

plemented by an instrumental reconnaissance of the Napipi and Cuia Rivers, including a reconnaissance of the Atrato River to the town of Quibdo, by parties under the direction of Commander T. O. Selfridge, U. S. N., 1871-1873.

IX. It caused a tentative examination and definite instrumental location to be made of an inter-oceanic canal by way of the Napipi and Doguado Rivers by Lieutenant Fredrick Collins, U. S. N., 1875.

X. Congress caused the work of Commander Lull, at Nicaragua, in 1872-3, to be supplemented by parties under the direction of Mr. A. G. Menocal, C. E., U. S. N., in 1880-1 and 1885-6, the nature of this Government work of Mr. Menocal being an instrumental survey and definite location of an inter-oceanic canal via Lake Nicaragua, including the location of the necessary dams, locks, etc. This later work of Mr. Menocal's being subsequent to all the Government surveys was made after the Government of the United States had determined, through what is sometimes called its high commission, that the Nicaragua Route was the most feasible of all the routes, and the survey was made with the express object of carrying out the provisions of the Zavala-Frelinghuysen treaty. (Government Construction and Ownership of the Nicaragua Canal.) The main provisions of this treaty will be adverted to later.

CRITICISMS OF THE SURVEYS OF POSSIBLE ROUTES.

It has been said of these various routes by Professor Nourse, of the United States Navy one of the very highest authorities on this subject:

I. That Tehuantepec, though possessing large natural and political advantages, requires 140 locks to overcome an elevation of 754 feet, and a feeder 27 miles in length.

II. That the Panama Line is the shortest of all the routes, not involving a tunnel. It is liable to the heaviest of tropical rains, falling in the Culebra section upon a trench nearly 500 feet in depth. It is also liable to the sudden rise of the River Chagres. The climate of Panama is notoriously a physical obstacle, which must be considered in any estimate of the advantages and disadvantages of the route. * *

III. We come now to the San Blas route. Of this route Mr. Nourse says though the shortest of all the proposed routes, the distance from tide to tide being only 19.5 miles, and although the harbors at both termini are exceptionally good, it must be eliminated from the problem of canalization by its demand for a tunnel from seven to eight miles in length.

IV. The Atrato-Napipi Route, fully surveyed by expeditions under Commander Selfridge and Lieutenant Collins, which were supplemental to the extensive surveys under Michler, Craven and Trautwine, must also be eliminated, in the opinion of Mr. Nourse, by reason chiefly of a like demand for a tunnel. The late eminent civil engineer, Trautwine, estimated the cost of a canal by this route at from \$300,000,000, to \$400,000,000. * * *

V. The Nicaragua Route. This route has, as a grand interior basin and feeder, a lake of 2,600 square miles (4½ times the area of the Bay of San Francisco). It has a healthier country, and more abundant supplies for construction, than any other route. Its supply of native labor is large; it is better than that of any other route. In works of magnitude in tropical countries this is a most important consideration. Except the Tehuantepec route, it is nearer by 700 miles to the United States and its commerce. Its termini lie without the equatorial belt of calms, and if those termini can be built up and restored they will be easily accessible to sailing vessels. * * *

It has been my purpose to lay before the Society the main features of the various Isthmian routes so that it may be able to form a general judgment of the comparative merits of all. I have dwelt at no great length upon the merits of the Panama Route, nor at all upon the merits of the Eads ship railway at Tehuantepec. They may both be practicable and highly meritorious plans, but I do not consider it necessary at this time to farther occupy the time of the Society with these possible undertakings.

I will state, generally, however, in the language of Professor Nourse, in order to enable the Society to form its opinions, that: "To meet the requirements which commerce,

supported by all the advanced appliances of this day imperatively demands, the transit must offer the allurements of a full, uninterrupted, safe and speedy transportation. It must be a water highway, through which the largest sea-going vessels, with a tonnage of even 6,000 or more, may pass without breaking bulk; and, it must be remembered, that all experience proves the justice of the statement that railways and canals are supported by the carriage of different species of merchandise—products of great value and small bulk voluntarily selecting the more rapid channel of the railway, while others choose the maritime route." *

CONSTITUTIONAL POWER OF THE GOVERNMENT TO CONSTRUCT AND OWN AN INTER-OCEANIC CANAL.

At this date it is hardly necessary to remind you that the Government of the United States would have the full constitutional power to construct and own the Nicaragua Canal, and operate it in the interest of its people, in the same way that it has improved the Mississippi and the Great Lakes. Indeed, the very convention which framed the Constitution of the United States, by a vote of eight to three, denied the power to the General Government to grant a charter to a private corporation for the purpose of cutting canals in cases in which the authority of a single State would be insufficient (Madison Papers, 1576.) And the same reference will show that it was the intention of the framers of the Constitution to grant the power to the General Government to do directly for the people that class of work.

The direct improvement by the Government of the harbor of Pago Pago, in the Samoan Islands, and Pearl Harbor, in the Hawaiian Islands; the purchase known as the Louisiana purchase, of Florida, and of Alaska, all furnish ample precedent for the direct action of the Government itself at the Nicaragua Route, either by purchase or under treaty with the Nicaraguan Government.

At one time there were a few who thought the General Government would become too powerful or too corrupt if it directly undertook matters of internal improvement. To those I wish to say that they are repeating the arguments of the private speculators. Your Government has become infinitely more corrupt through going into partnership with private corporations, and vastly more injurious and oppressive to the great body of the people from this single circumstance, than from all others combined. If Government legislators were not allowed to sell everything in sight under the name of a Federal franchise, and pocket the proceeds, the body of the American people would have vastly more than they have at present, and an era of congested wealth in the hands of a few would not be upon us.

THE DEMAND IS UNIVERSAL THAT WE RETURN TO SOUND PRINCIPLES OF GOVERNMENT.

When the several States composing the United States surrendered to the General Government the power "to coin money and regulate the value thereof" (Const. U. S., Art. I, Sec. 8); and to issue its treasury notes and greenbacks (the construction put upon the power by the Supreme Court); and in addition thereto denied to themselves the power "to coin Money; emit Bill of Credit; make any Thing but gold and silver Coin a Tender in Payment of Debts" (Const. U. S., Art. I, Sec. 10); and denied to themselves the further power to raise a revenue by duties on imports—indirect taxation—(Const. U. S., Art. I, Sec. 10); and when they granted this power to the General Government (Art. I, Sec. 8), the several States *did*, under the Constitution, effectively surrender the PURSE to the General Government. Since, then, the General Government confessedly and effectively holds the public purse, the law-abiding people of the United States must naturally and of right look to it for all necessary internal improvements for the general welfare. The several States, as we have seen, cannot *directly* construct these works, for they placed the means, their purses, in the hands of the General Government.

The purpose of this grant of the purse to the General Government is, *amongst* other things, that Congress shall have power "to establish postoffices and postroads" (Const. U. S., Art. I, Sec. 8). "Congress shall have power to regulate commerce among the several States"—*Id.* The purse

and the powers enumerated are granted to the General Government to prevent it from turning the people over, in these particulars, to powerful private corporations, to those whose selfish purpose and whose daily practice is to crush out and enslave the people who must use these avenues of commerce.

These great grants of power, with the necessary means to enter upon and discharge the duty and power, were never bestowed upon the General Government to enable it to abandon the people, in these sovereign, governmental and civilizing particulars, to their natural enemies; to those whose interest it is to make all they can out of commerce. It is a rudimentary legal maxim that delegated power cannot be delegated, nor can a sovereign power permanently divest itself of any attribute of sovereignty except by voluntary and total dissolution.

The power in Government of making internal improvements for the benefit of the people is not a power in any country dangerous to liberty. On the contrary, it is the one power, of all others, in a civilized country which, when exercised by Government, is the surest guarantee of liberty, and the real power which prevents the enslavement of the masses of the people by the very strength and knavery of our alleged civilization. It is a power resident in the Government which should protect the people from being turned over, bound hand and foot, to the soulless and the avaricious, to the purchasers of legislation. It is that power which, if exercised strictly and entirely by the Government, is for the general welfare and is truly civilizing.

Those powers which are dangerous to liberty are directly and specially granted to the General Government of the United States. All admit that the power of levying taxes, of raising armies, of equipping navies, and of carrying on war, are specifically granted the General Government.

The purse and the sword are the only instruments that are wanted or can ever be employed for the accomplishment of any ambitious purpose. These having been abandoned to the discretion of the General Government, with what propriety can we apprehend danger from the power to construct a sub-treasury, lay out a canal or road, build a bridge, or improve and join our coasts?

Some one has said: "This would be about as unreasonable as if a lady, who had granted to one of her admirers the name and essential privileges of a husband, should afterwards consider it hazardous on the score of delicacy to accompany him on a journey, or take his arm in a promenade."

Did Caesar, Cromwell or Bonaparte subvert the institutions of their respective countries by laying out a road or canal in the interest of the people? Did they subvert the institutions of their countries by building up its commerce or by causing general and individual prosperity?

It has been reserved for a people living under the form of a free Government to witness almost the subversion of their institutions by a power vastly more dangerous to liberty than that of Caesar or of Cromwell, because it is more insidious and least understood, and more relentless in its grasp upon the people; because it is unrestrained by either the law or the press. Corporate power is fast becoming the law; corporate power is fast becoming the press.

The Government of the United States is one ordained for the 'general welfare.' It is not established for the building up of powerful private corporations to accomplish the destruction of the people of the United States. I confess that in this undertaking, and in all others, I wish to see the people of the United States go forward from achievement to achievement, from height to height, and from glory to glory."

THE woman who distrusts man in the abstract, can always be taken in by man in the concrete.—*Brick.*

NOTICE OF MEETINGS.

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

SAN FRANCISCO CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.

THE regular monthly meeting of the San Francisco Chapter of the American Institute of Architects was held on March 9th, President Babson in the Chair.

Mr. Reid reported progress in the matter of housing the



COTTAGE AT ROSS VALLEY, J. CATHER NEWSOM, ARCHITECT.

chapter library, binding periodicals, etc. No action was taken in the matter of the appointment of an inspector of electrical work, the subject being postponed to a future meeting.

Mr. Edgar Marx Lazarus, architect, of the firm of Ellicott & Lazarus, Portland, Oregon, was elected a fellow member of the Chapter.

The committee appointed at the previous meeting to draft a resolution in regard to the method of designing Federal Buildings presented the following, which was adopted as an expression of the views of the Chapter:

The San Francisco Chapter of the American Institute of Architects, having had its attention called to the letter of January 9, 1894, from the officers and directors of the American Institute of Architects to the Honorable Secretary of the Treasury, in reference to the designing of public buildings erected under the supervision of the Treasury Department, desires to endorse the protest contained in the above mentioned letter in so far as it applies to the erection of public buildings in general. The case in point simply serves as an example and nearly all the past offices and custom house buildings in the United States add to the weight of their ill designed appearance to the feeling of protest that is steadily growing among Architects and people of

taste generally to the fact that our public buildings are a standing reflection on the architectural ability of American Architects.

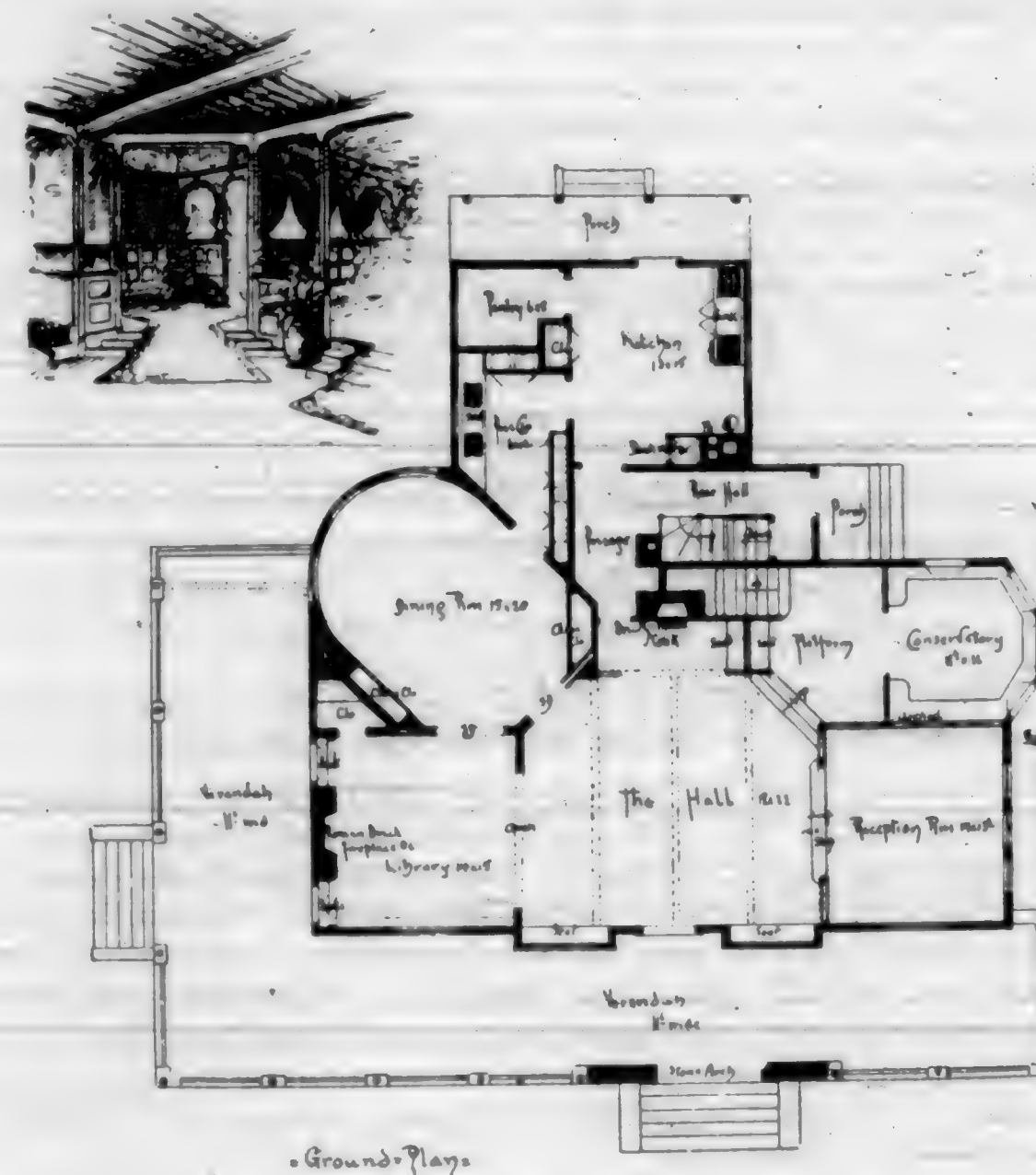
The San Francisco Chapter of the American Institute of Architects in meeting assembled, respectfully urge the Honorable Secretary of the Treasury to consider the following suggestions:

FIRST—That whereas the employment of a supervising architect of the Treasury Department is totally inadequate to the proper designing of so many buildings of the importance that he is called upon to build, and that

WHEREAS—The concentration of so much work in the hands of an individual is detrimental to the highest excellence in architectural design, that this Chapter adds its voice to that of the Chapters in recommending a change from the existing practice

And whereas according to a law recently enacted the Secretary of the Treasury has the power to call for competitive designs, that this Chapter recommends that all designing for Public Buildings should be adopted in accordance with the terms of said law, and the Competitive Code of the American Institute of Architects, subject to the approval of the Secretary of the Treasury, upon the recommendation of a committee of professional experts, consisting of architects of eminent standing in their profession, to be appointed for that purpose by the Treasury Department.

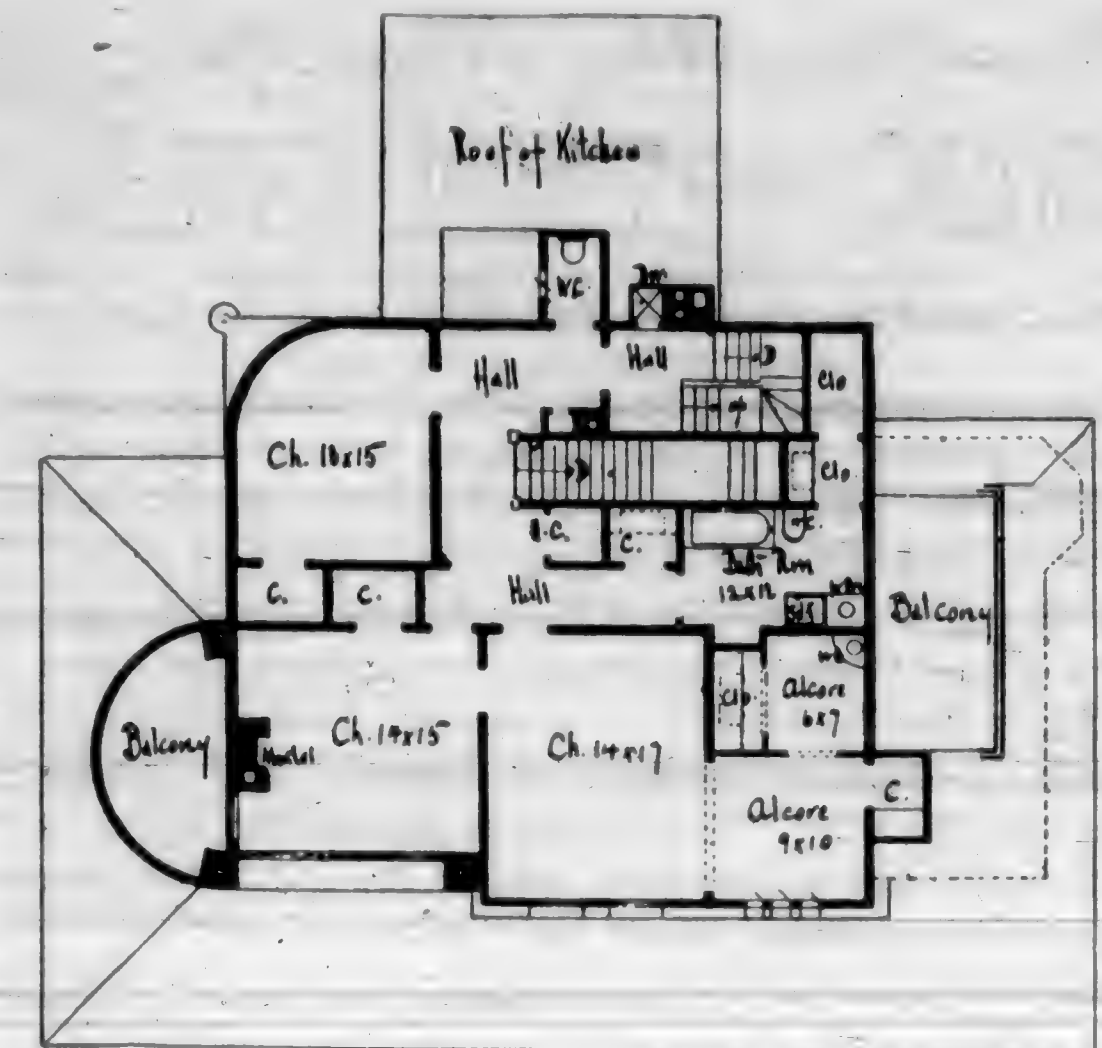
Messrs. Polk, Reid and Sanders were appointed a committee to consider the advisability of holding an annual exhibition of drawings, the offering of prizes to students, etc.



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.

CANCELLATION OF DEED FOR FRAUD.—A contract for the sale of a certain building and lot contained a covenant that the westerly wall was an independent wall, an attorney employed by both parties drew the deed, omitting any reference to such wall. He also attended to recording it. One of the purchasers, who transacted the business, could not read, and relied on the seller's representations concerning such wall, and on the attorney to correctly draw



the deed. The seller knew that it was not an independent wall. Some time after taking possession the purchasers discovered the fact, tendered a reconveyance, and demanded a return of the purchase money. A judgment setting aside the conveyance and directing a repayment of the purchase money was proper.

Keller vs. Feldman, Supreme Court of N. Y. 24 N. Y. Supp. 179 120.

WHEN MATERIALS NOT USED ARE NOT SUBJECT TO MECHANIC'S LIEN.—Subcontractors who furnish materials specially designed and made for a building, and necessary for its completion, are not entitled to a lien therefore where such materials were not used because the contractor suspended work or for other reason.

Mechanic's Mill & Lumber Co. v. Deeny Hotel Co. of Seattle, Supreme Court of Washington, 34 Pac. Rep. 774. 48.

RIGHT TO REMOVE PARTY WALL.—A joint owner in a division wall may remove it, and erect a new one, if the work is done in a reasonable time, and the co-owner is reimbursed for necessary expense in protecting his property during the change.

Putzell v. Drovers' & Mechanics' Nat. Bank, Court of Appeals of Maryland, 28 At. Rep. 276. 44.

ACTION TO RECOVER FOR BILL OF LUMBER.—In an action for the price of lumber furnished for the construction of a house, where the issue is whether the lumber was furnished to the owner or to his contractor, it is not a reversible error to exclude evidence to the effect that the contractor carried away the pieces of lumber not used in the house. It having been shown that the contractor gave the lumber dealer an order on the owner for the amount due for the lumber, it is proper to allow him to show by parcel that the order was given for the lumber charged to the owner.

Hartshorn v. Burne, Supreme Court of Illinois, 35 N. E. Rep. 622. 107.

MATERIAL LIEN MUST TAKE NOTICE OF TITLE TO PROPERTY.—The mechanic's lien law requires that a contract for materials, labor, etc., for the improvement of real property shall be made with the owner thereof, or his agent. A tenant, as such, has no power to contract for labor or materials so as to affect with a mechanic's lien the real property leased to him. A person furnishing material for an improvement must take notice of the interest and title of the premises of the person with whom he contracted as shown by the public record, as his lien for labor and materials, aside from the improvement itself, attaches only to such interest.

Waterman v. Stout, Supreme Court of Neb. 56 N. W. Rep. 987. 105.

LIQUIDATED DAMAGES FOR DELAY ON CONTRACT.—Under contract for the construction of a house, to be completed at a certain time, providing that the contractor shall forfeit ten dollars per day thereafter until completed, the presumption is that such sum is intended as liquidated damages; and the contractor, contending that it is a penalty, has the burden of proof.

De Graff, Vrieling & Co. v. Wickham, Supreme Court of Iowa, 57 N. W. Rep. 420. 59.

EFFECT OF BUILDING RESTRICTIONS AS TO SUBSEQUENT GRANTEES.—A contract between the owners of property that no building shall be erected within a certain distance from the streets may be made by parol, and grantees of the land, who take with notice of the extent and nature of the restriction, are bound by it.

Hayward Homestead Tract Ass'n. v. Miller, Supreme Court, Special Term, Monroe County, 26 N. Y. Supp. 1091. 54.

BOOKS AND PERIODICALS.

We have received from Mr. Guy Kirkham, Springfield, Mass., a copy of a little volume called *THE BEST SECURITY*. This little work is well worth the careful study of both the architect and those about to build. It may be called a succession of hints or suggestions, by giving some of the subjects treated of a good idea of the scope of the work may be obtained, "Convenience and Beauty, not a Matter of Cost," "Oneness of Exterior and Interior," "Plotting the Plan," "Living Room and Dining Room" and so on to the end, the authors remarks are full of good sense, expressed in a modest manly way.

INDUSTRY.—Devoted to science, engineering and mechanic arts. The March number comes to hand full of articles of interest, among others "The Red Point Drift Gravel Mine" with a detail of the cost of various portions of the work that cannot fail to be of great interest to mining men, and also give the general public an idea of how small a quantity of gold per ton will pay for extracting, under favorable circumstances, combined with economical and prudent management.

We have not the space required to call attention to the other articles of interest, but would advise persons interested to get the journal and examine its merits at leisure.

THE HISTORY OF A LEAD PENCIL by Walton Day, price ten cents, published by the Joseph Dixon Crucible Co., Jersey City, N. J. This little volume if carefully read will convince the general reader that it contains more information about pencils and how they are made, why, some are bad, and some good, than they would have thought it possible for any one to know.

LIPPINCOTT'S MONTHLY MAGAZINE for March, contains for its complete novel "A Desert Claim" and certainly a charming story. The description of the cowboy and the cows are certainly very life like, ending in a pretty love story or more properly speaking commencing with a love story. The table of contents is unusually good and will well repay a careful reading.

SMITHSONIAN INSTITUTION.—We have received the Annual Report of the Board of Regents of the Smithsonian Institution. As usual it contains a vast amount of interest to collaborators and correspondents of the institution, teachers and others engaged in the promotion of knowledge; among others, an article on the Scientific Work of George Ohm being an address delivered at the public meeting of the Royal Bavarian Academy of Science of Munich, March 28th, 1889, it is well worthy the careful study of the electrical student.

The account of the Corbin Game Park by John R. Spears, although already published, cannot fail to be of great interest to the hunter as well as the general public. When we find a private gentleman investing not less than \$400,000 in park of 22,000 acres and a collection of animals that with-

out some such protection would in a few years become extinct—deer, buffalo, the elk and antelope, appear to have been Mr. Corbin's particular pets, though moose and reindeer have not been neglected. Our space will not allow of more than calling attention to this interesting report of Mr. Corbin's efforts in this line.

It is hard where so many matters are presented to our attention, to say which is the most interesting; undoubtedly this was the founder's intention when he planned this noble institution for the spread of knowledge, that every class in search of information should come to the fountain head and find something in his line.

THE CALIFORNIA SCHOOL OF MECHANICAL ARTS.

WE are pleased to note in the daily press, that "The California School of Mechanical Arts," has at last a fair chance of becoming a reality.

James Lick, in his will, made provision for establishing and conducting this school; and the Trustees of his bequest are now, after many years of litigation, in a position to carry out the philanthropic motive of the millionaire.

The following clipping from the *Examiner* of March 10th, will be interesting reading, for those who will reap the benefit of Mr. Lick's intentions.

The trustees of the Lick bequest for "The California School of Mechanical Arts" met yesterday and decided to go to work at once on the erection of suitable buildings at the Potrero. The Chairman, Horace Davis, was authorized to take an architect to the site of the school at the Potrero and bring in a rough draft of plans at the next meeting. It is expected to complete the buildings within six months.

Mr. Davis was interviewed yesterday on the status of their funds and the feasibility of forming a union with the recent Wilmerding bequest for an industrial school.

"We have been tied up," said Mr. Davis, "by the courts for years and years and we are now for the first time free so that we can use the \$540,000 bequeathed for the school."

"This is not enough for us to do what we would like to, and the Court has most absurdly, to my mind, maintained that the revenues derived from these funds cannot be used by us until the building is erected and the school founded."

"This leaves but one thing to do. We have a block 200x400 feet in the Potrero. We must now erect a building. We would like to put up a handsome edifice as a monument to James Lick, but this cannot be or the school itself will have to suffer. Our building must be of the simplest, plainest kind and on a very moderate scale."

"We have \$540,000. Allowing \$140,000 for buildings, we have \$400,000, which at five per cent yields \$20,000. We must lay aside several thousand per year for a reserve or an emergency sum, and insurance, taxes, repairs and incidentals will bring down our annual revenue to \$15,000."

"What can be done with that sum in running a great school? We have been anxiously waiting and hoping that some one would give us a building. Cogswell offered us his building at a most moderate rental, and had the courts allowed us the revenues to which we believe we are justly entitled, we would begin the California School of Industrial Arts, there immediately."

"It would indeed be a fine thing if the Wilmerding bequest could be united with ours. Neither is large enough to produce the results which are so highly desirable. There may be some way in which this may be brought about within the law, but I do not now see how."

"We could hardly design in favor of the Regents, even if we so desired. Again, the two funds might be worked with the greatest harmony by the two boards of trustees, each supplementing the other. The difficulty is that this harmonious relationship could not be guaranteed for all time."

"There is some difference, I think, in the two trusts, so far as I can interpret them as to the particular kinds of schools. The Wilmerding School of Industrial Arts is to teach boys trades, fitting them to make a living with their

hands, with little study and plenty of work. On the other hand, the Lick bequest reads as follows: "To found and endow at a cost of \$540,000 an institution to be called 'The California School of Mechanical Arts,' the object and purpose of which shall be to educate males and females in the practical arts of life, such as working in wood, iron and stone, or any of the metals, and in whatever industry intelligent mechanical skill now is or can hereafter be applied, such institution to be open to all youths born in California."

"I admit that Lick's bequest was made in the most bungling language, and although it plainly reads that only native Californians can attend the school, I believe he did not mean that."

"In other respects it is broader than the Wilmerding be-

quest. We could establish a technical manual training or trade school of any kind, but the board has unofficially decided on a manual training school after the type of the Cogswell Institute. We want to so train the hands of the boy that he can become either a journeyman artisan or a master mechanic in any particular vocation he may take up."

"However, I consider the differences in the trust to be of not so vital a character as to prevent consolidation, and if it can be done within the law it would be a desirable result."

A. S. Hallidie, another member of the Lick Trustees, said that he believed "the Lick school should not be of so high a grade as Cogswell's; that is, it should teach boys to be good journeymen and not master workmen. This is the kind of school that is needed now."

BUSINESS MOSAICS.

Browell's Patent Chimney's. These chimneys have not only the endorsement of the Board of Supervisors but are recommended for general use by the Fire Wardens, insurance agents and architects. Orders for Vitrified iron, stone sewer pipes, traps and connections, terra cotta chimney tops and flue linings filled at short notice by Mr. J. Browell, contractor and builder, 727 Montgomery St., San Francisco.

"When a man makes a large fortune, what do people say?" asked the teacher. "That he is fortunate," replied the bright boy. "That's right. Now when a man fails in business what do they say?" "That he didn't advertise."—*New York Recorder.*

Those about to build and who wish to avail themselves of sanitary appliances that will assure them fresh air with freedom of bad odors, cannot do better than consult Mr. Joseph Budde, the manufacturer of the popular Golden Gate Patent Water Closets. This well known establishment can surely fill your wants in the plumbing line—a visit to Mr. Budde's headquarters, 575 Mission street, will convince you that you have found the right place to have your wants in his line well supplied and all work furnished by him in first class.

"Who is that?" asked Brown, indicating McCork's typewriter and secretary. "That is my recording angel."—*West Shore.*

The San Francisco Lumber Co. are still on hand to supply lumber both wholesale and retail. This company under the able management of J. N. Curtis who will be found at the principal office of the company, NW. cor. Pine and Montgomery streets, have yards in various parts of the city as will be seen by reference to their advertisement in this paper. If the improvement in business continues as spring opens and building is once more commenced in old time style, they may expect a busy season for which they are well prepared.

Ferry—"Wrattle didn't speak to Bangs for twenty years until last week." **TRAIN**—"How did he come to speak then?" **FERRY**—"Bangs started to paint his house and Wrattle had to tell him how."—*Puck.*

If you want anything in the way of Parquetry Floors, Wood Carpet, fine Fretwork and Grills, go to Kenney & Wells, 422 Sutter street, San Francisco, or 1110 Broadway street, Oakland. While you are about it it would be a good idea to furnish one's pet room with mirrors, frames and pictures ordered from them and live to regret you had not furnished the rest of the house in the same way.

"How beautifully soft it is," he murmured laying his hand on her glorious white arm. "How less beautiful, but oh, so much softer," she tenderly replied, laying her jeweled hand on the top of his head.—*News Letter.*

Optical Exhibit of Dr. Robt. Thompson representing V. Vernard, Paris, to be found in the French Section, Manufactures Building, Midwinter Fair, is worth a call even if your eyes do not need attention.

Western Iron Works, 123 and 125 Beale street. This well known firm are still in the field for business in their line, contractors for wrought iron and steel building work; also beams, girders, anchors, stirrups, vaults, railings, etc. As the coming season bids fair to see the erection of some large buildings of the class requiring this kind of work, their works promise to have a busy time in the next few months.

He—"I have \$3,000 a year. You could certainly live on that?" **She**—"Yes; but I should not like to see you starve."—*News Letter.*

The Lord knew what was best for man's peace of mind when he failed to put eyes in the back of his head.—*Atchison Globe.*

George Goodman—Patentee and manufacturer of Artificial Stone, has this advantage, that whoever walks over their sidewalks becomes an advocate of the extension of such walks. He hardly needs to have a notice calling attention to his advertisement as those that walk can read under their feet "Schillinger's Patent," and this when constructed under the skillful eye of Mr. Goodman is a sufficient warrant that speaks for itself.

CITY BUILDING NEWS.

Capp near 23d. Grading, brick, carpentering and plastering work; owner, M. A. Warren; contractor, Richard Sears; signed, March 3; filed, March 3; cost \$2300.

Castro and 17th. Two-story frame; owner, H. Hetherington; architect, H. D. Mitchell; contractor, L. N. Fletcher; signed, March 7; filed, March 7; cost \$3915.

Clay near Baker. To build; owner, F. M. Stevens; contractors, White Bros.; signed, March 2; filed, March 5; cost \$6253.

City Hall, lot 46. Alterations and additions; owner, California Title and Trust Co.; contractors, Jas. and J. A. McDonald; signed, March 3; filed, March 6; cost \$3941.

Dougllass near Alvarado. To build; owner, John A. Keogh; architect, T. J. Welsh; contractor, John P. Dunn; signed, Feb. 27; filed, March 3; cost \$1417.

Ellis and Larkin. Alterations and additions; owner, Edward Connolly; architects, Shea & Shea; contractor, James Cochran; signed, Feb. 9; filed, Feb. 13; cost \$4100.

Ellis and Larkin. Painting; owner, Ed. Connolly; architects, Shea & Shea; contractor, Jas. Rainfield; cost \$567.

Ellis and Larkin. Plumbing; owner, Ed. Connolly; architects, Shea & Shea; contractor, John P. Culley; cost \$900.

Ellis and Mason. Stair work; owner, Y. M. C. A.; architect, A. Page Brown; contractors, Mahoney Bros.; signed, Feb. 13; filed, Feb. 15; cost \$3,500.

Eleventh Ave. near J. To build; owner, Emil F. Tahler; contractor, Casper Zwierlein; signed, Feb. 20; filed, March 5; cost \$1000.

Fell near Masonic Ave. To build; owner, Edward May; architect, Julius E. Kraft; contractors, Wm. W. Ackerson and Wm. Peterson; signed, Feb. 12; filed, Feb. 14; cost \$6114.

Fell bet. Broderick and Baker. A flat made out of a rough basement; owner, Herman Puckhaber; contractor, Peter Johnson; cost \$1035.

Fillmore No. 206. Alterations; owner, Mrs. Louisa Hagmaier; contractor, G. G. Gillispie; signed, Feb. 16; filed, Feb. 20; cost \$2375.

Folsom and 21st. To build; owner, Ed. Connolly; contractor, Henry P. Conrady; signed, Feb. 14; filed, Feb. 14; cost \$9063.

Fulton near Devilsadero. To build; owner, Mary A. Gaynor; architects, Shea & Shea; contractors, James E. Mooney; filed, March 3; signed, March 8; cost \$3777.

Fillmore near Haight. Grading, brick and carpenter work, plastering, painting, graining, glass, etc.; two too story buildings; owner, John A. Sandell; architect, Edward J. Vogel; contractor, Robert Currier; signed, Feb. 13; filed, Feb. 14; cost \$4950.

Fillmore near Haight. Plumbing, ga-fitting, etc.; owner, John A. Sandell; contractor, Newmark & Mills; signed, Feb. 12; filed, Feb. 14; cost \$898.

Golden Gate Ave. near Lyon. Three-story frame; owner, John T. Hayes; cost \$6000.

Harrison and 10th. To build; owner, Geo. I. Roychester; contractor, M. McCracken; signed, March 8; filed, March 8; cost \$1900.

Hayes near Scott. To build; owner, Christian Jaun; contractor, Jacob Schuler; signed, March 5; filed, March 5; cost \$3940.

Hayes bet. Lott and Lyon. To build; owner, W. H. Kinread; cost \$4500.

Henry near Sanchez. To build; owner, Wm. Von Voss; contractors, Koenig Bros.; signed, Feb. 12; filed, Feb. 13; cost \$3995.

Howard near 23d. To build; owner, Adolph Schulze; architects, Kenitzer & Barth; contractor, Anderson Bros.; signed, March 11; filed, March 11; cost \$6880.

Jackson and Gough. All cabinet work; owner, S. Swabacher; architects, Percy & Hamilton; contractors, Fink & Schindler; signed, Jan. 11; filed, Jan. 11; cost \$2520.

Jackson near Laguna. To build; owners, Walter Speyer and wife; architect, B. McDougall & Son; contractor, J. H. McKay; signed, March 6; filed, March 6; cost \$14,737.

Jackson and Scott. Stable building all work except concrete; owner, Wm. H. Talbot; contractor, Peter Chrichton; signed, March 7; filed, March 7; cost \$7720.

Leavenworth near Eddy. Four frame buildings and basements; owner, Harriet McCarthy; architects, Shea & Shea; contractor, W. H. Leahy; filed, Feb. 24; cost \$10,780.

McAlister near Jones. Passenger elevator with electric motor; owner, Katherine Adam and Eliza Kibbe; architect, Julius E. Kraft; contractors, A. J. Nicoll & Co.; signed, Feb. 12; filed, Feb. 13; cost \$3100.

Page and Lyon. To build; owners, Rountree Bros.; architect, E. R. Swain; contractors, Rountree Bros.; cost \$7000.

Post and Powell. Plumbing and sewerage; owner, Mrs. A. M. Parrott; architects, Pissis & Moore; contractor, R. A. Vance; signed, Feb. 15; filed, Feb. 20; cost \$11,742.

Post and Powell. Sheet plate glass, etc.; owner, Mrs. A. M. Parrott; architects, Pissis & Moore; contractors, K. N. Woods & Co.; filed, Feb. 24; cost \$3975.

Post and Leavenworth. Electric light works; owners, S. S. Verein Assn.; architects, Saffield & Kohlberg; contractors, Edison Electric Light Co.; signed, Feb. 12; filed, March 1; cost \$1710.

Post and Leavenworth. Marble work; owner, S. F. Verein Assn.; architects, Saffield & Kohlberg; contractors, Ruffino & Bianchi; signed, Feb. 12; filed, March 1; cost \$2085.

Post and Montgomery. Safe and vault work; owner, Union Trust Co.; contractors, Diebold Safe and Trust Co.; filed, Jan. 2; cost \$29,067.

Sanchez near 18th. To build; owners, Emery and Minnie La Vallie; contractor, Thos. Elam; cost \$3780.

Scott and Green. Two too-story buildings; owner, E. Avery McCarthy; contractor, Louis Landler; architect, J. C. Newsom; filed, March 5; cost \$13,250.

Sixth near Point Lobos Ave. To build; owner, Felix M. Hugh; contractor, Bernard Duffy; signed, March 9; filed, March 10; cost \$1600.

Sutter and Mason. Stair work on Bohemian Club; owner, S. Wenban; architects, Pissis & Moore; contractor, H. W. Frick & O. A. Crasmer; signed, Feb. 14; filed, Feb. 15; cost \$5174.

Sutter and Mason. Plastering; owner, S. Wenban; architect, Pissis & Moore; contractor, C. Dunlap; signed, Feb. 7; filed, Feb. 15; cost \$3247.

Taylor near Filbert. Two too-story and basement; owner, Ida M. Stringer; architect, Chas. R. Wilson; contractor, Timothy Sullivan; signed, Feb. 10; filed, Feb. 14; cost \$4170.

Twelfth Ave. near H. To build; owner, Jos. Morrissey; architect, W. H. Lillie; contractor, T. T. Pottinger; signed, Feb. 26; filed, Feb. 27; cost \$1627.

Thirty-first Ave. near Point Lobos Ave.; To grade; owner, W. R. P. Adamson; contractors, W. N. Stanley & E. F. Dennison; signed, Aug. 20; filed, March 6.

Twenty-third near Sanchez. To building; owner, Edward Brugge; architect, Robert Frost; contractors, R. Erost & Fred Antree; cost \$2,150.

University Mound, block 37. To build; owner, J. and G. Giannini; contractor, Wm. I. B. Warner; filed, March 8; cost \$1650.

Van Ness and Myrtle Ave. Steam heating; owner, Dr. C. F. Buckley; architect, M. J. Lyon; contractors, Ford Bros.; signed, Feb. 24; filed, March 16; cost \$2000.

Waller and Frederick. To build; owner, J. N. Riedout; architects, Townsend & Wyneken; contractor, Thomas Riedout; signed, Feb. 21; filed, Feb. 24; cost \$9400.

The California Architect and Building News.

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OFFICE, 408 CALIFORNIA STREET,

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

VOLUME XV.

APRIL 20th, 1894.

NUMBER 4.

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OLIVER EVERETT, Secretary.

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THE HONORABLE SECRETARY OF THE TREASURY who apparently knows more law than the lawyers, more finance than the financiers and more architecture than the architects, probably knows more of the creation than the Creator; for he has wisely and properly squelched Daniel H. Burnham who had the temerity to suggest that the American Institute of Architects, a National Organization, was entirely disinterested in its efforts to correct the errors that mark the designing of our public buildings. Mr. Burnham, to whom belongs the proud distinction of having directed the construction of the most harmonious and beautiful group of buildings ever erected in the history of the world, with the natural egotism begot of great success, had the presumption to think that his personal opinion, expressed in approval of the joint wisdom of the American Architects, would add weight to that of the Institute in bringing influence to bear on the high authority vested in the Treasury Department of our great Democratic Government. Mr. Burnham was mistaken and the advancement of Architecture has been checked. But we need not despair, for the natural destiny of a great country is excellence in the Fine Arts.

The marvelous development attending the building of the Chicago Fair buildings is too strong an evidence of the healthy growth that the architecture of this country is experiencing, and the protests that are being entered against the designs of our public buildings are but a small intimation of more that will follow unless there is a revolution in

the methods of the Treasury Departments which intrusts the designing of so many important buildings to an official whose salary is equalled by the remuneration received by the assistants to architects of but modern practice.

Perhaps Mr. Carlisle has been too busy to properly interpret the designs of the times, but this is a subject that will refuse to be ignored, and is one calculated to command the most distinguished consideration, if not from Mr. Carlisle perhaps from his successor.

UNTIL this recent affair with the American Institute of Architects, *Life* had supposed Secretary Carlisle to be a reasonably patriotic person. There are few intelligent boys in this country over seven years of age who would have had the courage to come out so fearlessly for what all the rest of the world knows to be the wrong thing.

Educated architects are not looking to this gentleman from Kentucky for professional instruction. If his skin is so thin and his sense of his own dignity so lofty that it unfits him for the purposes for which he is drawing a salary, he would do well to borrow an elastic hat and return to the blue pastures of his own State for a period of reflection.

Mr. Carlisle's ideas of his own dignity are of far less importance to the people of this country than the services the American Institute of Architects can render our national architecture.—*Life.*

[Our bright little cotemporary *Life* is edited by a gentleman of considerable architectural taste and its comments quoted above are calculated to command the respect of even so mighty an authority as the Secretary of the Treasury. EDITOR CALIFORNIA ARCHITECT AND BUILDING NEWS.]

THE FIRST ANNUAL EXHIBITION OF THE SAN FRANCISCO CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.



IN the eastern cities Architectural Exhibitions having so long been regular events it is gratifying to note a beginning in that direction in San Francisco.

The Chapter of Architects deserves much credit for inaugurating the scheme, and to the Art Association is due the thanks of the profession for its kindness in putting its magnificent room at the disposal of the Chapter.

A visitor to the spring exhibition of the Art Association

and sections of the Hopkins House. These drawings made sixteen years ago should be of considerable interest to draftsmen of to-day. They are excellent examples of carefully rendered wash drawings, besides being illustrations on paper, the work of Wright & Sanders, the architects of the building in which the drawings hang.

Number 10 is a pen and ink drawing of the Hibernia Bank by D. A. Gregg. This drawing will command the attention of all draftsmen as much as the building has compelled the admiration of all architects. Messrs. Pissis & Moore have been congratulated so often on this building that any praise would be an old story and any criticism would be out of place.

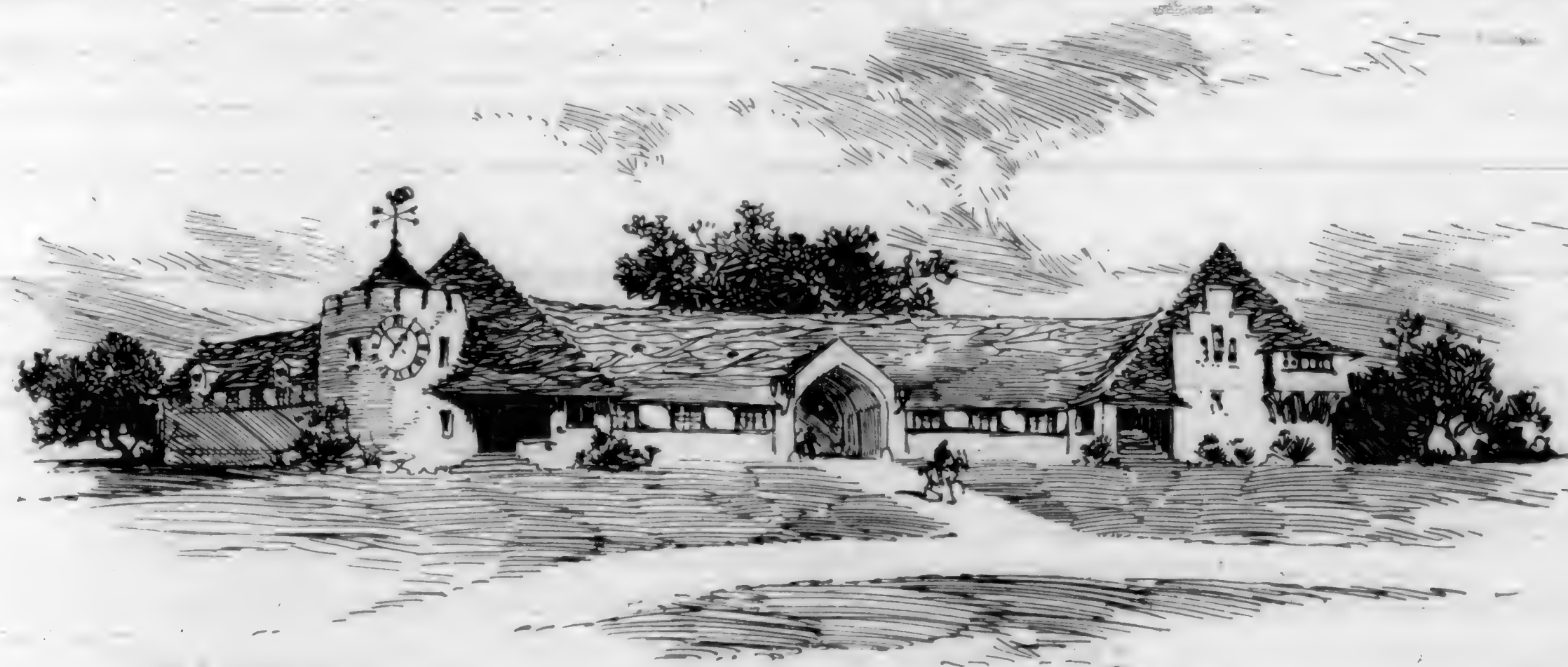
Moretti's water color drawing, number 11, of Pissis &



RESIDENCE OF V. J. A. REY, POLK & POLK, ARCHITECTS.

at the Hopkins Institute of Art cannot fail to be interested in the collection of architectural drawings and designs. Numbers 1, 2 and 3 in the catalogue are the elevations

Moore's Bohemian Club building is not as good a drawing as Moretti generally does. It is anything but clear in color, being heavy and cloudy and reflecting but little credit on



Architect

BURLINGAME COUNTY CLUB STABLES, A. PAGE BROWN, ARCHITECT.

the building it represents. This building which is now nearly finished is an ornament to the city and another one of which its architects should be proud.

Number 13 is an excellent water color drawing by Ernest Coxhead of his St. John's Church, humorously dubbed

by Clinton Day, but a careful search of the rooms fails to reveal the drawing. Possibly Mr. Day intends to repair this omission.

Numbers 19 to 26 are a series of clever drawings of work by A. Page Brown.



HOTEL NEAR MONTALVO, CALIFORNIA, A. C. SCHWEINFURTH, ARCHITECT.

"St. Roofus" by the clergy on account of the enormity of its roof. The drawing however is as good an example of an architectural water color as there is in the exhibition.

Number 29 is a stunning pen and ink drawing by Ernest Peixotto of a design by Willis Polk for a Market street building.

Number 14 is a pretty little pen and ink, by R. M. Turner.

Perhaps the best pen and ink sketch in the show is of the



EPISCOPAL CHAPEL, CORONADO BEACH, REID BROS., ARCHITECTS.

of a Chapel at Coronado by Reid Bros. This is the only contribution that Reid Bros. have made to the collection.

Palace Contarini, No. 9, by Dan Polk.

Messrs. Mathisen & Howard have a large series of



BURLINGAME RAILWAY STATION, MATHISEN & HOWARD, ARCHITECTS.

A matter to be regretted and which it is hoped they will remedy before the exhibition closes.

attractive sketches that are well worth careful inspection. It is hard to say which of these gentlemen do the most interesting work.

Number 18 the catalogue says is the Union Trust building

Coxhead & Coxhead have four or five charming pencil sketches. They should have sent more.

Three drawings by Anderson of some work of Ellicott & Lazarus of Portland, Oregon, are examples of Anderson's

Interior of St. Mark's Church, Philadelphia, is splendidly done in sepia.

Number 54, The Hobart Mausoleum, by Percy & Hamilton is an excellent design with the drawing rendered in good



RESIDENCE OF GEORGE WHITTELL, COXHEAD & COXHEAD, ARCHITECTS.

well known coloring with which local drawings will compare favorably.

Of decided interest are six little sketches, numbers 63, 64, 65, 66 and 68 by W. M. Ellicott of Portland, number 65 an

style.

Number 74, A Winter Residence at Santa Barbara by A. C. Schweinfourth is a splendid water color of a most interesting design. This is in line with a style of architecture



MONTGOMERY MEMORIAL CHAPEL, WRIGHT & SANDERS, ARCHITECTS.

thoroughly characteristic of California and something of which we should see more.

Number 67, the residence at Belvedere of V. J. A. Rey, by Polk & Polk, is in line with it and illustrates the adaptability of the style to a very difficult site.

he has not selected by sample. When an architect makes such a selection he should try to get the kind of brick he wants, and let the terra-cotta manufacturer do the matching. The principal reason for this is that in brickmaking clay must be mixed to produce the desired color when burned.



A BIT OF VENICE, FROM A SKETCH BY DAN POLK.

Among the photographs the residence of O. D. Baldwin, number 98, by Samuel Newsom, is a pleasing variation of the architect's usual style.

Number 100 is Mr. Oothout's residence at Fresno, by A. Page Brown.

COLOR IN BRICK AND TERRA-COTTA.

THE matter of color in brick and terra-cotta is now so well in control that an architect willing to give a little attention to experimental work can count upon getting from any one of the large manufacturers exactly what he wants. It is often the case that he selects one or the other from some sample at hand, and requires a match in the material which

while in a piece of terra-cotta the exact color can be obtained by "slipping." The slip is a coating applied by a machine on the principle of the atomizer. A creamy paste of the slip clay is mixed and placed in a receptacle, through the top of which projects a tub running down into the paste. Across the open top of this tube a jet of steam is forced, which draws out the paste and sprays it over the piece of green terra-cotta. When this is done the terra-cotta has a secure coating of the kind of clay necessary to give the right color when burned. This process renders it comparatively easy for the terra-cotta manufacturers to produce the exact shade desired by the architect, so that if it comes to a question of matching one with the other, as is now being done to a greater extent than formerly, let it be the brick that is first selected.—*The Brickbuilder.*

CORRESPONDENCE

To the Editor of The California Architect and Building News:

In a recent issue of one of our local building papers and copied by an eastern cotemporary, has appeared a severe article deprecating the construction of Portland Cement Walls for foundations and basement walls of buildings, so much in practice at the present time, as being unreliable; due to gradual waste, and also wanting as a fire-proof construction; which is so at variance with those of experience in application, and the numerous authorities who have given it long and patient scientific study and investigation, that it seems novel at this late day. If such is the writers experience, it must have been due either to the use of comparatively valueless quick setting cheap Portland cements of which the market is flooded and manipulated in the hands of workmen heedless as to the requirement to be worked quickly; this probably alone, or together with improverishment due to the small quantity of Portland cement compared to the other ingredients to cheapen the mixture, in the hands of unreliable contractors has most likely been the writer's experience and has soured him on Portland cement concrete.

In support of this statement I revert to the introductory notes on concrete and works of concrete, by John Newman, which is one of our valuable standard works on Portland cement concrete, which reads as follows:

"Portland Cement Concrete has become one of the most important materials in construction, and can be used with absolute confidence that the work will be of a hardness and strength, and will not deteriorate, provided the necessary care is taken in selection, proportions, mixing and deposition, which long and varied experience has proved to be indispensably requisite.

By judicious application, many works can now be erected, more especially submerged structures, that by reason of their great cost, it was impossible to construct, but now Portland cement walls of average thickness for engineering purposes, can be built for one-half, or one-third the expense of masonry or brick work.

The valuableness of Portland cement, is its power of firmly uniting other substances, its cohesiveness, durability, and adaptability to be moulded into any form with a rapidity of execution unattainable with brickwork and masonry.

Apart from the cement, the nature of the other ingredients is of great importance, the mode of mixing, depositing, etc., for practical value of cement may be destroyed without due attention to these details."

As Mr. Newman says, which is known to every practical experienced worker in Portland cement, that its practical value may be destroyed without due attention to the mode of mixing and depositing.

Suffice to say, Portland cement and its concretes, has not only held its own, but advanced in usefulness, and far outstripped other cementing materials, that it stands head and foremost, and ranks as one of the great inventions, deserving rank with applied electricity; and it seems to me to berate its effectiveness rather belittles he who does attempt it.

As to the fire-proof or fire resisting qualities I would refer to the following, taken from Thaddeus Hyatt's valuable work, entitled "Portland Cement Concrete Combined with Iron as a Building Material." This work may be found in many of our public libraries.

ADAPTABILITY OF PORTLAND CEMENT CONCRETE AND IMBEDDED IRON OR STEEL TO FIRE-PROOF CONSTRUCTION.

"To ascertain the limits of expansion and contraction of Portland cement within definite ranges of temperature, trial sticks of cement were made and heated, the expansion of the same being ascertained by placing the tests between two fixed points, space being allowed between the variations in which were ascertained by means of tapered pieces, which were then measured by Holtzapffel's thousand gauge. The result was found to be a lineal expansion of .00137 for 180 degrees of heat as compared with .00140 for wrought iron, a result so near that the expansion may be considered the same; but in order to prove the result practically; blocks of cement concrete, fourteen inches long and four inches deep by three inches wide were made, in which bars of iron were imbedded, the bars varying in size 2x1-32 of an inch to 2x2 inches and 12 inches long.

"On testing these by fire no difference in effect was found to be produced on the concrete by the different masses of metal contained within them.

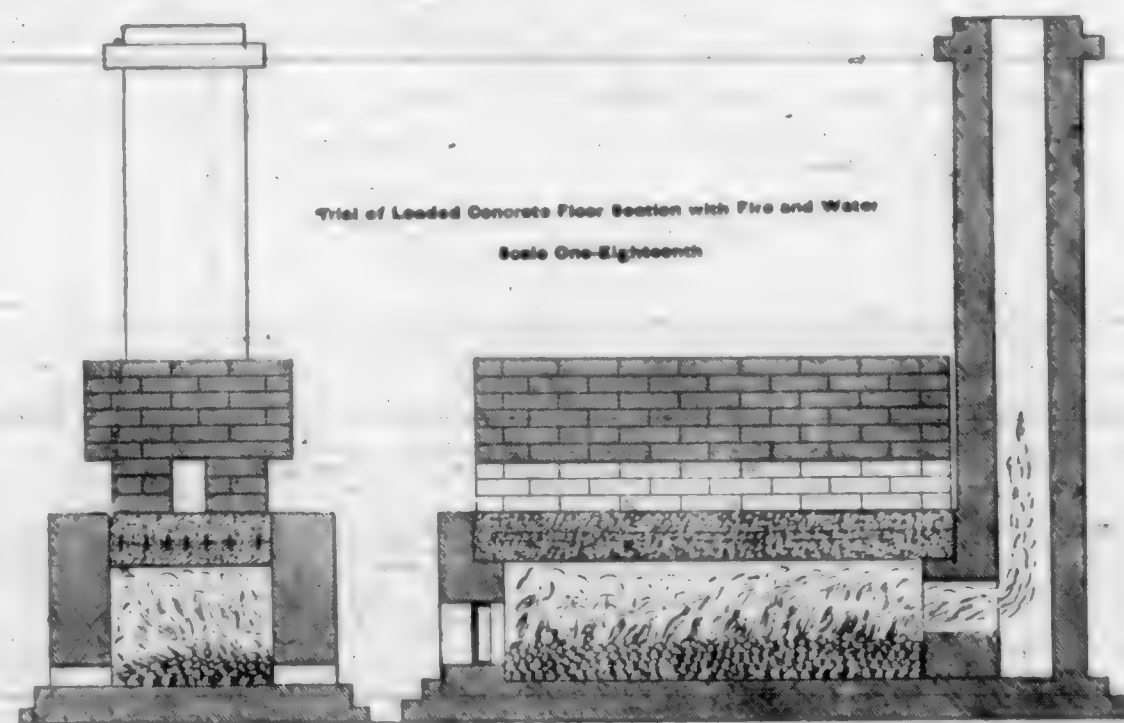
"As a final test, bars of iron two feet long by one-half inch thick were imbedded in blocks of concrete; these blocks on being exposed to the red heat of a furnace for six hours, were found to be entirely sound and good when taken out; the synchronism existing between the expansion of the two materials, whatever the size of the metal, was thus placed beyond question, and in respect to this combining concrete with iron for building purposes the two materials may be regarded as practically homogeneous.

"These results as may be supposed, were in the highest degree satisfactory and assuring.

"In order to test the effect of fire and water to a real floor of the concrete construction, combined with iron, a section of one sufficiently large to leave no doubt as to the result of fire and water to a real floor in actual use. Accordingly a furnace was built as represented in the following plate, the top being a slab or floor section six feet long by two feet wide, and seven and one half inches thick.

"The tie-metal in gridiron form was placed at the middle of the thickness, three inches of concrete being above and three inches below the metal.

"The furnace was made with a range of air holes on either side, to insure perfect combustion and intense heat.



"Loose bricks were piled upon the furnace top until a load was obtained of 300 pounds per square foot over the whole surface, the deflection being with this load 1-32 of an inch in a span of five feet.

"The fuel was arranged to form an incandescent bed six inches at twelve inches below the under face of the concrete slab.

"The fire was kindled at six o'clock in the morning, had by eleven become an intense heat perfectly uniform over the entire surface, and the bottom of the concret was also at a glowing red heat all over.

"At this intensity the fire was kept up until 4 P. M., a period of ten hours from the lighting of it. During this time the slab had deflected three-eighths of an inch.

"A stream of cold water was now thrown forcibly against



PARAFFINE PAINT COMPANY'S EXHIBIT.

CALIFORNIA MIDWINTER INTERNATIONAL EXPOSITION.

CALIFORNIA ARCHITECT AND BUILDING NEWS
SAN FRANCISCO.

VOL. XV, No. 4. APRIL 1894



CALIFORNIA ART GLASS WORKS EXHIBIT.

CALIFORNIA MIDWINTER INTERNATIONAL EXPOSITION.

CALIFORNIA ARCHITECT AND BUILDING NEWS.
SAN FRANCISCO.

VOL. XV. No. 4. APRIL 1894.



A. STEIGER SONS' EXHIBIT, SAN JOSE.

CALIFORNIA MIDWINTER INTERNATIONAL EXPOSITION.

CALIFORNIA ARCHITECT AND BUILDING NEWS.
SAN FRANCISCO.

VOL. XV. No. 4. APRIL 1894.



TABER'S PHOTOGRAPHIC GALLERY.
CALIFORNIA MIDWINTER INTERNATIONAL EXPOSITION.

CALIFORNIA ARCHITECT AND BUILDING NEWS.
SAN FRANCISCO.

VOL. XV. No. 4. APRIL 1894.

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."

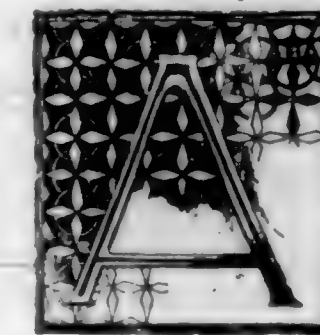
In addition to the experiments described others of less moment were made, as to the non-conducting power of various substances, such as plaster of Paris of different densities, and concretes more or less porous, also air spaces; the result of all being that the best material to protect the metal against 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 prudent. 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.

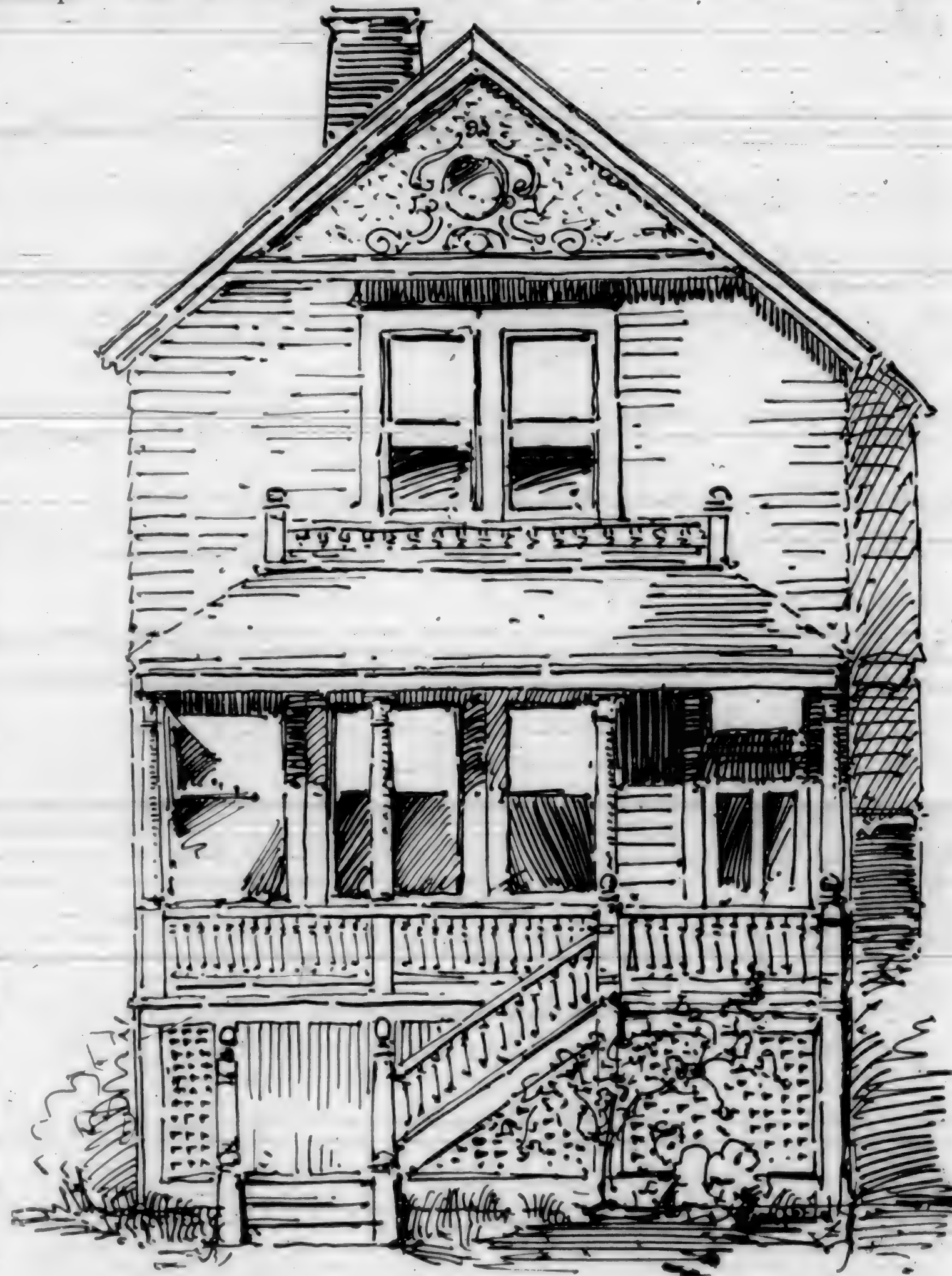
SAN FRANCISCO CHAPTER, AMERICAN INSTITUTE OF ARCHITECTS, meets second Friday of each month at 409 California street.
SETH BABSON, Pres. GEO. W. PERCY, Vice-Pres.
OLIVER EVERETT, Sec. JOHN M. CURTIS, Treas.

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.

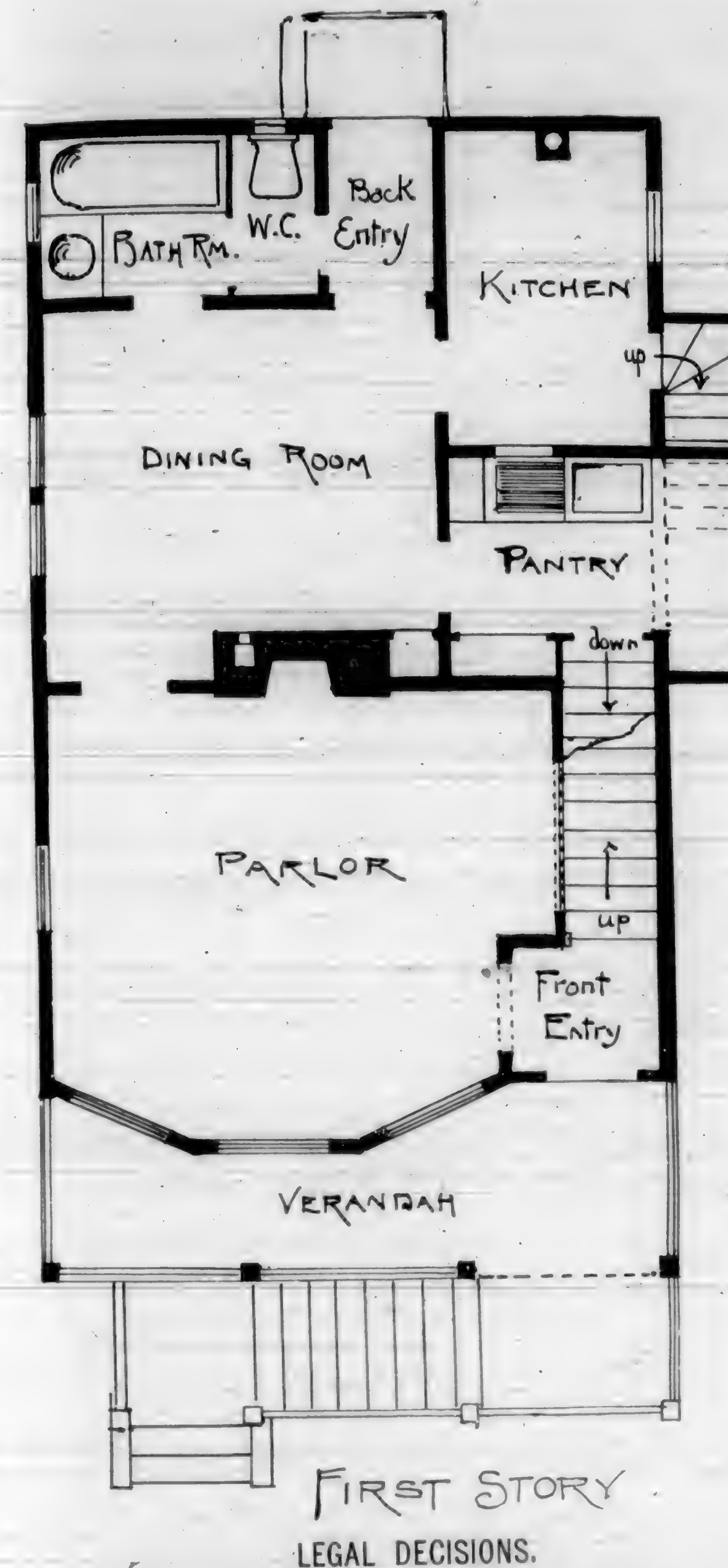
THE Morning Advertiser, of Rochester, N. Y., is discussing the question of tile and iron house drains. We are sorry to see that the Board of Health of that city has rescinded their former action, which prescribed all horizontal drains within the house to be of extra heavy cast iron pipe. The tile house 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, ARCHT.

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.*



FIRST STORY

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.

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. *Smith v. Smith, Common Pleas of New York City and County, General Term, 27 N. Y. Supp. 379. 90.*

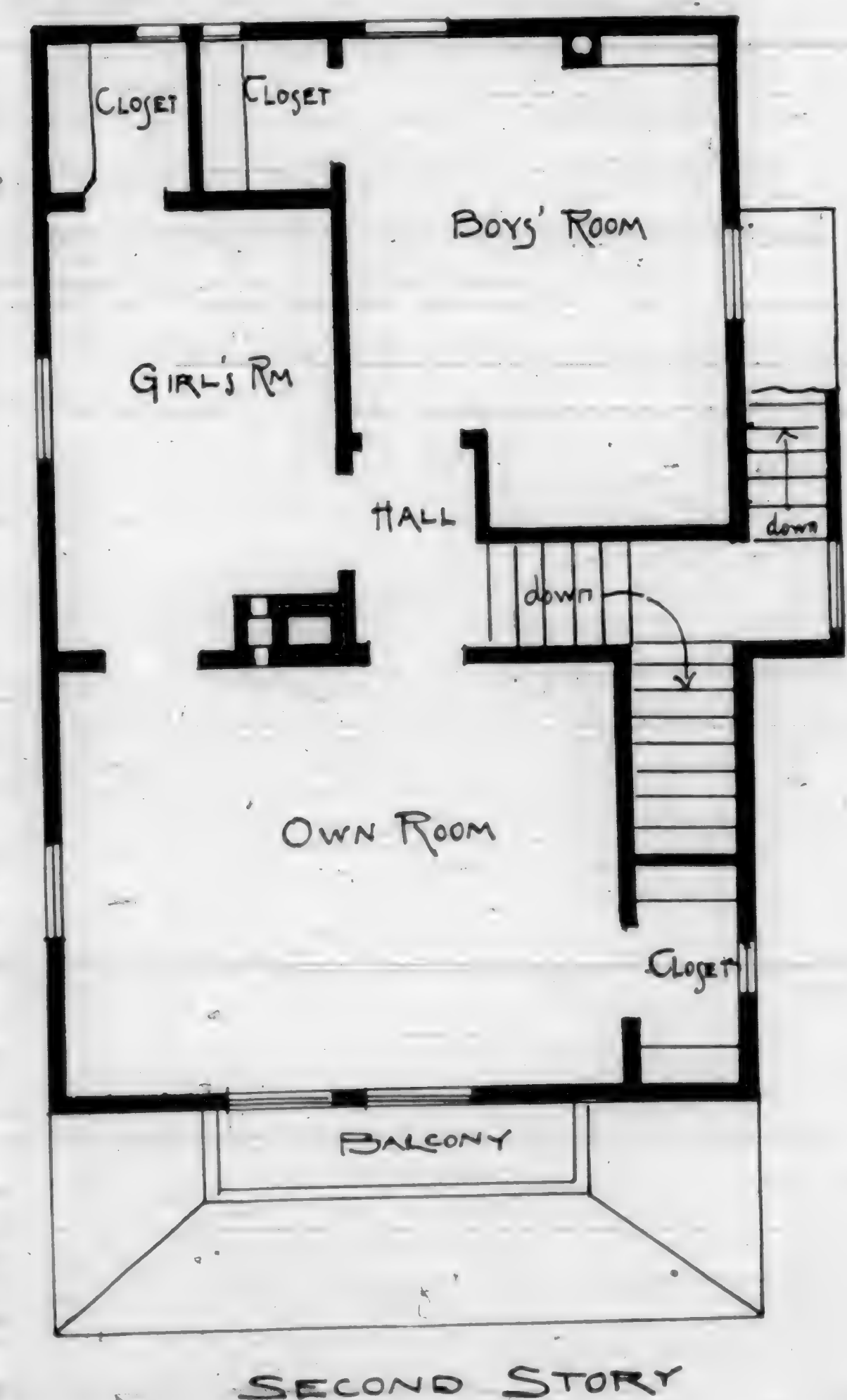
INTERPRETATION OF BUILDING CONTRACTS.—Where one let a contract to another, to do the stone work on a building, providing for monthly payments, not to exceed eighty per cent of the estimated value of "the work performed on the building." The most expensive part of such work was quarrying and dressing 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. Aldous, City Court of New York, General Term, 27 N. Y. Supp. 267. 52.*



SECOND STORY

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. Caryenter 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 \$11,500.

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 \$1,594.

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 22; 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 \$6,675.

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. Roese; 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 \$2,280.

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. Koloffrath; 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, The Jackson Mfg. Co.; signed, March 21; filed, March 21; cost \$2,770.

Market near Post. Iron furring; owner, Walter S. Hobart by Exrs.; architects, Percy & Hamilton; contractors, Dyer Bros.; 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, 749. Additions and alterations; owner, Robert Flint; architect, H. B. Maggs; 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 \$11,141.

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 \$29,667.

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 \$1,879.

Post near Devisadero. To build; owner, H. A. Rosenbaum; architect, M. J. Lyon; contractor, H. Rohling; signed, March 26; filed, April 3; cost \$7,650.

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 \$2,250.

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, J. F. Kennec; contractors, Flood & Watson; signed, April 3; filed, April 10; cost \$1,850.

Twenty-first near Treat Ave. Two cottages; owner, R. H. Cowan; architect, 25; cost \$2,638.

Tenth Ave. near Point Lobos. To build; owner, Wm. Domrone; architect, H. Gellfuss; contractors, Flood & Watson; signed, April 3; filed, April 10; cost \$1,850.

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 \$2,980.

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 \$1,000.

Vallejo near Stockton. To build; owner, C. Southern; architect, H. Gellfuss; contractors, Schutt & Kreeker; signed, April 8; filed, April 9; cost \$3,198.

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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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 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.

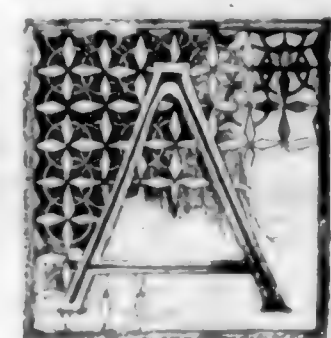
INROADS ON THE ART OF ILLUSTRATING.

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, wherever use 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:

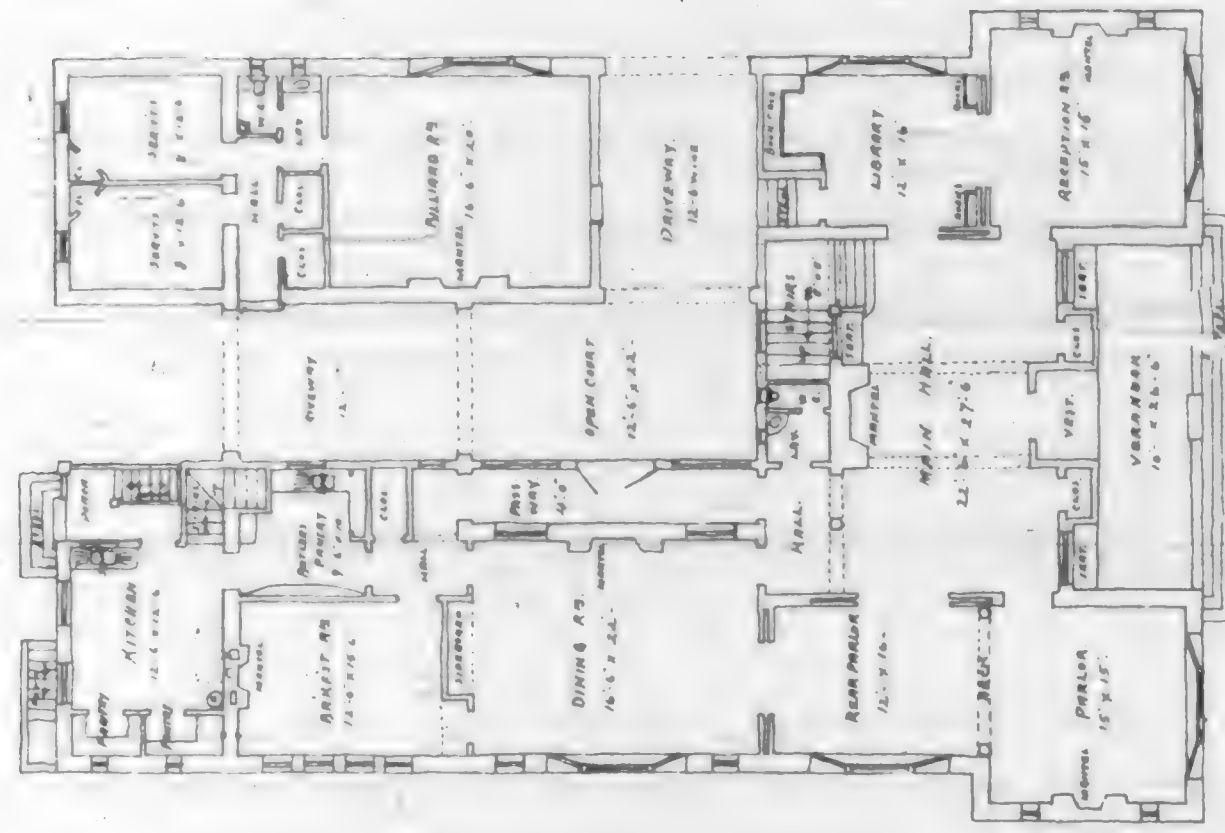
"Figure twenty-one represents a sample of concrete made of the best Portland Cement, moulded in brick form; made in the proportion of one cement to two crushed bricks. When one month old it was heated to redness for six hours in a furnace, and when taken out was then partially plunged into water, the 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."

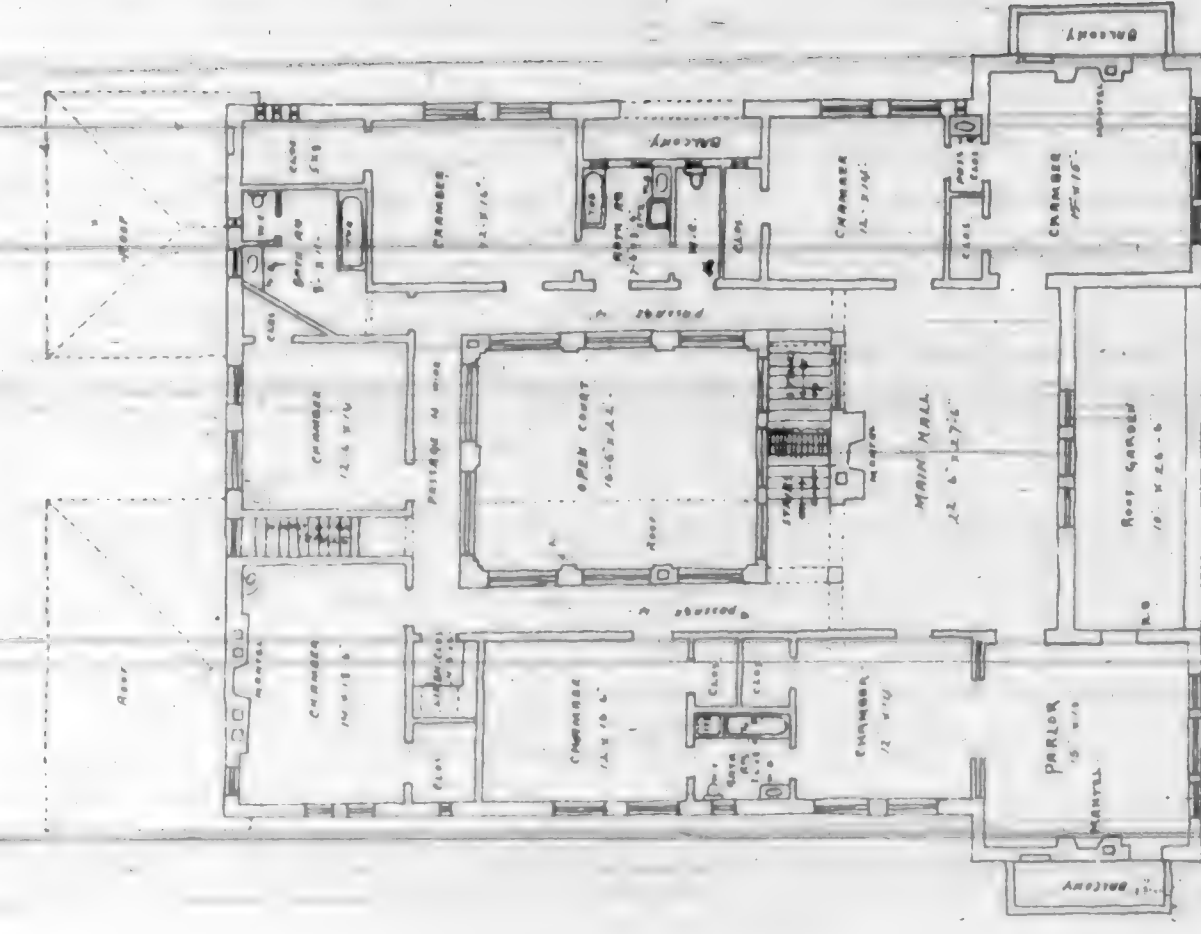
The illustrations and quotations in your issue of last month in the article over the signature "Consistency" was taken from pages 19, 20 and 21 of that work; and the object of my present writing is not only with reference to the article now going the rounds of the press under the heading, "Effect of 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



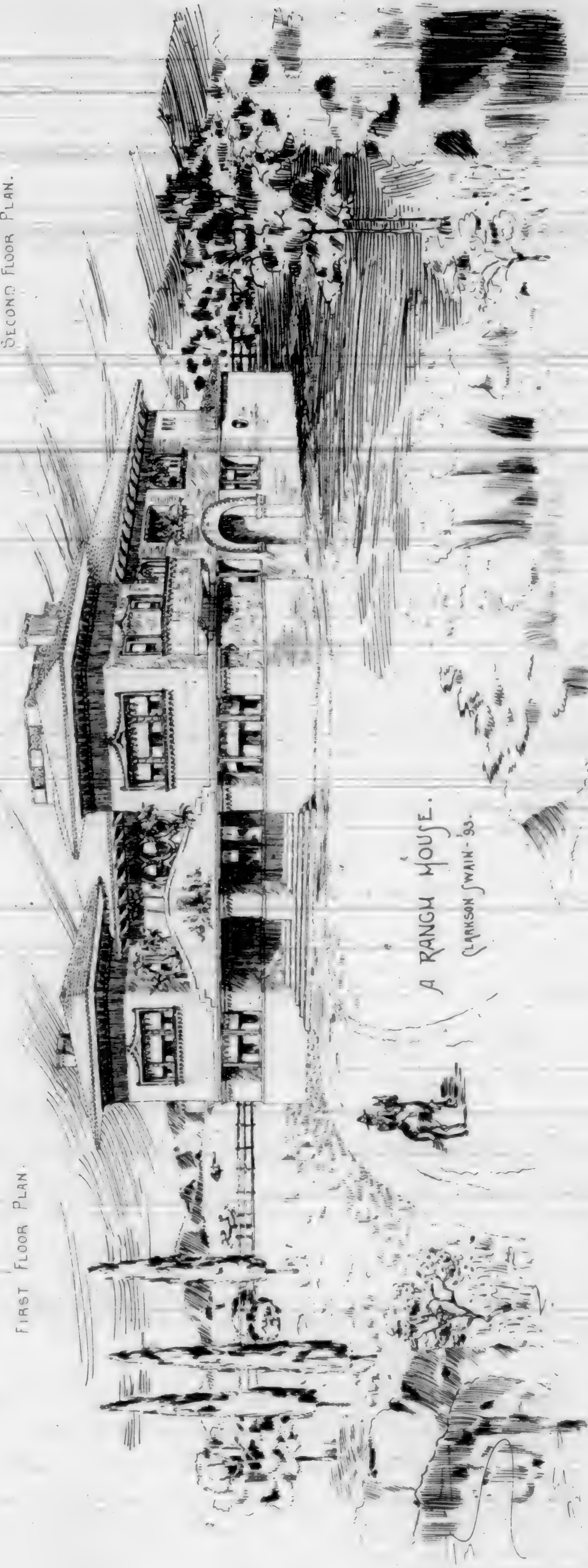
DR. BOERICKES' HOUSE ON WASHINGTON STREET SAN FRANCISCO.
POLK AND GAMBLE ARCHITECTS.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

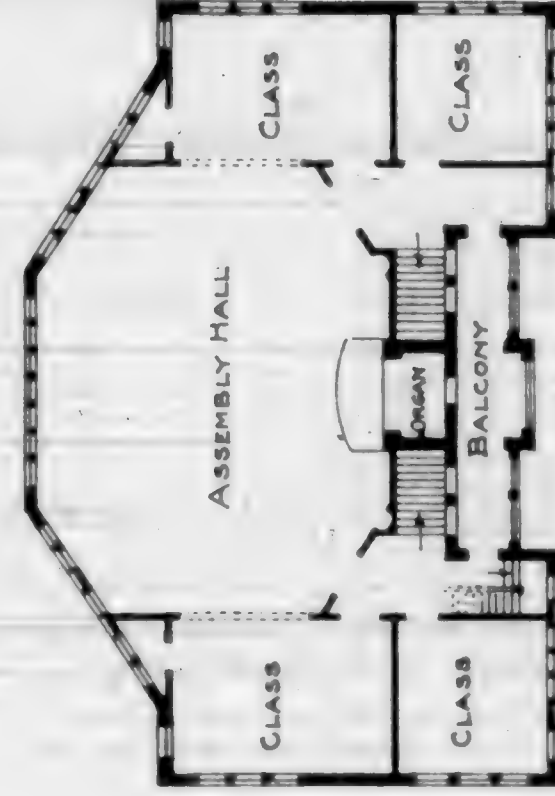


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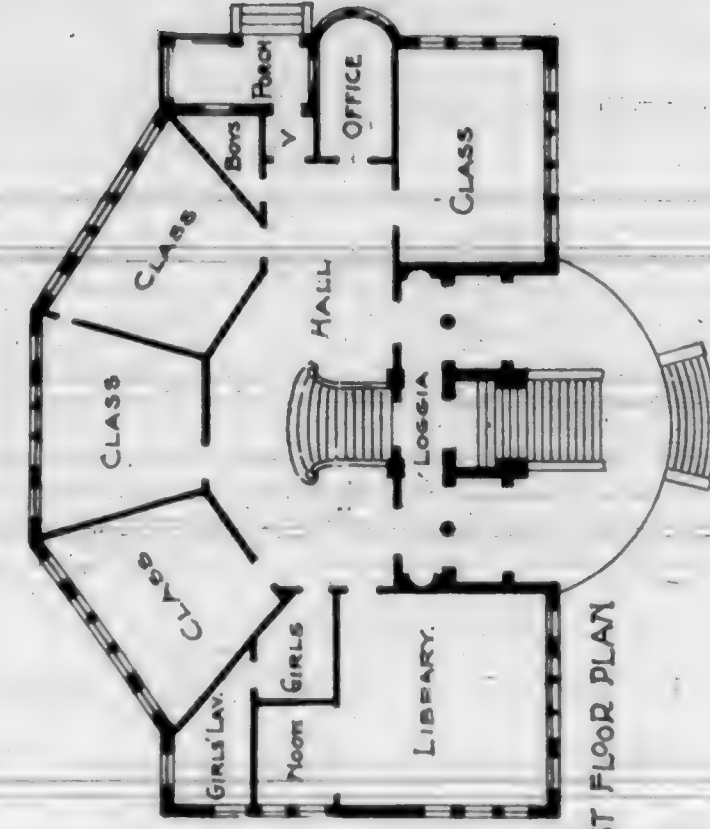
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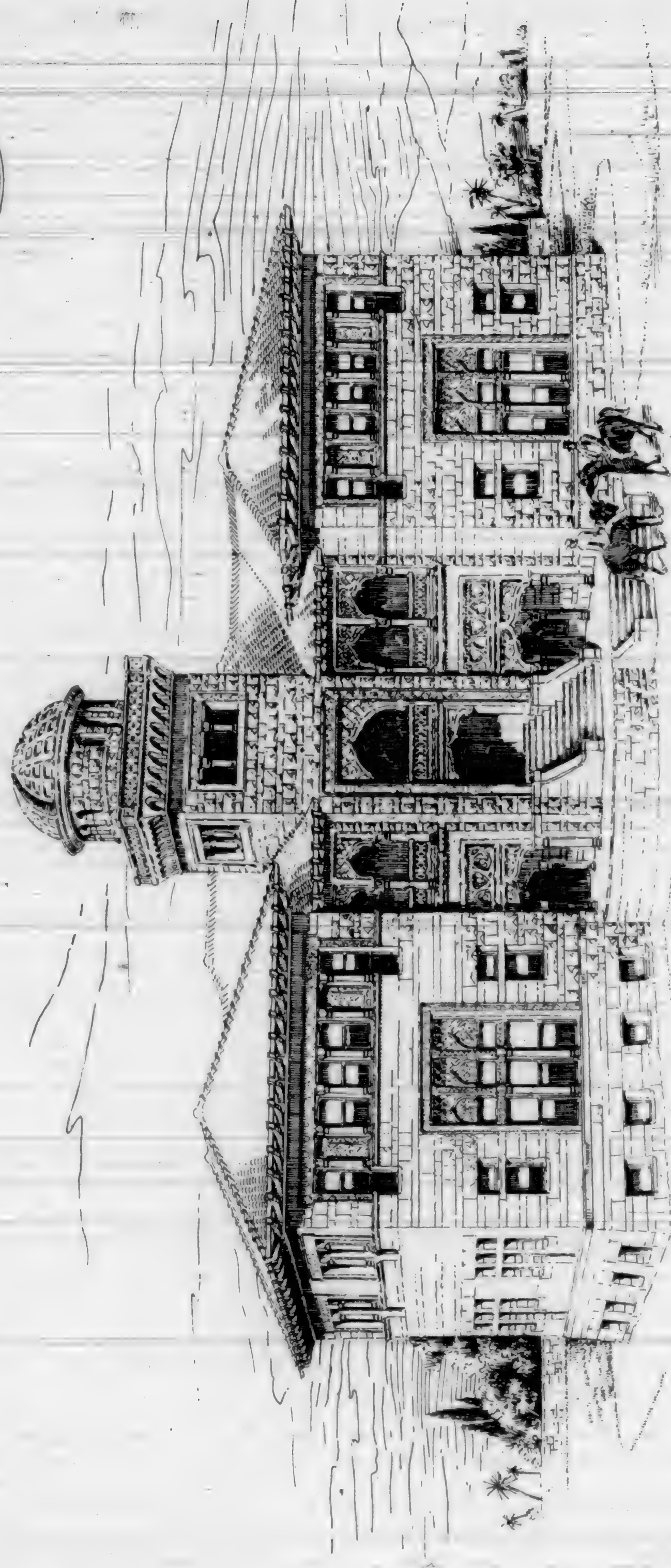
ACCEPTED
DESIGN FOR
OAHU COLLEGE BUILDING
Honolulu — H.I.
SUBMITTED BY
C. B. Ripley and
Arthur Reynolds, ARCHITECTS



SECOND FLOOR PLAN



FIRST FLOOR PLAN



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