner as described for the cheaper sort of rough-cast work.

A building finished in this manner, if the work is well done, possesses many advantages over the ordinary wood covered structure. It is much warmer, being almost air tight so far as the walls are concerned. It is safer, as fire will not eat its way through work of that kind for a long time. It is cleaner, as it will not prove such a harbor for insects. It may be made as handsome as desired, for, before the rough-cast is dashed, it may be laid off in panels of any shape by having strips of battens tacked over the soft mortar, which may be removed after the rough-casting is done and the coloring finished. It is much superior to the so-called brick veneered house, as it is warmer, more exempt from fire and cheaper.

For 100 yards of rough-casting in the manner described the following quantities will be required: 1,800 lath, 12 bushels of lime, 1½ barrels best cow hair, 1¼ yards of sand, ¾ yard of prepared gravel and 16 pounds of hot cut lath

nails, $1\frac{1}{4}$ inches long. The gravel should be sifted through a half-inch mesh screen, and should be washed before mixing with the lime putty.

To color 100 yards in any of the tints named herewith use the following quantities of ingredients: For a blue-black mix 5 pounds of lamp black in the dash; for buff use 5 pounds of green copperas, to which add 1 pound of fresh cow manure, strain all and mix well with the dash. A fine terra cotta is made by using 15 pounds of metallic oxide, mixed with 5 pounds of green copperas. A dark green color is made by using 5 pounds of green copperas and 4 pounds of lamp black. Many tints of these colors may be obtained by varying the quantities given. The colors obtained by these methods are permanent; they do not fade or change with time or atmospheric variations. Many other colors are used, but few stand like the ones named. A brick color may be obtained by the use of Venetian red and umber mixed in whiskey first and then poured into the dash until the proper tint is obtained. In time, however, like all earthy pigments, these colors fade and have a sickly appearance; they answer better in cements than when incorporated with fat limes. *Architecture and Building.*



The management of this journal desires to extend a cordial invitation to all architects on this coast and elsewhere to contribute designs for publication.

Drawings should be made with perfectly black lines on a smooth white surface. Good tracings, if made with black ink, answer the purpose.

The designs selected will be published without charge. All drawings, whether accepted or not, will be returned to their authors, who must bear express charges both ways.

SKETCH of a Ranch House is by Clarkson Swain.

A Study for a Public Library is by W. Jones Cuthbertson Architect.

A Residence on Washington street is by Polk & Gamble, Architects.

THE Design accepted for Oahu College, Honolulu, is by Architects Ripley & Reynolds.

NOTES AND COMMENTS.

The most profitable street railway in the world is the Broadway cable in New York, which is now said to be earning fifty cents per car mile, the biggest record ever made by a street railway company. It is understood that it is operated for one third the gross on its very large earnings. The Brooklyn street railway company has downed the elevated road in the city of churches by the introduction of the trolley, and it is now reported to be a serious question as to what will be done with the elevated structure.—*Illustrated Electrical Review.*

One of the smallest offices in New York city is that occupied by an electrical contracting firm in the Havemeyer building. The office is four feet wide and eight feet long. But there is not in the arrangement of desks and furniture an inch of waste space. Even the electric radiator which heats it is small and out of the way. It is reported in these lilliputian quarters the firm does a business of \$75,000 per year.—*Illustrated Electrical Review.*



[We published last month a communication from a correspondent concerning the fire-proof qualities of concrete, who signs himself "Consistency" in which the writer misquotes from Thaddeus Hyatt's work on "Portland Cement Concrete Combined With Iron as a Building Material." The following letter from Mr. Hyatt explains that the concrete used in the experiment illustrated, was a specially prepared fire resisting concrete, and not the ordinary concrete, which is not fire-proof.—*Editor California Architect.*]

Editor California Architect and Building News:

SIR:—Will you allow me to say a word on a matter just now attracting considerable attention in your region of the world?

An article under the heading "Effect of Fire on Concrete" is, I am informed going the rounds of the Western press as news; which I dare say it is to those who have never read a little work on "Portland Cement Concrete Combined with Iron as a Building Material," published by me seventeen years ago in England at an expense of three hundred pounds and more, and likewise distributed by me at the time gratuitously and widely among British and American architects.

The question, is Portland Cement Concrete Fire-proof? is put and answered on pages 12 and 13 of that work, with illustrations, as follows:

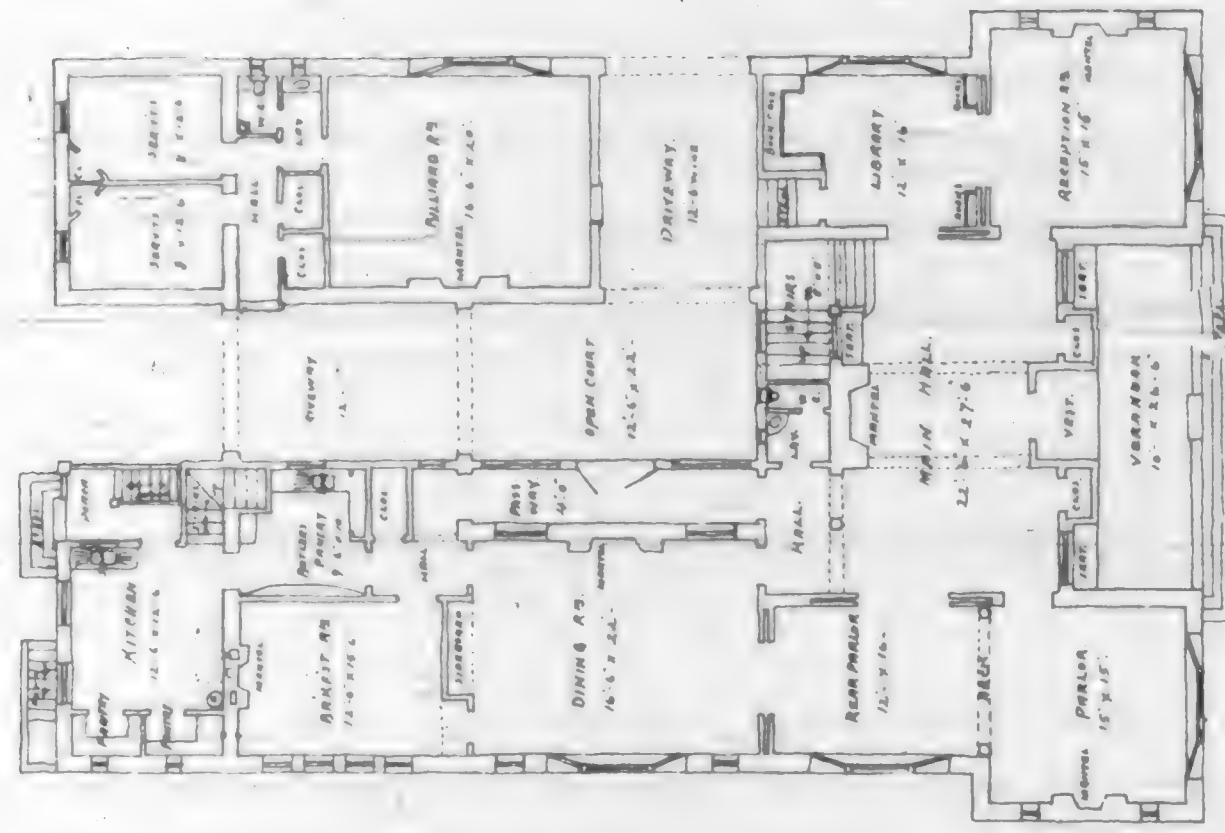
"Figure twenty-one represents a sample of concrete made of the best Portland Cement, moulded in brick form; made in the proportion of one cement to two crushed bricks. When one month old it was heated to redness for six hours in a furnace, and when taken out was then partially plunged into water, the end that came in contact with the fluid falling instantly to pieces and disappearing. Similar blocks heated in the same way and left to cool in the open air became disintegrated within periods varying from six to forty-eight hours; the results in all the experiments being uniform as to samples that had been exposed to the same degree of heat, and for the same length of time."

Figure twenty-two represents a similar block made from a New Portland Cement specially prepared to resist fire. This block when heated like the former was plunged bodily into water, and allowed to cool there. With the exception of some fire cracks it appeared to be perfectly sound when taken out."

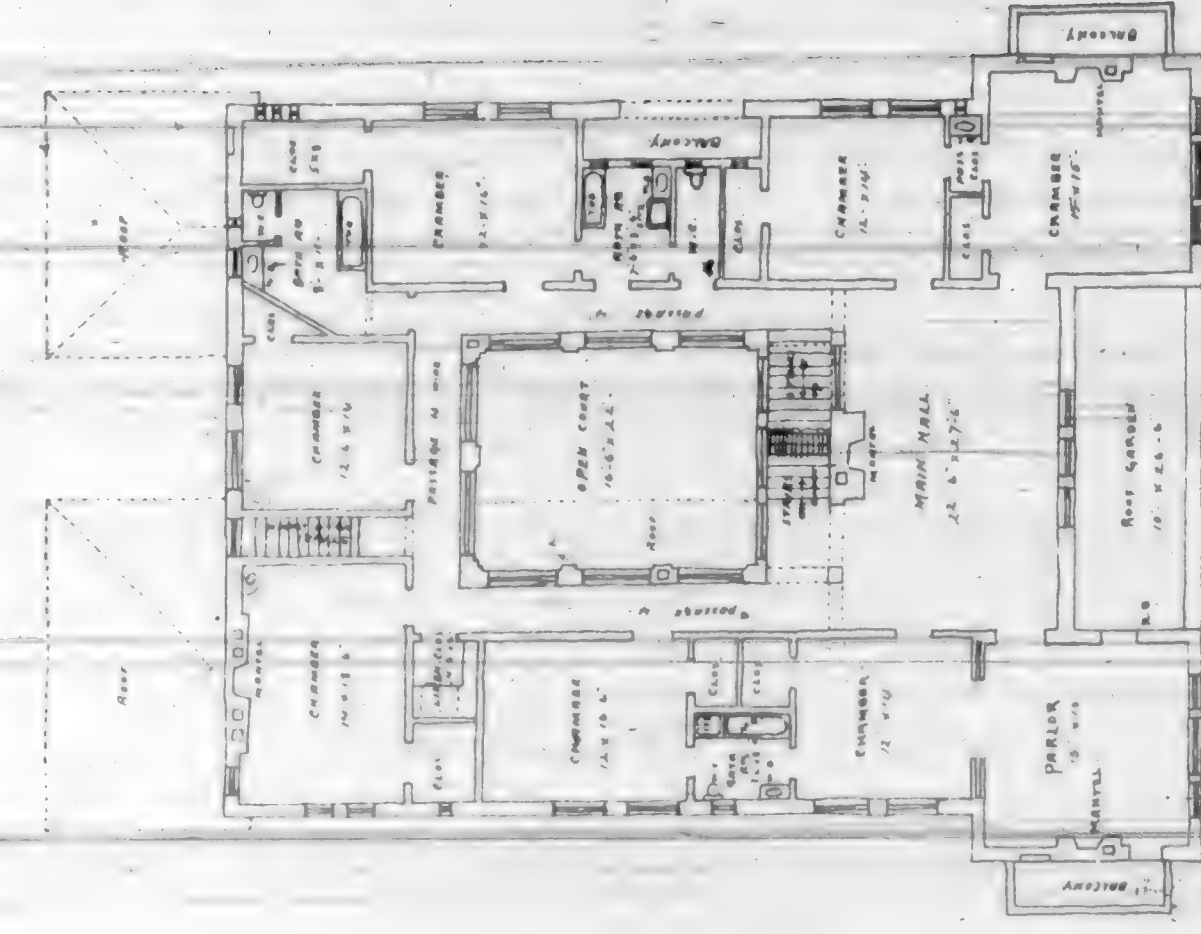
The illustrations and quotations in your issue of last month in the article over the signature "Consistency" was taken from pages 19, 20 and 21 of that work; and the object of my present writing is not only with reference to the article now going the rounds of the press under the heading, "Effect of Fire on Concrete," but to also add a word of caution and explanation with respect to the quotations and illustrations given by "Consistency" from my work, lest the mistake should be made of supposing that the "slab or floor section, six feet long by two feet wide, and seven and a half inches thick," which formed "the top of the furnace" was made of ordinary concrete. It was not ordinary concrete, for my work explains and illustrates by figure 2, that such Portland Cement Concrete is not fire-proof. The fire-proof Portland Cement is shown by figure 22; and the concrete slab which formed the top of the furnace that for ten hours stood not only the "glowing red heat" but the crucial test



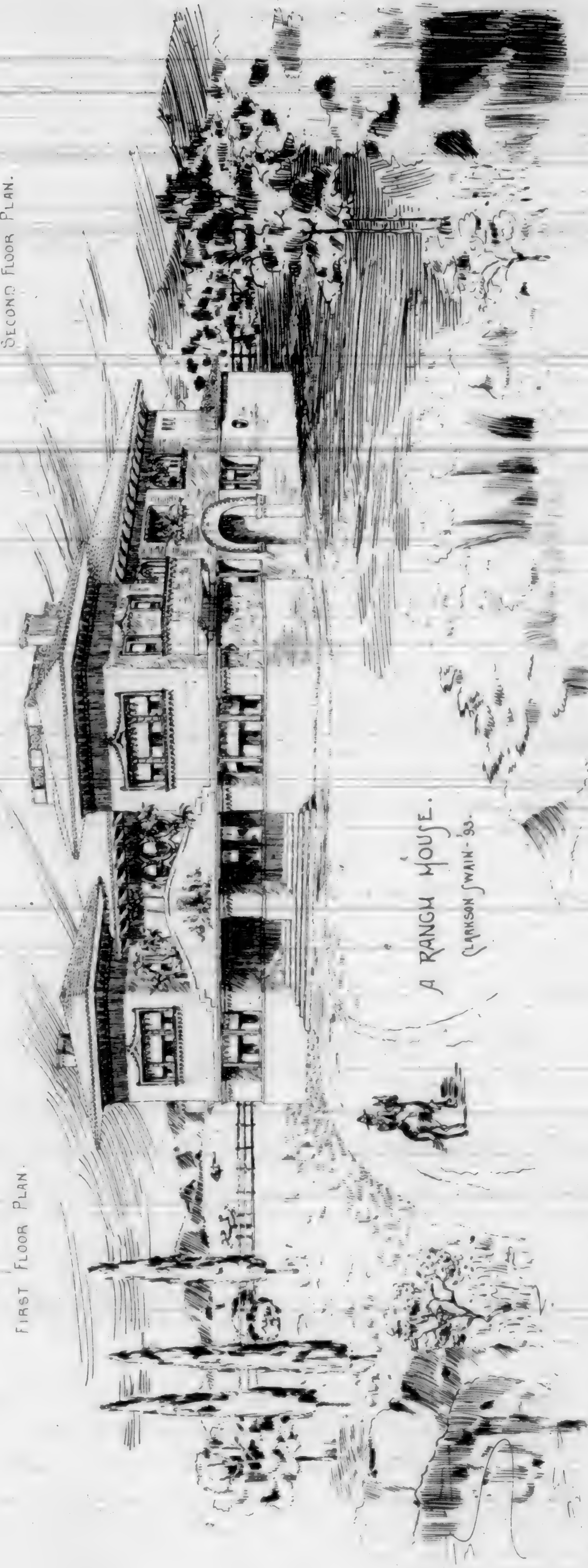
DR. BOERICKES' HOUSE ON WASHINGTON STREET SAN FRANCISCO.
POLK AND GAMBLE ARCHITECTS.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

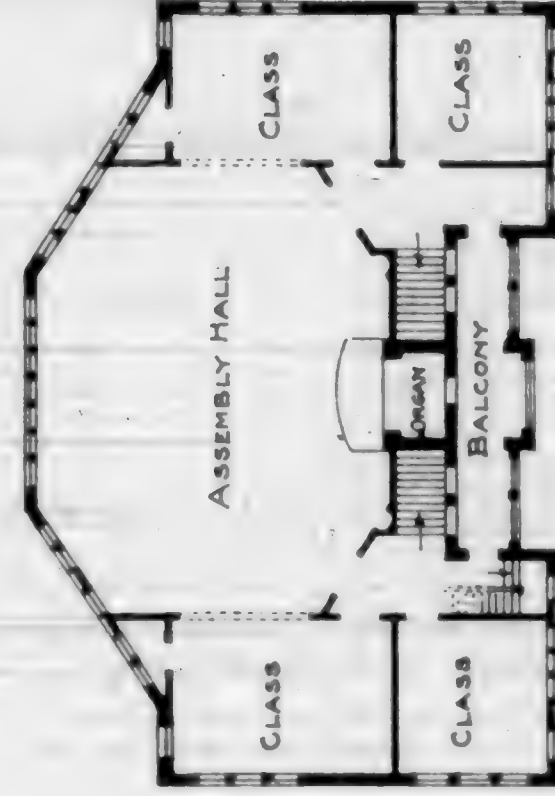


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SAN FRANCISCO.

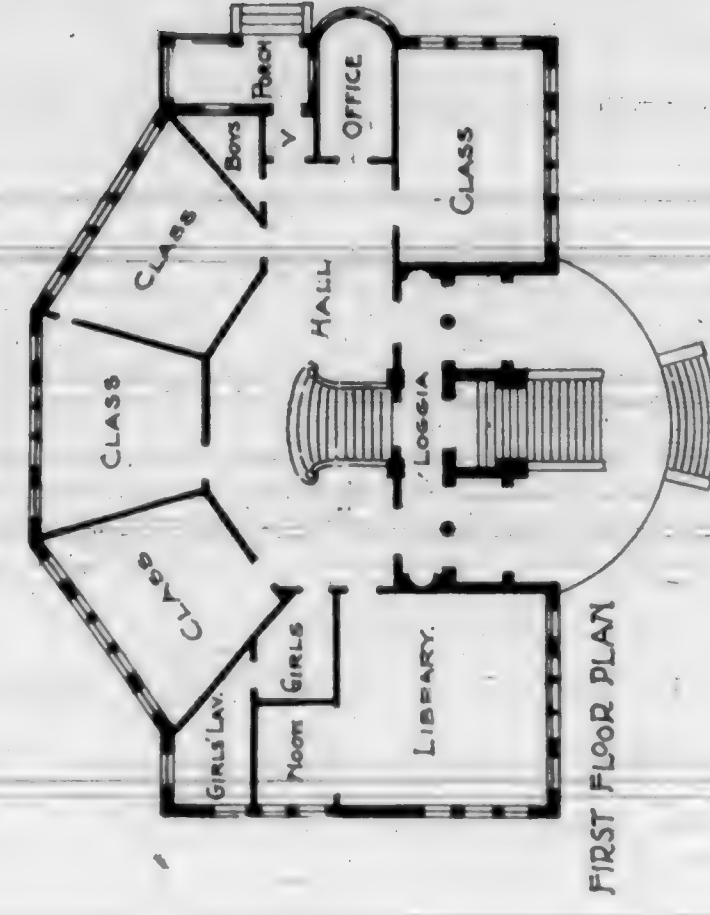
BRITTON & REY PHOTO LITH.

VOL. XV No 5. MAY 1894.

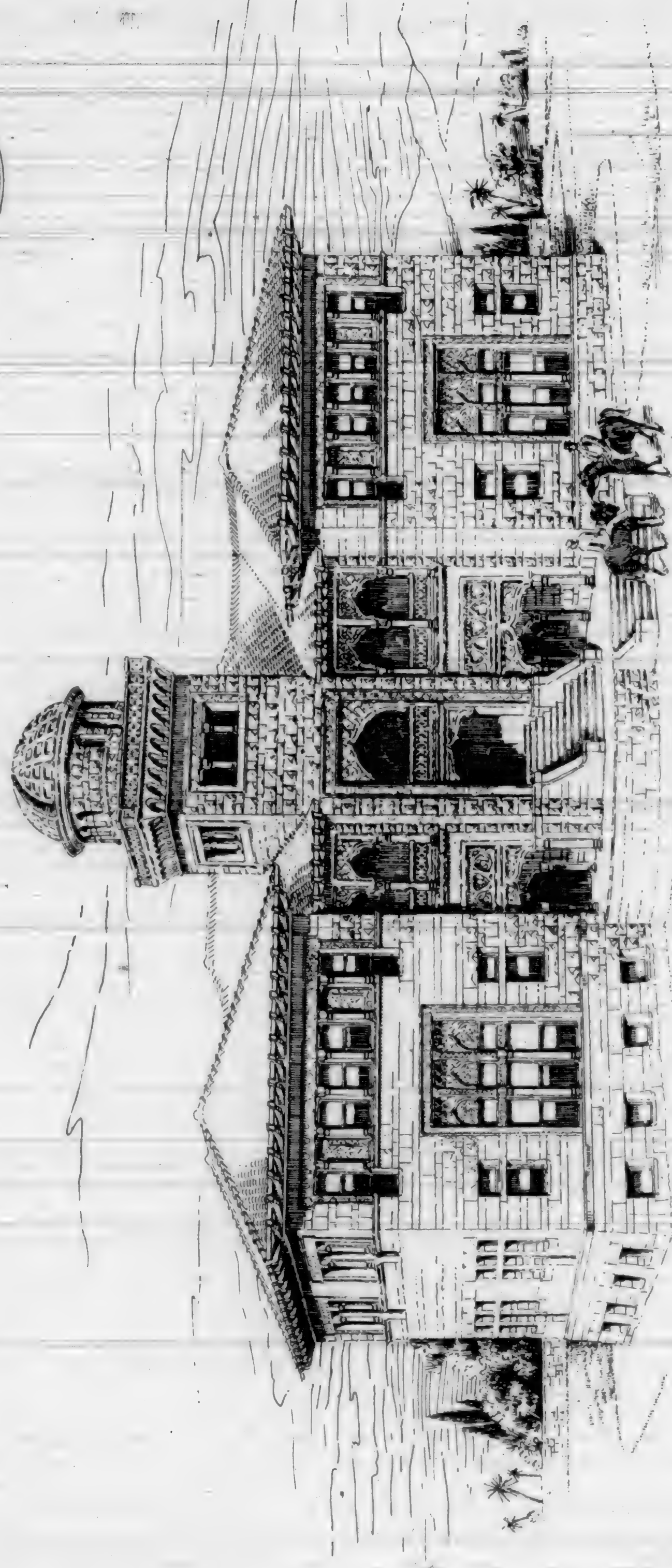
ACCEPTED
DESIGN FOR
OAHU COLLEGE BUILDING
Honolulu — H.I.
SUBMITTED BY
C. B. Ripley and
Arthur Reynolds, ARCHITECTS



SECOND FLOOR PLAN.



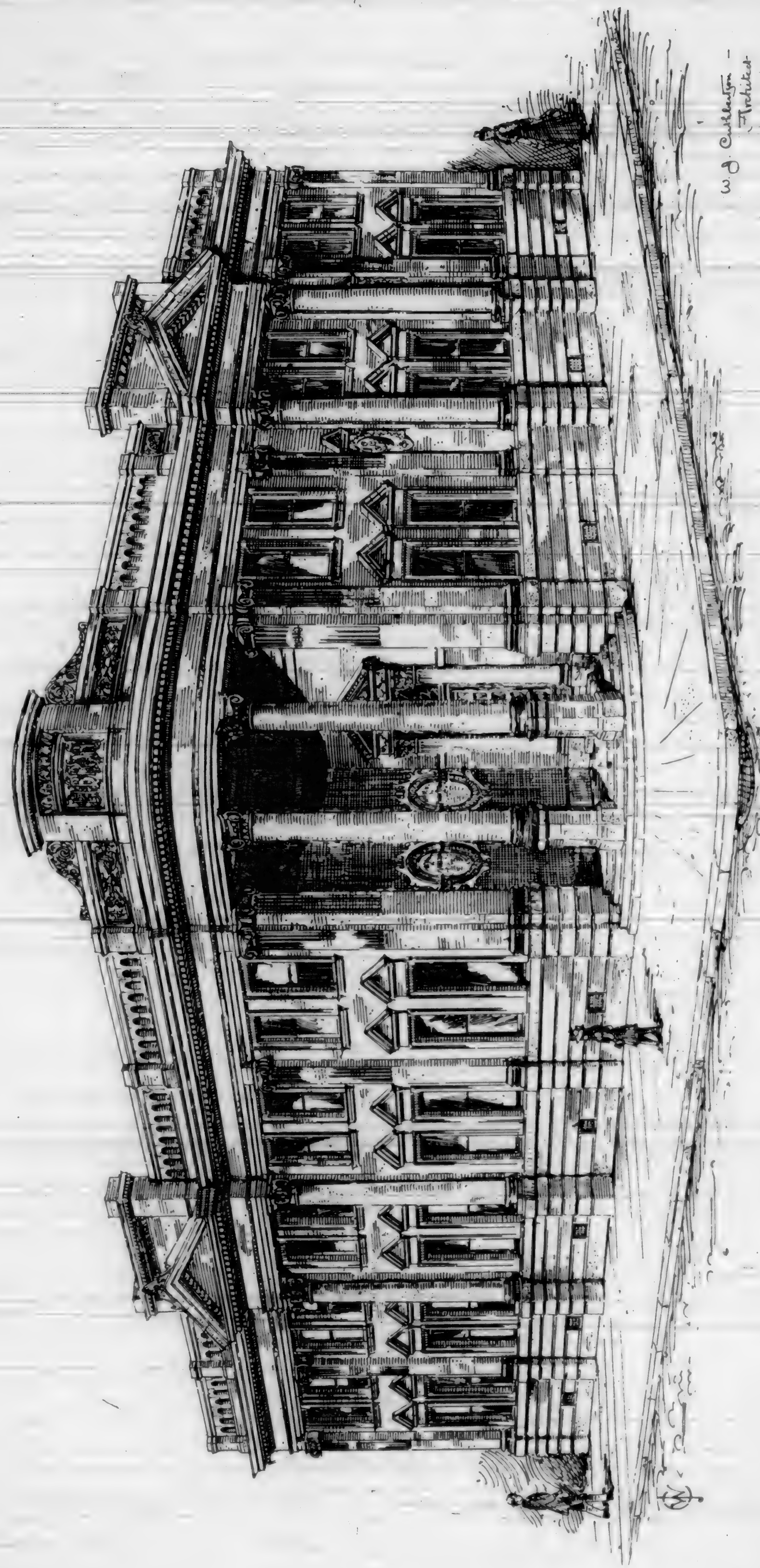
FIRST FLOOR PLAN.



CALIFORNIA ARCHITECT & BUILDING NEWS
SAN FRANCISCO.

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VOL. XV No 5. MAY 1894.



CALIFORNIA ARCHITECT & BUILDING NEWS
SAN FRANCISCO.

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VOL. XV No 5. MAY 1894.

of the "stream of cold water thrown forcibly against the bottom of the slab for fifteen or twenty minutes" was a concrete made of my (at that time) "New Portland Cement."

THADDEUS HYATT,

73 Henry street,
Brooklyn, New York.

May 15, 1894.

To the Editor of The California Architect and Building News:—

It is universally the fate of all new departures from old systems to meet with disparaging and denunciatory opposition, especially from sources that consider their corns trodden upon by the innovation. Long before and ever since the image making craft for the temple of Diana, set up the danger howl when Paul preached the Gospel in Ephesus, changes of old custom, in all departments of human interest, except in womens' dresses and bonnets, have been condemned as fraught with public danger.

After its extraordinary economical and safe use for more than fifty years, as a building material in all the countries of the world, it seems to have been lately discovered in this enterprising city of San Francisco, that Portland cement concrete is not a safe article to be applied for building purposes, especially in foundations. This discovery certainly will be news to the thousands of workmen, architects and engineers who in other places all over Europe, India and America, have employed this material in some of the largest and most important structures which have been erected in the present century, and coming from such an intelligent and influential source as a new San Francisco publication, must cause these unfortunate builders who have thus applied this unreliable composition to regret not having waited for this discovery before they ventured upon its dangerous application at the cost of the millions that have been spent upon it. Even those more ancient builders of centuries before the manufacture of this modern cement and its combinations, who used a much inferior article, if they have any consciousness and interest in their old mundane practice while yet in the spirit world where they are now supposed to be, most reproachfully regret their unadvised risk in adapting their crude conglomerations to the works that still remain as monuments of their imperfect art. Vitruvius, Michael Angelo and other old Italian and Spanish architects and engineers who made extensive use of concretes with natural but inferior cements of trass and puzzuolani, and now superceded by Portland cement, would be astonished to learn what hazards they run in this system of building, and so would be our more modern builders, Smiston, Brinley, Stevenson, Vicat, Pasley, our own countrymen, Baldwin, Col. Sylvanus Thayer and others of their date, as well as those distinguished men now living and who continue the practice, as the French Coignet and the whole of his professional contemporaries all over the world. To these experienced builders it would certainly be a queer intimation that they are guilty of using such a perilous material as concrete exposed as it is to destruction by fire and perhaps other causes as may be discovered in San Francisco.

In apprehension of the direful tendencies of concrete, now just discovered in "three lumps" of it and in a case of bad workmanship, and after the prolonged use of the material for centuries, it would be advisable on the score of humanity to notify these eminent but mistaken builders, to abandon its use and hereafter confine themselves to safer materials. It would also be an act of kindness on the part of those who have made this discovery of the inherent danger of concrete,

and the means of warding off some solemn catastrophe, to warn the public, especially in the case of fire near any work wherein it was used, to keep away from it. Particular attention should be directed against such buildings as the Pantheon of Rome, whose dome of more than 140 feet in diameter is composed of concrete and has stood over 2000 years, for should a fire occur under it, this unsafe piece of work might "easily crumble" and fall on somebody's head.

The writer has visited magnificent works in European cities in which concrete constituted the entire building from and inclusive of the foundation, to the roof—whole blocks of dwelling houses of six and eight stories; aqueducts of miles in length, railway bridges, monuments, lofty revetment walls and churches wholly of this material even to the surmounting spire and cross. The builders of these works evidently thought themselves well enough assured of the efficiency of the material they used and had the temerity to apply it without waiting to be informed of what might be said about its dangerous tendencies in San Francisco.

OLD CONCRETE USER.

CONCRETE AS A BUILDING MATERIAL.

AN article, said to have first appeared in a California building paper, reflecting severely upon concrete construction for foundations, etc., and as a fire-proof material, has recently been circulated gratuitously among architects and builders on this coast. While it is certainly a matter to excite comment that any reputable building journal should show a disposition to attack concrete construction at this late day, still as a matter of fact the article referred to contains nothing worthy of serious consideration. The writer, to demonstrate that cement concrete cannot be made to resist fire, states that he has taken a few pieces, subjected them to high temperature and immediately submerged them in water, after which they showed a tendency to disintegrate. He might have made the same experiment with pieces of many varieties of well known building stones with exactly the same or similar results. The very best building stone has been affected by the instant contraction incident to sudden cooling, while the poor qualities have been practically ruined. Lyell has calculated that a mass of sandstone a mile thick raised in temperature to 1000° F. would elevate its upper surface fully fifty feet by expansion. Disintegration must follow sudden contraction. Cement concrete, like stone, is various in quality. The reputation of the best is established. It is a highly valuable building material and is used with satisfaction for foundation work and in almost every position of trust by eminent architects and engineers. Not one but scores of tests have been made of its fire-resisting qualities and the result is that it is being used to-day more than ever before. There is a field for all good materials in building and every improvement should be welcomed.—*The Pacific Builder.*

REMOVAL.—W. J. Cuthbertson has removed his office from St. Ann's building to Room 93, Flood building, corner of Market and Fourth streets, where he will be pleased to see his friends.

MAN (entering dry goods store)—"Is that gentlemen at the desk the head of the house?" CLERK—He is the man that foots the bills.—*Transcript.*

BOOKS AND PERIODICALS.

ANNUAL REPORT of the Board of Regents of the Smithsonian Institution, Washington, 1893. This report as usual contains much of interest not only to the man of science but to the general public, any one who looks at the index, can hardly fail to find some subject referred to and written in such a way as to demand attention. "The Inventors of the Telegraph and Telephone" for instance, will be read with interest by all. The illustration of the "Tibetan Prayer Mill Turned by Water" will, we think, be found more curious than useful at this day.

GOOD ROADS.—An illustrated monthly magazine published by the League of American Wheelmen, Sterling Elliott managing editor, 12 Pearl street, Boston, Mass. This magazine judging by the April number that is before us, is certainly entitled to the credit of working faithfully in the cause it has adapted, and in which all are interested. The illustrations of good roads are very enticing to the reader, and ought to urge every one to become a subscriber, as for the sum of one dollar the magazine is sent for one year.

THE MERCANTILE ADJUSTER published by the Mercantile Adjuster Publishing Co., Times Building, New York. A monthly Legal Directory and Commercial Law Digest. This must prove a very valuable manual to those wishing to have debts collected at a distance, in fact is a law library in its self that one could carry in his pocket.

RICHEY'S GUIDE AND ASSISTANT for carpenters and mechanics. A work of practical information, giving almost every geometrical and practical problem likely to arise in the work of the carpenter, and quick and easy methods for their solution. The use of the steel square, etc., tables showing strength and weight of materials, methods of framing, useful receipts, etc., etc., by H. G. Richey, illustrated by 201 engravings. Address William T. Comstock, 23 Warren street, New York, price \$2.00 sent by mail free of postage to any part of the world.

This handy volume contains much information condensed into a small space, will be found useful; while nothing new in this line can be expected after so much has been written upon the subjects treated of, the author has succeeded in giving in a simple way directions that all can understand and freedom from much that often confuse the reader instead of giving him aid in understanding the subject.

DOES ADVERTISING PAY?

A book entitled "How to Get Money," published way back in the 'fifties, contains the following on advertising: "Whatever your occupation or calling may be, if it needs support from the public, advertise it thoroughly and efficiently in some shape or other that will arrest public attention. I freely confess that what success I have had in life may be attributed more to the public press than to nearly all other causes combined. There may possibly be occupations that do not require advertising, but I cannot well conceive what they are. Men in business will sometimes tell you that they have tried advertising and it did not pay. This is only when advertising is done sparingly and grudgingly. Homeopathic doses of advertising will not pay, perhaps; it is like a portion of physic, making the patient sick, but effecting nothing. Administer liberally and the cure will be permanent. Some say they cannot afford to advertise. They mistake; they cannot afford not to advertise. In this country, where everybody reads the



COTTAGE ON FRANKLIN STREET.

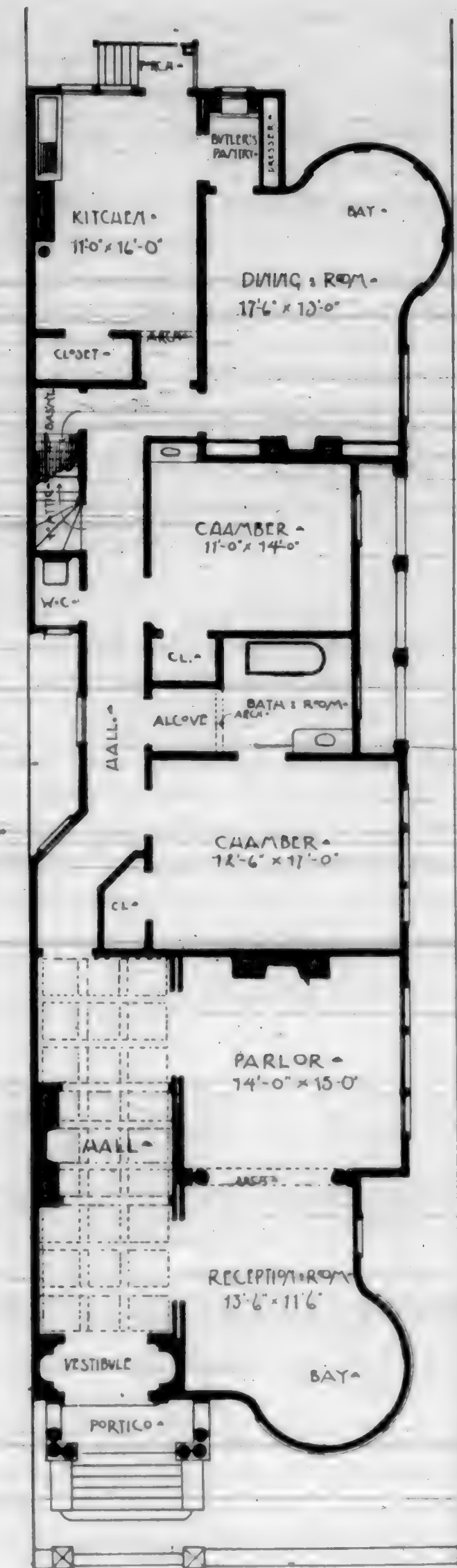
newspapers, it will be seen that these are the cheapest and best media through which persons can speak to the public, where they are to find their customers. Put on the appearance of business and generally the reality will follow. The farmer plants his seed, and while he is sleeping his corn and potatoes are growing. So with advertising. While you are sleeping or eating or conversing with one of your customers, your advertisement is being read by hundreds and thousands of persons who never saw you or heard of your business, and never would, had it not been for your advertisement appearing in the newspapers."—*Free Press.*

NOTICE OF MEETINGS.

SAN FRANCISCO CHAPTER, AMERICAN INSTITUTE OF ARCHITECTS, meets second Friday of each month at 403 California street
SETH BARSON, Pres. **GEO. W. PERCY, Vice-Pres.**
OLIVER EVERETT, Sec. **JOHN M. CURTIS, Treas.**

TECHNICAL SOCIETY OF THE PACIFIC COAST, meets first Friday of each month at Academy of Sciences Building.
C. E. GRUNSKY, Pres. **GEO. W. DICKIE, Vice-Pres.**
OTTO VON GELDERN, Sec. **W. C. RALSTON, Treas.**

CALIFORNIA ELECTRICAL SOCIETY, meets the first and third Monday evenings of each month at the Academy of Sciences Building.
GEO. P. LOW, Pres. **C. O. POOLE, Vice-Pres.**
MAX CASPARI, Sec. **H. T. BESTOR, Treas.**



FIRST STORY: PLAN.

LEGAL DECISIONS.

From a large number of Legal Decisions of the higher Court, of the different States of the Union, we select and publish in this column, such as appear applicable to this section of the country.

PARTY WALLS.—A party wall is a wall on the division line of estates which each proprietor is at liberty to use as a support to his building. When such a wall stands in part on the land of each it is presumed to be owned by the two, unless the contrary is shown. At the common law no person was under obligation to unite with his neighbor in building a party wall, or even to furnish his portion of the land for it to stand upon; but an erection might be made a party wall by agreement, and if one person allowed another to make use of his wall for the support of a building, and to continue the use for twenty years, the grant of a right to do so was presumed, and the wall became a party wall by prescription. The inconveniences of the common law rule have been obviated to some extent by statutes which permit a proprietor to build into his neighbor's wall for the support of his own building, provided the wall is sufficient for the purpose, on making payment of the just proportion of the cost. These statutes establish the rule of the strict civil law. Where a party wall is built by agreement, the strict rule of law requires a deed, but if the agreement was by parol only,

the case would be a very strong one for the application of the doctrine of equitable estoppel, and no doubt a dissatisfied proprietor would be enjoined from repudiating the arrangement and interfering with his neighbor's enjoyment of the wall as a party wall afterwards. If one erects a block of houses or shops, and then conveys them separately to purchasers, the walls between them become party walls for the mutual benefit. Where a party wall exists, each proprietor has an easement in the land of the other for its use, repair and support; but the extent of his rights may be limited by the contract between them with respect to the wall, or by the user or by the statute under which it was built or is owned. Rights in party walls pass with the land to heirs or assigns without being specially mentioned in the conveyance. Each proprietor owes to the other the duty to do nothing that shall weaken or endanger it, and though each may rightfully, when he finds it for his interest to do so, increase its height, sink the foundations deeper, or on his own side add to it, yet it seems that in doing so he is insurer against damages to the other proprietor. If the wall becomes ruinous, and ceases to answer the purposes of support, the easement is at an end, and each proprietor may build as he pleases upon his own land without any obligation to accommodate the other. 472.

VALIDITY OF CONTRACTS.—It is, no doubt, the general rule of law that no right of action can spring out of an illegal contract. And the rule that an illegal contract cannot be enforced applies as well to contracts prohibited as to contracts bad in themselves. But it does not necessarily follow that all the consequences attending a contract which is contrary to public morals or founded on an immoral consideration attend and affect a contract prohibited merely. The law, in the former case, will not undertake to relieve parties from the position in which they have placed themselves, or to adjust the equities between them. But in the latter case, while the law will not enforce the prohibited contract, it will take notice of the circumstances, and, if justice and equity require a restoration of money or property received by either party there under, it will, and in many cases has given relief.

Winegard v. Panning, Supreme Court, General Term, Third Dep't., 27 N. Y. Supp. 566. 153.

CONSTRUCTION OF CONTRACT FOR PARTY WALL.—Where one being about to erect a building on his lot on the west side of an adjoining lot on which the owner had a three-story building, running back 104 feet, the rear seven feet of the lot being covered with a one-story shed built for wood, on the side toward his lot, made a contract with him providing that the east wall of his building should be erected as a party wall, the cost to be borne by him, the adjoining owner to pay \$3000 whenever he should make use of the party wall, and for the support of any building which he might thereafter construct. As his building came to the dividing line of the lots, it was necessary to take down the west wall, to make room for the party wall, and in doing this his building was built into and attached to the party wall. He was not liable for the \$3000 till he thereafter constructed a building on his own lot, and he was not liable by reason of fastening his front wall into the party wall in making repairs, nor for covering over the wall on the inside of his building with plaster and wainscoting, and on this hanging gas fixtures and coat racks. Nor was the tearing down of the wooden part of the one story shed on the rear seven feet of the lot, and extending the rear brick wall of the shed, and fastening it into the party wall with cement joints, no wall being put between the shed and the party wall, the construction of a building within the contract.

Fox v. Mission School, Supreme Court of Missouri, 25 S. W. Rep. 171. 279.

CONSTRUCTION OF BUILDING CONTRACT.—In a building contract, it was stipulated that, in case of the failure or unreasonable delay of the contractor to provide the necessary labor and materials to complete the work by a certain time, in the judgment of two architects named, then the other party to the contract might, after three days notice, provide other labor and materials, and complete the work. The contractor could not lawfully be stopped from proceeding with his work in constructing said buildings, upon the judgment of said architects, where the judgment of one was based solely upon what the other had informed him, and not upon his own examination of the premises and a proper inquiry into the facts constituting such default on the part of the contractor. He was entitled to the benefit of the joint judgment of the architects, based upon a full knowledge by each one of the facts which constituted such default, especially where the examination of the condition of affairs called for a personal examination of them, as a condition precedent for the exercise of the discretion and judgment of each architect.

Benson v. Miller, Supreme Court of Minnesota, 57 N. W. Rep. 943. 188.

TO ARCHITECTS AND BUILDERS.

PLEASE note that Phoenix Pure Paint has been purchased by W. P. Fuller & Co., who will continue its manufacture in connection with their own Manufacturing Department, under my personal supervision. Its high grade and absolute purity will be fully maintained. It will be my aim to make it as it always has been, the purest, best and safest paint to specify.

I thank you for your cordial support in the past, and hope to merit its continuance. Respectfully yours,

L. H. BUTCHER,

Formerly of The Phoenix White Lead and Color Works.

A CURIOUS QUESTION.

A curious question has come up in New York, says the *American Architect*. Mr. Elbridge T. Gerry, who is well known as a yachtsman, is having a building on Maiden Lane, belonging to his wife, painted a bright orange color. It happens that Maiden Lane is mostly occupied by jewellers, and some of these, who have windows opposite Mrs. Gerry's building, find that, when the sun falls on its orange-colored

paint, the reflected rays affect the color of the white diamonds displayed in their windows, making them look yellow, and apparently, destroying a great part of their value, as a yellowish diamond is worth only a small fraction of the value of a pure white stone. The jewellers whose property is thus affected met the other day, and civilly requested Mr. Gerry to allow his building to be painted of a different color, offering to pay the whole expense themselves. This request Mr. Gerry is reported to have refused, saying that he once painted another building of his, on Broadway, of a bright red color, and that the neighbors objected, but afterwards became reconciled to it. Mr. Gerry has the reputation of being a fair-minded and amiable man, and it ought not to be necessary to point out to him that a diamond merchant, to whom it is essential to be able to judge the color of stones correctly, could hardly carry on business in a glare of orange-colored light, however it might be with clothiers on Broadway. If the buildings opposite the flame-colored front were tenanted by artists, Mr. Gerry might count with confidence on seeing them pack up their goods and move away before his decoration was even finished, and there must be some limit to the right of a man to destroy his neighbors' business by his whims. He would probably not be pleased if the jewellers, unable to carry on their own business, should sublet their buildings to copper-smiths and soap-makers, yet their right to do so would be much less questionable than his right to indulge an extraordinary freak at their expense.

BUSINESS MOSAICS.

Joseph Budde will be found to be well represented in his line of sanitary appliances; every thing relating to good plumbing, including the various new designs will be seen in this exhibit. In fact it will almost tempt one to build a house in order to be able to fix it up with such closets as are here presented to view.

If you do not go to the fair, remember the number of Mr. Budde's factory and show rooms, 575 Mission street, San Francisco, Cal.

Conductor—"No smoking allowed." **IRISHMAN**—"I'm not smokin'." **CONDUCTOR**—"Well, you have your pipe in your mouth." **IRISHMAN**—"Sure I have my feet in my shoes but I'm not walking."

As the march of improvement goes marching on, our houses which at one time we only thought a shelter from storms, now demand attention to ornamental decoration and glass staining and decoration, and glass staining and embossing works come to the front. What can be more delicate in the way of ornament than a shelf of art glass in your favorite room. Now all these wants are supplied by Mr. John Mallon's Pacific Glass Staining and Embossing Works. Call and see the endless variety that can be finished by Mr. Mallon at 19 Fremont street and 1213 and 1215 Howard street, San Francisco, Cal.

Caller—"One of your sons is a minister and the other a physician, aren't they?" **MOTHER** (proudly)—"Yes; one preaches and the other practices."—*Detroit Free Press*.

Paraffine Paint Company are the only manufacturers of P. & B. Building Papers, Water-proof and Odorless; 500,000 square feet on the Midwinter Fair buildings were used as roofing. Anything in their line will be found at 116 Battery street where fair treatment and prompt delivery of orders make it a pleasure to do business with the firm. See their advertisement on page V in this journal.

As the merits of Fitzgerald Prepared Wall Plaster becomes known, the demand increases, nothing is a better assurance of a good thing, than the constant increase of its use; if you are in doubt where to go when you want your walls well plastered, call on the Pacific Patent Plaster Co., 216 Bush street, examine what they have to show, hear what they have to say and thus remove any doubt you may have on the subject.

Elder Sister—"Come, Clarence, take your powder like a man. You never hear me making any complaints about such a little thing as that." **CLARENCE**—"Neither would I if I could daub it on my face; it's swallerin' it that I object to."—*Life*.

The Bostwick Steel Lath Co. warns all persons from buying, selling or using the Turnbull & Cullerton Metal Lath, recently put on the market as an imitation of their old and unrivaled Lath; their notice of suit entered under their several patents covering their Lath and the machinery for making the same, and their guarantee to their customers against actions for infringements.

Penmen—"I'm getting out a book to be called 'First Aid for the Injured.' Tell me, what is the best thing to do when a bather has been in the water too long?" **OLD SALT**—"Send for the Coroner."—*Spare Moments*.

San Francisco Novelty and Plating Works, manufacturers of artistic metal work for bank, office, show window fixtures, elevator enclosures, cages, railing, etc. we have only to enter any of the lately finished bank buildings, to notice the great strides in this stile of work that has been within a short time. Gold, silver and nickel plating is no small part of the business of this firm, as well as the supply of gas and electric fixtures. Office First and Mission streets, San Francisco.

Gold, silver and nickel plating.—Every description of metal goods plated, at the old stand of the San Francisco Plating Works, 653 and 655 Mission street. E. G. Denniston the proprietor of these works has for so many years been at the old stand, and the work he has so faithfully executed, that he needs no notice to call the attention of old friends—but as new arrivals may not be so well posted where they can have work well done, we venture to call attention to his advertisement on page iii of this journal.

Mrs. Chatter—"Do you believe that cures can be effected by the laying on of hands?" **MRS. CLATTER**—"Most certainly. I cured by boy of smoking in that way."—*Spare Moments*.

Dixon's Graphite Cycle Lubricant.—The Joseph Dixon Crucible Co., Jersey City, N. J., are putting a Cycle Chain Graphite on the market, which for purity of graphite and usefulness is vastly superior to anything of the kind heretofore prepared. The graphite is not only of the choicest stock, but is ground to an impalpable powder, and then reground with a high grade of lubricating oil. This material, when applied to the chain of a bicycle, penetrates the bearings and thoroughly lubricates and protects them from wear and rust.

The Dixon Company will shortly put the same material on the market in the form of a solid stick, for the convenience of wheelmen who wish to carry it in their tool bags.

"Here," said the farmer, "just split up some of that railroad timber and I'll give you a good meal." **"Alas! I cannot,"** said the tramp; "the greater part of my life has been passed walking on such as those. It is too much like breaking up home ties."—*Puck*.

The Pacific Coast Door Co.—This is an incorporated company, office 808 Bryant street near Fifth, San Francisco, for the manufacture of doors, windows and blinds, a complete apartment of stock doors and windows, as well as sash weights and cord always on hand. Any kind of door will be made to order and estimates made for special work, T. A. Pettus, Superintendent.

We call the attention of our readers to the advertisement on the last page of this issue, of Phoenix Pure Paint. Phoenix Pure Paint has been largely used by the architects of the Pacific Coast for the last few years, and has proven itself a very meritorious article. As it is sold under a guarantee of absolute purity, architects find that where they specify it to be brought on a contract, in original unbroken packages, it saves them a great deal of trouble in watching their paint materials. Being a combination of strictly pure Lead, Zinc and Linseed Oil, it seem to be about as perfect a paint as can possibly be made. The manufacturers of this paint have demonstrated that it is possible to produce not only as good paint on the Pacific Coast as is made in the United States, but even a better article. Wherever Phoenix Pure Paint has been used it has proven itself to be of the highest possible grade, and we commend it to our readers as a perfectly safe paint.

"Er—has young Hifi come into his money yet?" **"Come into it?"** Great Scott, man! He's gone clear through it."—*Buffalo Courier*.

San Francisco Slate Co., rooms 4 and 5, 10th floor, Mills Building. The quarries of this company have a capacity of three thousand squares per month, are situated in El Dorado county in this state, the quality is every thing that can be desired, while the prices are the cheapest—what more can be asked for. Therefore if you want slate either for roofing or for vaults you will know where to go for a first rate article at a fair price. In our volume for 1893 you will find an illustrated article upon these slate quarries that is well worth referring to by those interested in this subject.

He—"Is that a love story you are reading?" **SHE**—"No; all the people in it are married."—*Chicago Inter-Ocean*.

The Vulcan Iron Works, 135 and 145 Fremont street, should be visited if you wish to get an idea what you can find in the way of architectural and ornamental iron works. Those about to furnish or remodel their stables should not go however, unless they wanted to be induced to order new fixtures all round as the temptation to do so will be great.

CITY BUILDING NEWS.

- Belvedere** near Waller. To build; owner, S. L. Strickland; architect, W. H. Little; contractor, F. G. Kronnick; signed, April 12; filed, April 16; cost \$3100.
- Broadway** near Hyde. Raising and altering; owner, Ellen Roward; architect, A. L. Roward; contractor, H. Behrens; signed, April 6; filed, April 7; cost \$1700.
- Bush** near Scott. To build; owner, Mrs. Anna C. Tietjen; architect E. Kollofrath; contractor, Wm. Loudon; signed, April 14; filed, April 16; cost \$3736.
- Buchanan** and Beach. Bulkhead and foundations; owner, S. F. Gas Co.; contractors, S. F. Bridge Co.; signed, April 25; filed, April 25.
- Capp** near Adair. Two flats; owner, D. B. Beaver; contractor, T. C. Cochran; signed, April 9; filed, April 9; cost \$4038.
- Clayton** near Oak. To build; owner, J. F. English; architect, J. B. Hall; contractor, J. J. Dunn; signed, April 10; filed, April 28; cost \$4900.
- Clarendon Heights**. Excavation; owner, Spring Valley Water Works; contractor, A. E. Buckman; signed, April 27; filed, May 3.
- Connecticut** and Napa. To build; owner, H. Lillenthal; contractor, H. Munster; signed, April 10; filed, May 2; cost \$2325.
- Dupont** near Green. To build; owner, E. C. Palmetre, et al; contractor, G. Massoletti; signed, April 18; filed, April 17; cost \$3675.
- Eddy** near Laguna. To build; owner, Jno. Ross; architect, R. H. White; contractor, Jas. Campbell; signed, April 10; filed, April 12; cost \$4245.
- Eighteenth** and Shotwell. Alterations to St. Charles Church; owner, Rev. P. J. Cummins; architect, C. J. I. Devlin; contractor, Dan Powers; signed, April 14; filed, April 16; cost \$4100.
- Fillmore** near Jackson. Mill work on two four-story frames; owner, Sarah Kahn; architect, E. A. Hermann; contractors, Pacific Coast Lumber Co.; signed, May 4; filed, May 8; cost \$1642.
- Fillmore** near Jackson. To build; owner, Sarah Kahn; architect, E. A. Herman; contractor, M. J. Gallager; signed, April 7; filed, April 9; cost \$4570.
- Fillmore** near Clay. A livery stable; owner, Gertrude S. Bowers; architects, Percy & Hamilton; signed, April 19; filed, April 20; cost \$17,760.
- Fillmore** near Washington. To build; owner, Mrs. T. Meyer; contractor, G. G. Gillespie; signed, May 9; filed, May 9; cost \$3000.
- Elbert** street. All work plumbing excepted; owner, Henry Beck; contractor, F. Hansen; signed, April 23; filed, April 23; cost \$2200.
- Elbert** and Webster. To build; owner, Richard Malon; architect, W. O. Banks; contractor, Geo. H. Walker; signed, April 30; filed, May 3; cost \$5700.

Florida near 22d. Foundation floors and roofing; owner, Jno. McAdams; contractor, H. P. Conrady; signed, May 1; filed, May 3; cost \$2350.

Folsom near Pacific Ave. A school building; owner, P. Leo Bruener; architect, R. A. Van de Paret; contractor, R. Frost; signed, April 20; filed, April 24; cost \$3,701.

Fremont near Market. Alterations, etc.; owner, H. Huntington Co.; architect, Wright & Sanders; contractors, Robinson & Gillespie; signed, April 10; filed, April 11; cost \$4273.

Golden Gate near Pierce. Alterations; owner, H. Bingham; architect, R. H. White; days work; cost \$4000.

Golden Gate Ave. near Baker. To build; owner, R. G. Wenzel; architect, E. J. Vogel; contractor, Robt. Currie; signed, April 14; filed, April 14; cost \$1800.

Golden Gate Ave. near Octavia. Plastering; owner, Wm. John; architect, Emil John; contractor, C. Dunlap; signed, April 27; filed, May 1; cost \$1150.

Golden Gate Ave. near Octavia. Plumbing; owner, Wm. John; architect, Emil John; contractor, Ickelheimer & Co.; signed, April 27; filed, May 1; cost \$2783.

Golden Gate Ave. and Broderick. Raising and additions; owner, Kate Oliver; architect, T. J. Welsh; contractor, H. Jacks; signed, April 27; filed, May 2; cost \$3887.

Haight near Broderick. Brick two-story frame; owner, Jas. C. Malon; architects, Shea & Shea; contractors, M. Fennell & son; signed, April 11; filed, April 16; cost \$1196.

Haight near Broderick. Plumbing; owner, Jas. C. Malon; architects, Shea & Shea; contractor, P. F. Ward; signed, April 11; filed, April 16; cost \$1070.

Haight near Broderick. Carpenter work, tin and plastering; owner, Jas. C. Malon; architects, Shea & Shea; contractor, P. Griffin; signed, April 11; filed, April 16; cost \$8945.

Harrison near Third. Alteration; owner, H. Goldstein; architect, W. H. Armbrage; contractor, T. C. Cochran; signed, April 2; filed, April 8; cost \$9100.

Howard near 11th. To build; owner, P. J. Stolz; architects, Martens & Coffey; contractor, Jno. Foster; signed, April 18; filed, April 20; cost \$5700.

Kissling near 11th. Brick work; owner, Verein Eintracht; architects, Martens & Coffey; contractor, J. Magner; signed, April 16; filed, April 21; cost \$1723.

Kissling near 11th. Carpenter work and iron; owner, Verein Eintracht; architects, Martens & Coffey; contractor, H. Behrens; signed, April 16; filed, April 21; cost \$19,000.

Kissling near 11th. Painting; owner, Verein Eintracht; architects, Martens & Coffey; contractor, J. C. Derbison; signed, April 16; filed, April 21; cost \$1550.

Kissling near 11th. Tin and iron work; owner, Verein Eintracht; architects, Martens & Coffey; contractor, J. D. Gear; signed, April 16; filed, April 27; cost \$1879.

Kissling near 11th. Plastering; owner, Verein Eintracht; architects, Martens & Coffey; contractors, H. E. Holgoth; signed, April 16; filed, April 27; cost \$1945.

Kissling near 11. Plumbing, etc.; owner, Verein Eintracht; architects, Martens & Coffey; contractor, C. Rehn; signed, April 16; filed, April 27; cost \$2193.

Leavenworth near Eddy. Raising and alterations; owner, Franz Acker; contractor, S. T. Crawford; signed, April 12; filed, April 12; cost \$2270.

Leavenworth street. Carpenter work, plastering and painting; owner, L. A. Phelps; architects, Townsend & Wyneken; contractor, L. N. Fletcher; signed, April 16; filed, April 20; cost \$2685.

Laurel Hill Cemetery. A vault; owner, Henry Williams; contractor, D. T. Pierce; cost \$2100.

Liberty near Valencia. To build; owner, G. H. Clifford; architect, R. H. White; contractor, W. W. Fancher; signed, April 18; filed, April 20; cost \$5000.

Lombard and Leavenworth. Alterations, etc.; owner, J. S. Hand; architect, H. D. Mitchell; contractor, M. P. Power; signed, April 20; filed, April 23; cost \$1885.

Market near 6th. Brick, granite, iron work; owner, F. Gutzkow; architect, E. Kollofrath; contractors, Richardson & Gale; signed, April 17; filed, April 18; cost \$27,700.

Market near 6th. Plastering; owner, F. Gutzkow; architect, E. Kollofrath; contractor, W. C. Watson; signed, April 17; filed, April 18; cost \$3815.

Market near 6th. Carpenter work; owner, F. Gutzkow; architect, E. Kollofrath; contractor, Adam Miller; signed, April 17; filed, April 18; cost \$30,650.

Market near 6th. Concrete to six-story brick; owner, F. Gutzkow; architect, E. Kollofrath; contractor, Geo. Goodman; signed, April 18; filed, April 18; cost \$430.

Market near 6th. Artificial stone; owner, F. Gutzkow; architect, E. Kollofrath; contractor, Geo. Goodman; signed, April 18; filed, April 18; cost \$1294.

Market near 6th. Painting; owner, F. Gutzkow; architect, E. Kollofrath; contractor, H. F. Wagner; signed, April 17; filed, April 18; cost \$1400.

Market near 6th. Plumbing; owner, F. Gutzkow; architect, E. Kollofrath; contractor, R. A. Vance; signed, April 18; filed, April 18; cost \$4690.

Market near 6th. Sandstone for six-story brick; owner, F. Gutzkow; architect, E. Kollofrath; contractor, D. Kilpatrick; signed, April 28; filed, April 28; cost \$7300.

Market near Post. Marble work; owner, Est. W. S. Hobart; architects, Percy & Hamilton; contractors, Inyo Marble Co.; signed, April 25; filed, April 28; cost \$11,904.

Market near Post. All heating work; owners, Ex. Est. W. S. Hobart; architects, Percy & Hamilton; contractor, W. W. Montague & Co.; signed, April 10; filed, April 13; cost \$2720.

Market near Post. Plumbing; owner, Ex. Est. W. S. Hobart; architects, Percy & Hamilton; contractor, W. F. Wilson; signed, April 10; filed, April 13; cost \$9765.

Market near Post. Carpenter work; owner, Ex. Est. W. S. Hobart; architects, Percy & Hamilton; contractor, R. Smilie; signed, April 10; filed, April 13; cost \$14,100.

Market near Post. Iron work; owner, Ex. Est. W. S. Hobart; architects, Percy & Hamilton; contractors, Dyer Bros.; signed, May 7; filed, May 9; cost \$2676.

Market near Octavia. To build; owner, Mrs. Carrie Fallon; architect, E. D. Govarich; contractor, Tim Williams; signed, April 9; filed, April 9; cost \$7000.

Mission near 4th. To build; owner, Jos. Westall; architect, C. R. Wilson; contractor, R. Boyd; signed, April 7; filed, April 12; cost \$16,500.

Minerva near Plymouth. To build; owner, Louis F. Messler; contractor, D. V. Devel; cost \$1000.

Mission near Tingley. To build; owner, G. Risto; contractor, G. Ratto; signed, April 18; filed, April 19; cost \$1200.

Minna near 7th. To build; Thomas Molloy and wife; architect, C. J. I. Devlin; contractor, R. Van Parent; signed, April 16; filed, April 24; cost \$1995.

Montgomery street, no. 427. Alterations, etc.; owner, Emma Egan; architect, J. B. Whittemore; contractors, Brodee & Hickox; signed, April 27; filed, May 2; cost \$2100.

Nineteenth and Guerrero. Carpenter work; owner, Mrs. Emma Lolar; architect, H. Geiffuss; contractors, Schutte & Kreeker; signed, April 11; filed, April 12; cost \$15,275.

Nineteenth and Guerrero. Painting; owner, Mrs. Emma Lolar; architect, H. Geiffuss; contractor, F. Wagner; signed, April 10; filed, April 12; cost \$2223.

Nineteenth and Guerrero. Brickwork; owner, Mrs. Emma Lolar; architect, H. Geiffuss; contractor, Jas. O'Sullivan; signed, April 10; filed, April 10; cost \$2333.

Nineteenth and Guerrero. Plastering; owner, Mrs. Emma Lolar; architect, H. Geiffuss; contractor, Arthur O'Brien; signed, April 10; filed, April 12; cost \$2293.

Nineteenth and Guerrero. Plumbing; owner, Mrs. Emma Lolar; architect, H. Geiffuss; contractor, H. Williams; signed, April 10; filed, April 12; cost \$2754.

Oak near Scott. To build; owner, Mary A. Rollins; contractor, Wm. Plant; signed, April 20; filed, April 23; cost \$3310.

Pacific Ave. and Devisadero. Carpenter work; owner, C. L. Ellinwood; architects, Smith & Freeman; contractor, R. M. Murray; signed, April 10; filed, April 16; cost \$13,110.

Pacific Ave. and Devisadero. Plastering; owner, C. N. Ellinwood; architects, Smith & Freeman; contractor, Alex. Mennie; signed, April 10; filed, April 16; cost \$1097.

Pacific Ave. and Devisadero. Mason work; owner, C. N. Ellinwood; architects, Smith & Freeman; contractor, S. B. Cushing; signed, April 10; filed, April 16; cost \$3475.

Pacific Ave. and Devisadero. Plumbing; owner, C. N. Ellinwood; architects, Smith & Freeman; contractor, R. Rice; signed, April 10; filed, April 16; cost \$5183.

Pacific Ave. and Devisadero. Painting; owner, C. N. Ellinwood; architects, Smith & Freeman; contractor, W. S. Udhani; signed, April 10; filed, April 16; cost \$1040.

Pacific Ave. 2118. Moving and alterations; owner, Asa Wells; architect, J. N. Newsum; contractor, R. Ringrose; signed, April 10; filed, April 19; cost \$1150.

Pacific Ave. near Broderick. Painting school house; owner, Board of Education; architect, C. J. Haven; contractor, C. H. Anderson; signed, April 20; filed, April 23; cost \$210.

Pacific Ave. Alterations, etc.; owner, Wm. Thomas; architects, Smith & Freeman; contractors, Ingerson & Gore; signed, April 24; filed, April 24; cost \$3200.

Page near Lyon. To build; owner, C. Dorgeich; contractor, Jos. Kemp; signed, April 24; filed, May 1; cost \$3680.

Post and Montgomery. Alterations and additions; owners, Masonic Hall Assn.; architects, Kenitzer & Barth; contractor, A. J. Sanborn; signed, May 5; filed, May 9; cost \$1885.

Post near Devisadero. Cement bulkheads; owner, H. A. Rosenbaum; architect, M. J. Lyon; contractors, P. M. Ward & Co.; signed, April 6; filed, April 9; cost \$1000.

Pine near Front. Brick work; owner, Kate C. Kirkham; architect, C. Geddes; contractor, G. R. Long; signed, April 6; filed, April 11; cost \$2550.

Pierce and Golden Gate. To build; owner, Nellie V. Bingham; architect, R. H. White; contractors, White Bros.; signed, April 12; filed, April 14; cost \$3278.

Pierce near Greenwich. To build; owner, Fred Haussler; architect, H. Geiffuss; contractor, W. H. Bush; signed, April 26; filed, April 27; cost \$3230.

Seymour Ave. near Turk. To build; owner, Jacob Schmidt; architect, A. C. Lutgens; contractor, Chas. Koenig; signed, April 31; filed, May 2; cost \$4125.

Sutter near Grant Ave. Alterations and additions; owner, Alice P. Sullivan; contractors, Ingerson & Gore; signed, May 6; filed, May 8; cost \$2915.

Tenth Ave. and Point Lobos. Extra brick work; owner, Wm. Danrowe; architect, H. Geiffuss; contractors, Flood & Watson; signed, April 5; filed, April 7; cost \$1180.

Twentieth near Capp. To build; owner, Jno Reid; contractor, J. T. Grant; signed, April 16; filed, April 27; cost \$9888.

Twentieth near Guerrero. To build; owner, J. T. Adeock; contractor, Adam Miller; signed, April 10; filed, April 23; cost \$4830.

Twenty-first and Alabama. To build; owner, Patrick McKaon; architect, T. J. Welsh; contractor, C. Douglass; signed, April 24; filed, April 28; cost \$3725.

Twenty-second near Fulton. To build; owner, Mrs. M. Morton; architect, M. J. Welsh; contractors, Brennan Bros.; signed, April 11; filed, April 12; cost \$1774.

Twenty-fourth near Folsom. Additions to house; owner, Margt. McGrath; architect, D. V. Duet; contractor, Chas. Fish; signed, April 13; filed, April 19; cost \$1200.

Vulcan Lane and Vallejo. To build; owner, T. E. Pierran; architect, C. M. Rousseau; contractors, R. Doyle & Son; signed, May 9; filed, May 9; cost \$9949.

Washington near Broderick. Repairs to building; owner, Mrs. C. D. McLean; architect, C. Geddes; contractor, Jas. Mix; signed, April 20; filed, April 24; cost \$1485.

Webster and Germania. To build; owner, Fredrick Huber; architect, Wm. Schrof; contractor, Henry Weiss; signed, May 9; filed, May 9; cost \$3930.

Zoe near Bryan. To build; owner, Timothy and Mary McAuliffe; architect, T. J. Welsh; contractor, A. Fisher; signed, April 11; filed, May 8; cost \$2667.

The California Architect and Building News.

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OFFICE, 408 CALIFORNIA STREET,

SAN FRANCISCO, CAL., U. S. A.

VOLUME XV.

JUNE, 20th, 1894.

NUMBER 6.

A MONTHLY JOURNAL DEVOTED TO THE ARCHITECTURAL INTERESTS OF THE PACIFIC COAST.

Published on or about the 20th of each month by The California Architectural Publishing Company. The Stockholders being Architects and others interested in the profession.

SUBSCRIPTION TO THE JOURNAL, \$3.00 PER YEAR IN ADVANCE.

ESTABLISHED 1879. NOW IN THE FIFTEENTH YEAR. INCORPORATED 1889.

W. J. CUTHBERTSON, President. OLIVER EVERETT, Secretary.

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ADVERTISING RATES:

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3 Inch.....	7 50	18 00	32 00	60 00
1 Column.....	12 50	35 00	65 00	125 00
2 Page.....	20 00	57 50	105 00	200 00
1 Page.....	40 00	110 00	200 00	350 00



In the last twenty-five years the American Institute of Architects and members of the profession who do not belong to that body, together with many others who are deeply interested, have been trying to bring about a reform in the method of designing and constructing buildings for the United States Government, but the efforts of a quarter of a century have failed, and although the Institute has labored long and earnestly, and has faithfully and persistently exerted every means of persuasion in its power, to convince Congress and the public, of the truth of its arguments, and justice of the stand the profession has taken in this matter, yet the goal is apparently no nearer than it was at the commencement of the crusade, and this unfortunate condition of affairs is the more discouraging, as success seemed at one time already certain. But although the Honorable Secretary of the Treasury remains wedded to the present system and thinks the machine made designs turned out under his supervision, to be the best that architecture can accomplish, and all the public should require, yet the Institute has bravely resolved to again take up the fight, and convince the public and its law-makers, that the public buildings of this country should be designed by the best professional talent in the land, working under the stimulating effects of ambition and emulation, instead of by draftsmen at a nominal salary.

The following is a statement of some of the existing facts

concerning this matter presented in a circular prepared by the Secretary of the American Institute of Architects, and which will be of interest to the tax-payer as well as to the patriotic citizen, who desires to think with pride, and not with shame, of the architectural monuments of his native land:

OFFICE OF THE SECRETARY OF THE AMERICAN INSTITUTE OF ARCHITECTS.
Providence, May 21, 1894.

THE ABUSES TO BE REFORMED.

- 1st. The needless cost of the public buildings.
- 2d. The needless cost of architectural service.

The authority for the figures quoted below is Mr. Glenn Brown's article in the *American Architect* of April 7th, 1894, entitled "Government Buildings Compared With Private Buildings."

Mr. Brown's statistics show the actual cost of a large number of government and private buildings, which he compares with each other, class by class.

COST OF BUILDINGS.

These statistics prove that the United States Government Buildings cost sixty-seven per cent more per cubic foot than private ones of similar construction, finish and size.

COST OF ARCHITECTURAL SERVICE.

Private "architectural service" covers the following:

Preliminary sketches, which include competitive drawings. The final designs of every sort. The working drawings, details and specifications. All necessary reproductions of drawings. All services of mechanical, sanitary, heating, electrical and constructional engineers, together with the draftsman-ship, details and reports, necessary to carry out their ideas. All paper, stationery, book-keeping, estimating and rendering of accounts, making of certificates, etc., etc. All preliminary and final adjustments.

For the above services the regular fee is five per cent on the total cost of the building. To this should be added the sum of one per cent, estimated on the cost of the building for travelling expenses, in case there are any, and for clerk-of-the-works, both of which are usually paid for by the owners themselves.

The cost, therefore, of complete private architectural service, including the clerk-of-the-works and travelling expenses, amounts to six per cent.

Mr. Glenn Brown's statistics, taken from the actual cost of a large number of *separate structures*, shows that the government expends for the same architectural service, as listed above, *over nine per cent* (9 per cent).*

COMPARISONS.

Cost of architectural service, public buildings	- 9 per cent
Cost of architectural service, private buildings	- 6 per cent
Excess of cost of government over private architectural service	- 50 per cent
But this last comparison is made as if the government and private buildings cost the same per cubic foot, which, however, is not the case, as the government buildings cost on an average sixty-seven per cent more than private buildings. The true comparison, therefore, on a basis of the same cost per cubic foot for private and public buildings is:	
Architectural service, public buildings,	15 per cent
Architectural service, private buildings	- 6 per cent
Excess of cost of government over private architectural service	- 150 per cent

NOTE.

It is stated by Acting Secretary of the Treasury Curtis, in House of Representatives, 53d Congress, 2d Session, Ex. Doc. No. 179, which was recently sent to the speaker of the House of Representatives, that:

"It appears from the schedule of fees customarily charged by architects that the expense of preparing plans, drawings, and specifications and administration under the act might be greater than at present, but how much cannot be satisfactorily determined until a definite and detailed scheme is prepared for its development."

Does the Acting Secretary mean that the extravagant system now in vogue in the office of the Supervising Architect of the Treasury Department must be retained, and that to the total percentage must be added, that paid to outside architects, should they be employed to make designs? If so, one of the main purposes of any new legislation, so far as the architects are concerned, should be cut off this frightful extravagance in the office of the Supervising Architect in order that the government may have its work done at the same price that individuals pay, and by means of a service more able, expert and satisfactory.

It is this very matter of enormous expense that we are striking at.

The government can have its work done as cheaply as anyone else, provided a mandatory law be passed, insuring the employment of the expert architects of the country.

THE ARCHITECTURAL RESULTS.

This point needs no argument:—That after spending fifty per cent more for a given building, and one hundred and fifty per cent more for full professional services than there is need of doing, and after taking from twice to ten times as

*"Civis" (Adolf Cluss, who from service in the office of the supervising architect knows whereof he affirms) in a paper on this subject printed in 1888, says that the architectural service cost the Government more than 118-10 per cent.

long to finish the structure, the result is inferior. The government buildings obtrude themselves upon us; are inferior not only to the *best* contemporary private structures, but to the *average* ones; few, if any, are well planned, and all are more or less offensive in appearance.

We wish to stop this great waste of the people's money, and to prevent the erection of any more structures which shall debase public taste.

LETTER FROM THE ACTING SECRETARY OF THE TREASURY.

* * * IN REPOSE TO HOUSE RESOLUTION ADOPTED MARCH 16, 1894, RELATIVE TO PLANS AND SPECIFICATIONS FOR PUBLIC BUILDINGS.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY, Washington, D. C., March 31, 1894.

SIR:—In response to a resolution adopted by the House of Representatives March 16, 1894, requesting the Secretary of the Treasury to inform the House of Representatives what measures, if any, had been taken by him under the act entitled "An act authorizing the Secretary of the Treasury to obtain plans and specifications for public buildings, etc.," approved February 20, 1893, and to inform the House what, if any further legislation is in his opinion necessary to carry out the provisions of the said law, I have the honor to make the following statement:

Early in March, 1893, the subject-matter of the act in question was brought to the attention of the Secretary of the Treasury by several members of the American Institute of Architects, and at their suggestion a conference was held on the twenty-second of March, 1893, at which the provisions of the act were discussed, and some of the difficulties in the way of putting it into practical operation mentioned. Subsequent thereto certain correspondence took place between the officers of the American Institute of Architects and the Secretary of the Treasury, and also between them and the Supervising Architect, individually.

Early in January, 1894, a committee of the American Institute of Architects submitted a written protest against the sketch plans of the United States public building at Buffalo, N. Y. which had then been prepared by the Supervising Architect and approved by the Secretary of the Treasury, and two conferences in regard thereto, one on January 10th and the other on February 6th of this year, were held by the committee with the Assistant Secretary of the Treasury, having general direction and supervision of all matters relating to the public business assigned to the Supervising Architect, the Secretary being unable to meet them owing to other engagements. These conferences, and the tenor of the correspondence arising therefrom, emphasized the inadequacy of the provisions of the act to accomplish the desired object, and it was then decided that the designs for the Buffalo building, which had been temporarily held in abeyance, be proceeded with, but that this should not prevent further negotiations in the endeavor to effect the intention of Congress in making the enactment. * * *

The following suggestions were made to the architects' committee:

That there was a conflict between the provisions of the present act and the provisions of certain other statutes regarding public buildings; that it was necessary to prepare a comprehensive scheme under which a competition could be arranged and a method provided for selecting a jury of award to pass upon the designs received in such competition; that the relations of the successful competitor with the Secretary of the Treasury and with the Supervising Architect's Office should be clearly established and defined by contract; that the required change in the method of preparing the plans, drawings, and specifications would necessitate a reorganization of the office of the Supervising Architect, a reduction in its force, the rearrangement of the different divisions, and the work to be performed therein; that they

should examine the workings and details of the office in order to make intelligent criticisms and suggestions thereon.

The act of March 3, 1875 (sundry civil act, section providing for payments, contracts, etc., for public buildings), was neither repealed nor amended, and this requires that—

No money shall be expended upon any public building on which work has not yet been actually begun until after drawings and specifications, together with detailed estimates of the cost thereof, shall have been made by the Supervising Architect of the Treasury Department, and said plans and estimates shall have been approved by the Secretary of the Treasury, the Secretary of the Interior, and the Postmaster-General.

This provision conflicts with the evident purpose of Congress expressed in the present act.

The Supervising Architect of the Treasury is the proper Government official to prepare a scheme for the competition contemplated in the act in all its various details. He has the necessary experience and acquaintance with his professional associates, and can give the time and attention required therefor. A proviso that such scheme should be approved by the Secretary of the Treasury would seem to insure the satisfaction of the public.

In the selection of a satisfactory design for a public building both practical and architectural questions are presented and any jury of award to pass upon the plans should consist, not only of architects, but also of business men or Government officials who are familiar with the practical uses and necessities of the public building under consideration at the time. A commission or jury of award consisting of five members, three of whom should be architects of recognized professional standing and experience, and two business men or Government officials to be appointed by the Secretary of the Treasury, and paid for their services while actually engaged in their work, is suggested.

Under the present act the successful competing architect will have the preparation of the plans, drawings and specifications, while the preparation of the proposals, the award of contracts, and the payment of all moneys are delegated to the Supervising Architect, and the latter is to perform all duties that now pertain to his office, except the preparation of drawings and specifications for the buildings and the local supervision of construction. This language fails to clearly define the duties of either. It would, therefore, seem necessary that the architect should have entire control of all the details pertaining to the construction of the building in the manner in which architects customarily control them, and the duties of the Supervising Architect be limited to a general supervision, to protect the interests of the Government during the course of construction, or that the competition should be limited to designs to be carried out by the Supervising Architect. In any event the Secretary of the Treasury should be authorized to use his discretion as to this, and directed to contract with the architect, and obtain an agreement defining strictly his duties and rights in the premises, the amount of his fees, the method to be followed during the course of construction, and to make any other provisions deemed advisable.

The office of the Supervising Architect is engaged with other work besides the construction of public buildings. It arranges for and supervises the repairs and preservation of the public buildings in the country, finished and occupied, numbering 273, the assignment of rooms therein to various officials as the needs of the public services require, the keeping a large number of records regarding the Government buildings, the proceedings regarding the obtaining of sites, the condition of the various appropriations and expenditures thereunder, and many other details. It would be necessary to retain a considerable portion of the present force of the Supervising Architect to carry out this work effectually.

It appears from the schedule of fees customarily charged by architects that the expense of preparing plans, drawings and specifications and administration under the act might be greater than at present, but how much can not be satisfactorily determined until a definite and detailed scheme is prepared for its development.

I am of the opinion, then, that in order to carry out the intention of Congress in enacting this law, it will be necessary to amend the act by substituting the following:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Treasury be, and is hereby, authorized, in his discretion, to

obtain competitive designs or complete plans, detailed drawings, and specifications for the erection of the public buildings of the United States authorized by Congress to be erected under his supervision and direction. The Supervising Architect of the Treasury Department shall prepare a scheme for free or open competition among the architects of the United States, therefor, such scheme to be approved by the Secretary of the Treasury. That the Secretary of the Treasury shall nominate and appoint a commission or commissions, each consisting of five citizens of the United States, three of whom shall be architects of recognized professional standing and experience, and two of whom shall be men of business or Government Officials who are familiar with the uses and necessities of the public building under consideration at the time, to select the best design or complete plans from those submitted in accordance with the scheme of competition hereinbefore provided. The members of the said commissions shall be paid their actual travelling expenses and subsistence while actually engaged in the performance of their official duties.

The expenses of the commission and the fees for the services of the architect successful in said competition shall be paid from the appropriation for the building respectively passed upon or designed. In case the complete plans, detailed drawings, and specifications are furnished by competition, as herein provided, the Supervising Architect of the Treasury Department shall be the representative of the Government to inspect the erection and completion of the building, the receipt of proposals, award of contracts therefor, and the disbursement of moneys thereunder. In case designs only are supplied by competition, the Supervising Architect shall perform the duties now required of him by law, in the usual manner, excepting the preparation of such designs. That in the discretion of the Secretary of the Treasury, the architect selected as herein provided to furnish complete plans, drawings and specifications shall have the entire direction and control of the construction of said building, and the direction and control of the local superintendent of construction, and the Secretary of the Treasury is hereby authorized in all cases to make a contract with said architect for his services, providing for such erection and control, fixing his duties and responsibilities during the construction of the said building, and making proper provision for modification or change in the plans and specifications during the progress of the work, and for additions thereto; also determining the amount of his fees and charges, and including such other provisions in the contract as may, in his discretion, appear advisable to protect the interests of the Government. Any or all of the designs, or plans, detailed drawings and specifications presented in the competition herein provided may be rejected by the commission, and in case the competition fails for any cause, or it is practicable to obtain designs or plans, detailed drawings, and specifications by competition, the Secretary of the Treasury shall direct the Supervising Architect to prepare plans, drawings and specifications and supervise the construction of the building in the usual manner according to law.

All acts or parts of acts inconsistent or in conflict with this act are hereby repealed.

Respectfully yours,
W. E. CURTIS,
Acting Secretary.

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

OUR NEW POSTOFFICE.

THE Treasury Department has been urged by Representative Maguire to commence work on the new San Francisco Postoffice, and according to a dispatch in the daily papers it is probable that early action will be taken to this end.

The new building is to be of classic architecture, comprising three stories and basement, with a square elevation over the main entrance, which is to be on Seventh street. The four corners of the elevation will consist of pillars surmounted by appropriate statues. The external plans of the building are as yet but roughly drawn, and the Supervising Architect will not permit any inspection of them or any photographs or copy to be taken until they have been perfectly finished, which will not be for three or four weeks, as the force of the Architect's office is wholly inadequate to the work now being carried on.

The completion of the floor plans of the building has been greatly delayed by the insufficiency of the force in the office. The Supervising Architect states, however, that the building when completed, according to the approved plans, will be from an artistic standpoint one of the handsomest in the United States.

The attempt of Representative Bankhead to delay the

erection of this building till he has had time to prove that the Government paid too much money for the site, is sheer folly—nobody expects or hopes that any portion of the excessive price can be recovered, and still less expects that the vendors will consent to take back their lot. This being the case, the building must perforce be built on the lot now in possession of the Government, and to delay the erection of the building now, would be only to add another blunder to the folly already consummated. As besides the advantage of giving employment to many workmen now idle the importance of having the building finished as soon as possible cannot be too strongly impressed upon the powers that be. In fact we want the use of the new Postoffice without any delay.

HOSPITAL PLANNING.

A PAPER READ BY MR. GEO. H. SANDERS BEFORE THE
SAN FRANCISCO CHAPTER OF THE AMERICAN
INSTITUTE OF ARCHITECTS, ON
JUNE 9, 1894.

GENTLEMEN:—This paper on hospitals is merely an introduction to a series of articles taking up the subject of hospitals, past and present, in the endeavor to treat the subject tentatively by gathering up such available information as has gradually developed, along the line of adaptation of ends to purposes, from the first inception of the idea to the present time. The object will be to demonstrate the advantage of closely following up the evolution of motives in architecture, by showing that the only progress ever substantially made in art, as in science of any kind is that effected by the one only process of advancing step by step in a definite direction rather than by merely travelling in a circle or series of circles as the case may be. True it is that the real advance will be made in this way, perhaps by "natural selection" or "the survival of the fittest," or shall we not rather say as applied to architecture *progressive adaptation*, or, by whatever term is employed, *principle* is meant which is just as evident in architecture as in any other of the arts of mankind. The point I wish to make is, that by the practical recognition of this principle in the art of design, of which architecture is undoubtedly the first and chiefest, the younger element amongst us, at least, may be led to train their energies by a definite effort in one direction, instead of being led astray in a mad chase after the will-o-the-wisp of mere popularity for the time being, of some one or other, of the many beautiful forms which art has assumed in the past.

We cannot clothe ourselves either becomingly or comfortably in the cast off and worn out habiliments of our ancestors, remote or recent. All our modes of construction at the present time should be the result of past experience, wedded to new conditions, and the result would be—progress. Witness the development of the ship. From the catamaran of the Malay, to the oceanic greyhound of the present time; from the warship of the Norseman, to the modern man-of-war, a continual uninterrupted progress is visible—and what a progress! From the cave temple of the ancient Etruscan or the mighty Trilithons of Stone-Henge, to the vast cathedral of the fifteenth century, again what a progress! It is only where the latter is clothed like St. Peter's or St. Paul's in the effete forms of the architecture of the Augustan

age that a step backward has been taken and with what disastrous consequences. From that day, progress in architecture has been hampered by conditions inimical to success, and we find ourselves making shorter and shorter circles, and ringing the changes by periodically reverting, not only to the erst time noble forms of Greece and Rome, but, in time debasing every beautiful creation of every age, and of every land, by absurd parodies in every style, from Romanesque to Old Colonial, and from Egyptian to Japanese, utterly regardless of adaptation of means to ends, or materials to uses, until a modern city has become little more than a mere collection of imitation architectural bric-a-brac.

True, we have the elevator, electricity and steel, together with the unknown possibilities of aluminum. What these and other modern improvements of the present day will develop in the coming century, who can say? Let us hope and strive for the best, and our efforts, however feeble and inefficient individually will not be wholly in vain.

Historically, there seems to be but little evidence of hospitals proper amongst the ancients. The Eastern Kahn or caravansary appears to have been the earliest form of which the hospital of modern times, with all its elaborate sanitation, multiplication of parts and aggregation of conveniences is the heir lineal.

Plato speaks of refuges for travellers and there were Inns in the time of Christ, in one of which He was born—the first lying-in hospital on record! The Good Samaritan also is described as taking the wounded traveller to an Inn. But the Beth-Esda or "Home of Mercy" by the sheep market in Jerusalem, which consisted of five porches or sheds it may be, in which a multitude of sick folks awaited the moving of the waters (of a spring probably possessed of medicinal qualities,) is the first example we read of, describing the forerunner of a modern "springs" hotel, the sojourners at which like the Beth-Esdans of old, seek the angel of mercy in the waters of healing for the relief of their physical ailments.

But eight hundred years or more before the Christian Era, (so says Phœnician tradition) the springs located on the site of present town of Bath in England, were resorted to from far and near on account of their curative properties, and only a few years ago, in the neighborhood of the present baths, which are still copiously supplied by the warm waters of the original spring, the remains of extensive Roman baths were uncovered, showing how that practical people had taken heedful note of the situation, and had devoted to public use the local "natural opportunity." Architectural remains of considerable magnificence were revealed. The property has been appropriated to public purposes, and the ancient basin is still brimming with the medicinal flood as of yore.

But the above is a digression; neither the Bethesda nor the springs having more than a relative significance in this connection.

Etymologically, the word "hospital" seem to have been evolved from the word "hospes", indicating "host," and is easily traced through its derivatives, "hospitalis," "hospitium," "hospitale," "hospitalia," and thence through the English "hostel," the French "hospice," "hospital" and "hotel". In the process, the last four terms seem to have served to differentiate the meaning of the word into its several designations, (1st) as a place of temporary residence, as an inn; (2nd) a temporary residence for the sick; (3d) a permanent residence for the poor and the infirm, the aged, the incurable and the insane, answering in some degree to the English

alms-house, and (4th) a term applied to dwelling houses both public and private.

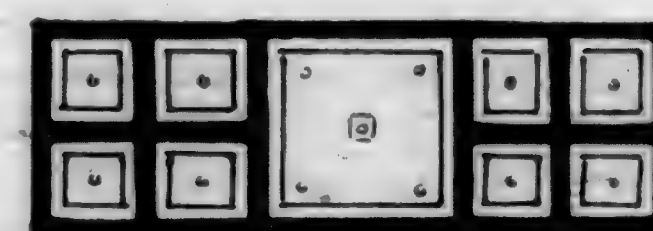
Amongst the English, the word "hospital" (adopted from the early French) and directly derived from the Latin "hospitalis" and the Italian "ospitale", frequently includes both the first and second of the above meanings. It is also commonly applied to structures specially designed for the exclusive reception of one or other of the different classes of disease, such as the blind, the insane, the deaf and dumb, etc. Whilst *infirmaria* from "Infirmaria", a place set apart in monasteries for the reception of the sick, the infirm, the weak, the blind, etc., has come to be applied extensively to structures designed for the general reception of those afflicted with disease both acute and chronic.

Amongst the Greeks of the time of Pericles there seems to have been but scant provision for the care of the sick in any sense, and with the Romans, while the "valetudinarium" and a medical staff, appear to have been provided for the army there seems to be no indication of anything like a hospital for the use of the general public having been in existence.

It was not until 370 A. D. that we read of a hospital founded by Valens in Caesarea, and another, in Rome in 382-4 by a Roman lady, Fabiola by name. These were probably the first establishments on a scale sufficiently large to attract historical notice of a sentiment which must have been growing constantly under the influence of the new religion which made the welfare of the individual a matter of interest to the public, based on duty, rather than on self-advantage. In other words, these early hospitals, which were, possibly, also almshouses, must have been the final outcome of many previous attempts of a tentative character. However this may be, it is certain that the real origin of the modern hospital is to be found in the monasterial "infirmaria", rather than in the "hospitales" of the Romans or "Zenon" of the Greeks.

During the Middle Ages, as above remarked, the "sick" and "indigent" appear to have been tacitly relegated to the care of the various monasteries, which became, virtually, houses of entertainment, as well as the resort of people of all conditions of life throughout the civilized world. The "infirmaria" and the "infirmarius" became permanent and very important constituents of every monastery and nunnery, and although there is no doubt that under the then existing conditions of society, they were a vast and almost indispensable benefit, there is plenty of evidence to show that many evils had their origin in these institutions as well. This arose from the absorption of the infirm into the benefices of the Clergy, with the easily understood result of inefficiency and malfeasance in the conduct of these departments, so that many regulations had to be issued by the Roman Pontiff, restraining and forbidding the wrong practices which had arisen.

The best example known of an infirmaria of the Middle Ages, is that of the projected plan of the great Monastery of St. Gall (9th Century) in which the wards apparently for



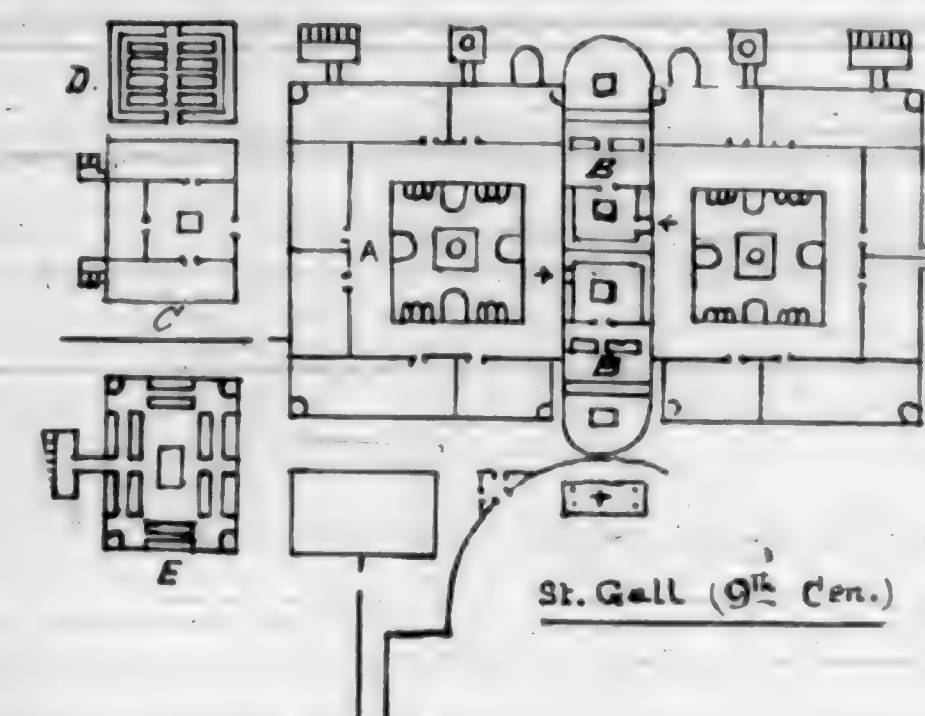
OSPITAL GRANDE
MILAN (1567)

both sexes are seen arranged around a cloistered court or garden on one side of a double Chapel. There is also a

doctor's residence, a garden for medicinal herbs and "simples", a dispensary and other details of arrangement so complete and well understood that it is evident the whole was the result of system and practice, no longer in the experimental stage.

The first regular hospitals erected for the purpose in England, were those founded by Lanfranc, Archbishop of Canterbury, in London, A. D. 1080; one for leprosy and one for ordinary diseases.

Amongst the many notable hospitals of the world, perhaps the most noted of them all, is the "Ospedale Grande" in Milan, Italy, begun in 1456 and completed in 1621. It is certainly one of the grandest, if not the very grandest, building of the time, built for such a purpose, during the whole period preceding the great hospital-building epoch of the eighteenth century, and still holds its own, not only in regard to beauty an appropriateness of design, but also on account of climatic adaption to the purpose for which it is intended. It consists of an immense garden court adorned with fountains, and blooming with flowers, the court is 340 feet square with a block about equally large at each end,



divided into four smaller courts, each and all, surrounded internally by two story cloisters or arcades on to which the wards open, thus affording cool shade in the brilliant Italian atmosphere, as well as shelter in all weathers for those who are able to move about. Of course the general arrangement of the wards round courts is not that of a modern hospital, and there is no doubt but that the pavilion plan is much superior to any connected system of wards or series of wards such as that employed in the Ospedale Grande, nevertheless, for the time in which it was erected and with the experience and conditions such as those then existing in Italy, the structure presents fewer defects than under the circumstances would be expected. It was, however, during the eighteenth century above alluded to, that the hospital became as did the cathedral of the thirteenth century, the special object of attention in the civilized countries of the world. In Great Britain and Ireland alone, upward of fifty of these great structures were erected, and in every country of Europe the same activity in this direction was observable. The evolution of the hospital idea, as in future papers will be seen, has served to develop as before mentioned, the special characteristics of these structures in a remarkable manner, but this must be left for consideration in our next paper.

M. S. James the Pacific Coast Agent of The J. L. Mott Iron Works has removed his office from Room 45 Flood Building to Room 35 in the same building.

PORTLAND CEMENT IN THE CITY WATER WORKS OF PORTLAND OREGON.



THE Engineer in charge of the City Water Works of Portland, Oregon, furnished the following report to a committee of one hundred representing the tax-payers of that city, in refutation of charges that had been made of favoritism in the awarding of the contract for furnishing the cement to be used in the work.

Those interested in the use of cement and concrete will be interested in the table of comparative tests contained in the report which follows:

ENGINEER SMITH'S RECOMMENDATION.

It was finally agreed to read the communication of Engineer Smith, with the accompanying extracts from minutes of the board and exhibits pertaining to the analysis of the different kinds of cement. The letter is as follows:

OFFICE OF THE CITY WATER WORKS,

PORTLAND, OR., MAY 11, 1894.

H. W. CORBETT, ESQ., PORTLAND, OR.—Dear Sir: I enclose herewith a transcript, prepared by Mr. Dodge, of all proceedings of the water committee in relation to the cement contracts; also specifications on which proposals were made, and a copy of the reports of the engineers on the tests made in accordance with the specifications.

According to the specifications, it was necessary that the cement should conform to the requirements stated in article 8, in relation to fineness, time of setting after mixture, tensile strength, etc.

The result of the tests for fineness and time of setting is shown in the following table, from reports of the engineers:

PROPOSAL TO FURNISH 15,000 BARRELS CEMENT.

Brand	Price bid per barrel	Per cent of residue on sieve of 3800 meshes per square inch	Cost per bbl. of available cement after rejecting on sieve of 3800 meshes per square inch	Time of setting minutes
Josson	\$2.50	4.05	\$2.60.52	75
North	2.50	5.00	2.63.15	42
Whites	2.45	8.54	2.67.88	42
K. B. S.	2.40	10.70	2.68.78	20
Gresham	2.40	12.70	2.74.91	25
Gillingham (Extra)	2.60	6.16	2.77.07	22

The residue of the cement remaining in the screens after testing is of no greater value than so much sand, as was shown by specimens presented to the committee.

The bid on the Josson cement was \$2.50 per barrel, but as it contained 4.05 per cent of refuse, the cost per barrel of the pure cement was \$2.60.

The bid on the Gresham cement (from George Pope & Co.) was \$2.40 per barrel, but as it contained 12.70 per cent of refuse, the cost of the pure cement was \$2.74 per barrel.

From this test it appears not only that the cements offered by Taylor, Young & Co. were the cheapest, but that they were the only ones coming up to the requirements of the specifications in relation to fineness.

When cement sets before being used it is of no value, and therefore it was stated in the specifications that all cement setting within thirty minutes after being mixed would be rejected.

In this respect also the cements offered by Taylor, Young & Co. were the only ones coming up to requirements of the specifications.

For these reasons all bids were rejected, except those of Taylor, Young & Co. and Meyer, Wilson & Co., and the

engineers were directed to make further tests for tensile strength at intervals of three, seven and twenty-eight days.

After making these tests the engineers reported that the Josson brand was superior to all the others in cost, fineness and strength.

The reason for letting a contract for 30,000 barrels, instead of the 15,000 barrels called for, are stated in the following extract from the report of the engineer:

"When I first called for 15,000 barrels, I understood that there were 45,000 to 50,000 barrels of standard brands of cement in the city, all of which I supposed would be available, and I mentioned 15,000 barrels as a quantity desirable to start on the works, and sufficient to contract for at once, presuming that the remaining amount could be had at any time during the year; but after making our tests it developed that the Josson was the only brand that fulfilled all our requirements, and in order to get what we need of that this year, it was necessary to order more immediately. There is no time to wait and advertise for more bids, and there would be no use doing so if we stick to our specifications."

For making the tests a new Fairbanks cement-testing machine, borrowed from Mr. McCracken, was used, and all bidders were invited to be present at the testing of the different brands.

The tests were all made in the same room, with the same proportion of water, and under like conditions.

Mr. Graves, the representative of Messrs. George Pope & Co., was frequently present when the tests were made, and expressed himself as being perfectly satisfied with the results. The same gentlemen brought to the office several briquettes, which he said had been made by Mr. Pope, and they were tested at his request.

Mr. London for Balfour, Guthrie & Co., also had the mixtures made in accordance with instructions from the English makers, and was present when the tests were made.

Mr. McCracken was also present at some of the tests which were made with his own machine, and so far as I know, expressed no dissatisfaction at the results.

All the tests have been registered and can be inspected, although they were not furnished for publication.

The tests all show, not that the rejected brands are of a bad quality, but that in respect of strength, time of setting, fineness and cost, the Josson brand was the best of all.

Respectfully yours,

ISAAC W. SMITH,

ENGINEER OF THE WATER COMMITTEE.

NOTE—The bid of Corbett & Macleay for 11,500 barrels was not in accordance with the specifications, which called for 15,000 barrels, but it would have been accepted if the engineers had not reported that after making the tests it proved to be deficient in strength.—*The Sunday Oregonian*, Portland, May 13, 1894.

INGENUITY IN SHINGLING.

THE Ferguson Cedar Shingle Company, at Latona, have hit upon a happy idea to save the transportation of waste material from the woods to their mill by removing their "cut off" saw and "knee bolter" to a point on the Seattle, Lake Shore and Eastern road where it crosses the Pillchuck creek. There the company have put in a boom and established a camp. The bolts are taken from the water and sawed and trimmed ready for the shingle saw. By means of an endless belt they are loaded upon cars especially prepared to receive and transport them to their mill at Latona. The saving in transportation is estimated at one-third and saves the necessity of maintaining a fire to consume the waste, thereby lessening the danger from fire. The change has also enabled them to increase their daily output from 90,000 to 120,000 per day.—*Seattle Intelligence*.

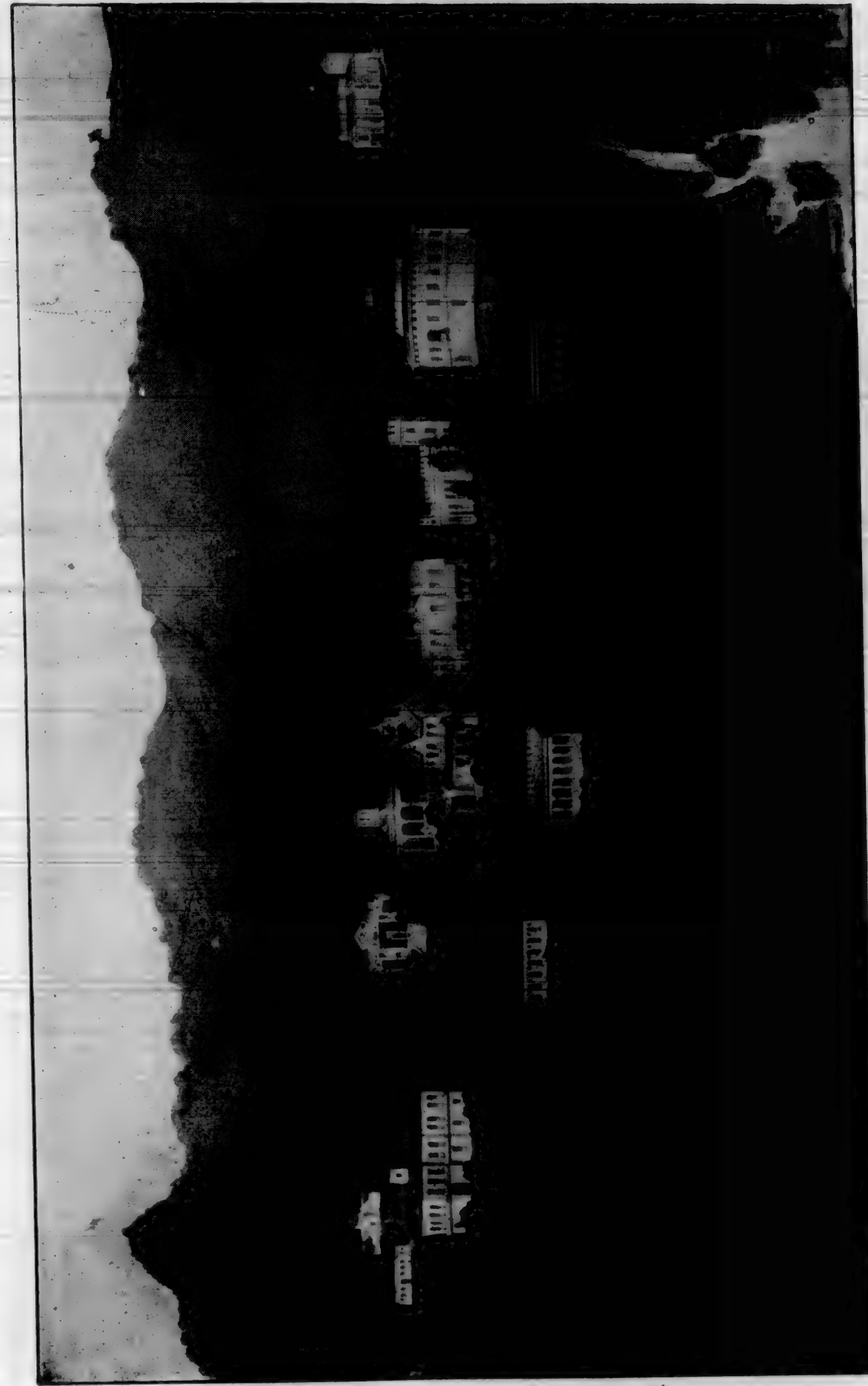
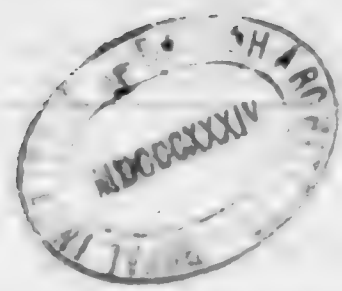


EDWARD B. HINDE & CO'S. EXHIBIT, MANUFACTURES AND LIBERAL ARTS BUILDING.

CALIFORNIA MIDWINTER INTERNATIONAL EXPOSITION.

CALIFORNIA ARCHITECT AND BUILDING NEWS,
SAN FRANCISCO.

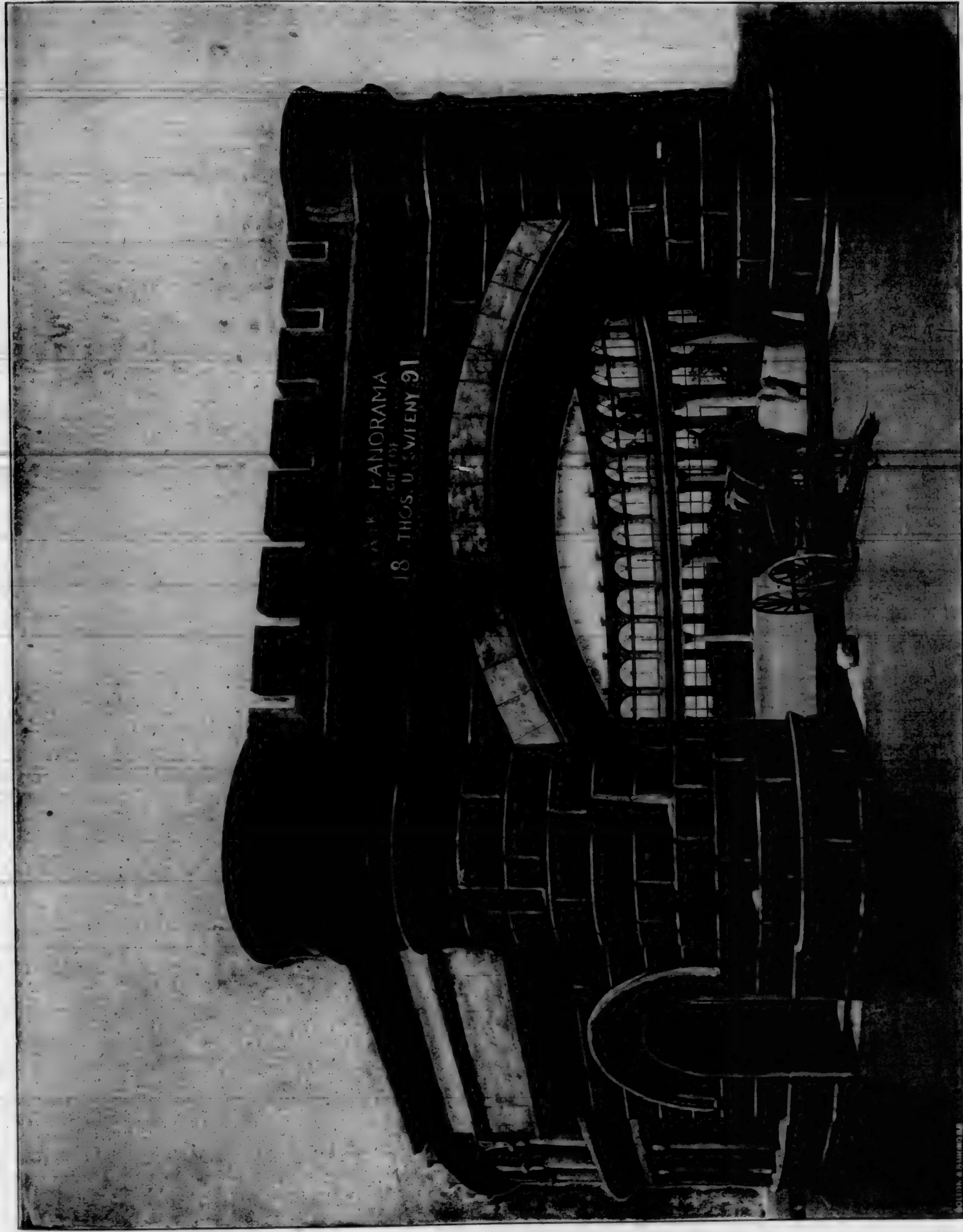
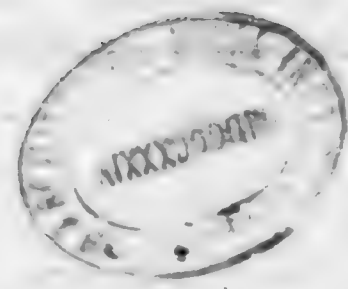
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NAPA SODA SPRINGS.

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