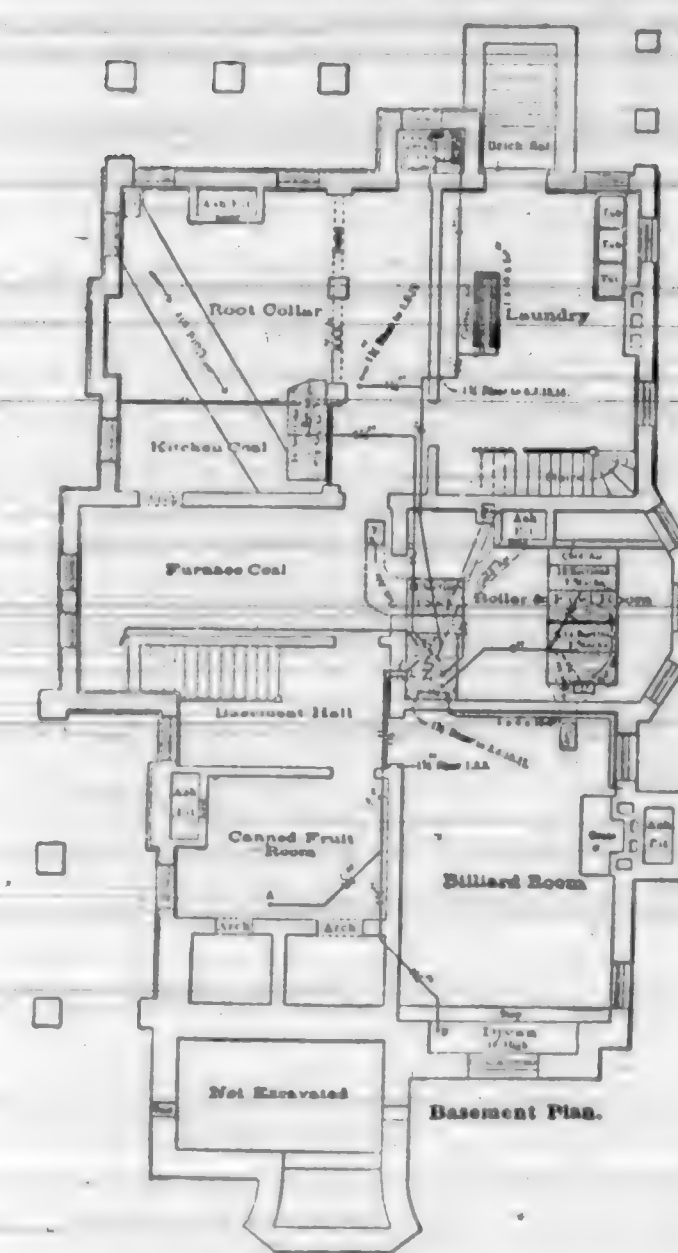


## EXAMPLE OF A HOT WATER HEATING JOB

DONE IN THE RESIDENCE OF  
JEREMIAH DWYER, ESQ., President of the Michigan Stove Co., Jefferson  
Avenue, Detroit, by the  
DETROIT HEATING AND LIGHTING CO., DETROIT, MICH.  
(From the *American Artisan*, Nov. 9, 1889.)



In a recent issue of the *American Artisan*—that of October 26—we gave an extended account of the hot water method of heating, advocated by our friends of the Detroit Heating and Lighting Company, together with a minute description of the admirable Bolton Heater, whereby they carry it into effect.

We desire to let our readers judge of systems and inventions by ascertainable facts, and so, to give them a fair chance on the heating system under notice, and this from the features of a demonstrated success, we now furnish an account—with explicit plans—of its application in the private residence of a gentleman who may be named as one of the largest stove manufacturers in the

world, and therefore a most competent judge in the selection of appliances of this very kind. We allude to Jeremiah Dwyer, the well known President of the Michigan Stove Company, of Detroit, whose house, which is located on Jefferson Avenue, is a handsome brick structure with elaborately carved red sandstone trimmings, the general effect being very rich and pleasing. It is one of the most striking of the many new and costly residences on this fine street, and one of the most elaborately and tastefully furnished houses in the Northwest.

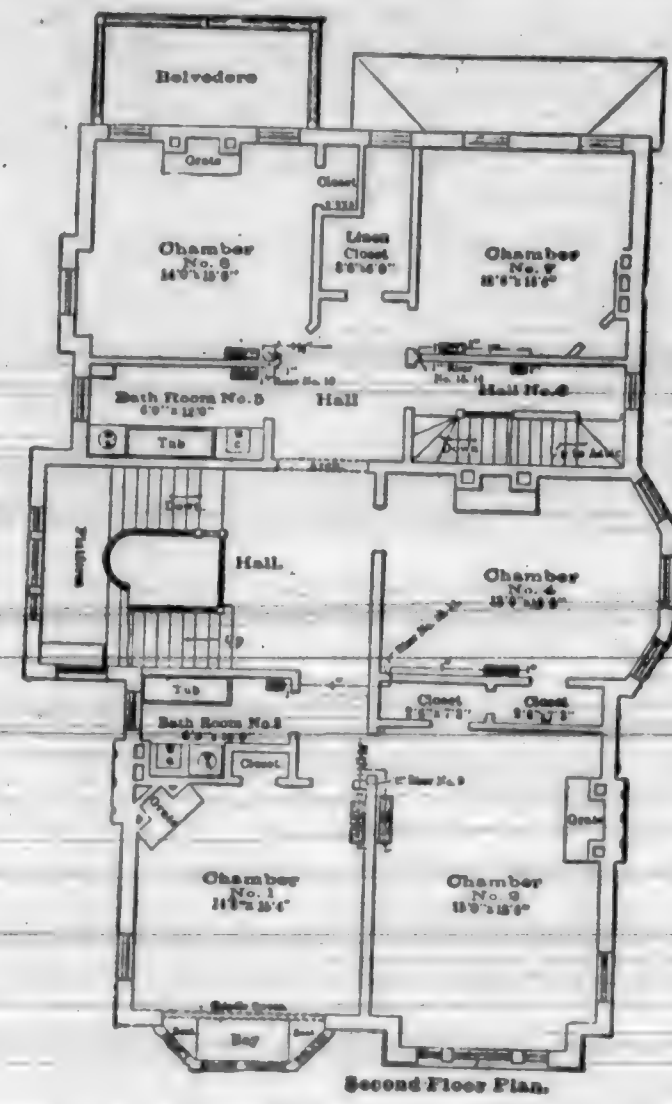
Mr. Dwyer, as a stove man "from way back," looked with suspicion on the new-fangled device for warming houses, but after a great deal of consideration and, as he says, in a recent letter, "after much consultation with his associates," he decided to put in hot water, and we may say he is most enthusiastic over the result of this experiment.

The heater used is a No. 7, two-fire-pot Bolton, located in the "boiler room" in the basement, as shown on plans.

In the basement the only rooms heated are the billiard room, in which there is a coil on the wall; and the laundry and a closet, heated by coils suspended from the ceiling.

The cold-room in the basement receives air from out of doors, which is passed over the indirect radiators and warmed on its way to the registers in the first floor. The air-supply can be regulated according to the weather outside, but always affords an ample supply of fresh, pure air to the rooms above.

On the first floor the radiation is almost en-



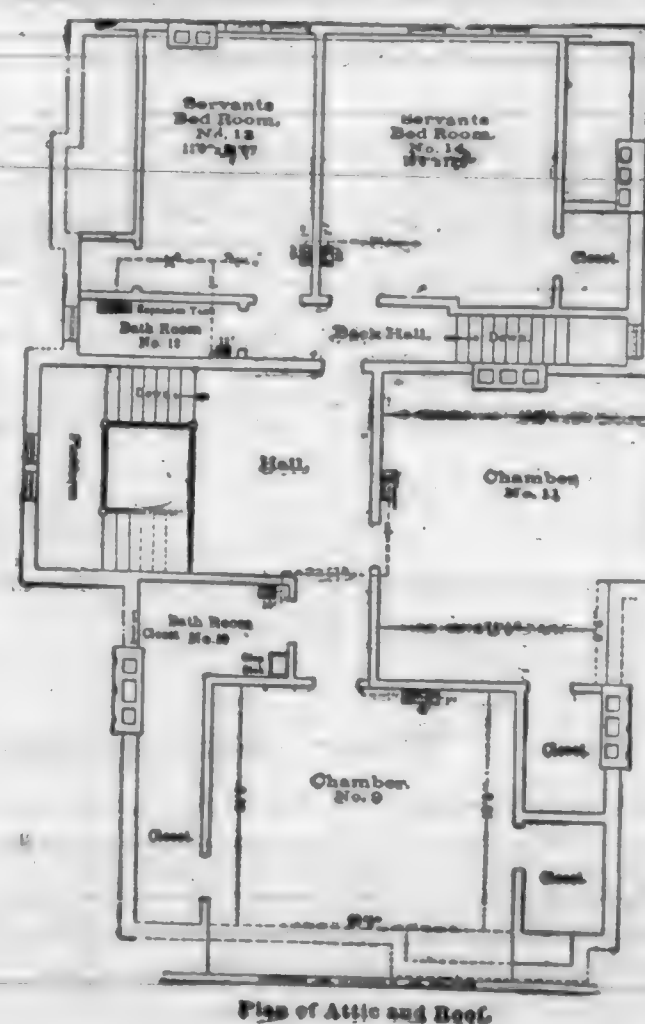
tirely indirect, the warmed air being admitted through electro-bronze registers of Moorish design. The direct radiation on this floor consists of two coils placed under the window seats of the reception hall and parlor. That in the parlor, on account of the lowness of the window seat, had to be sunk several inches below the level of the floor. Both coils are concealed by antique brass screens.

The second and third floors are heated by direct radiation. In the bathroom on the third floor is the expansion tank, which is always open to the atmosphere, so that there is never any pressure upon the pipes, ex-

cept the weight of the water which they contain, and therefore no possibility of explosion.

The plans show the location of all registers and radiators, as well as of the pipes leading to them. The risers are marked with their diameters, and with numbers indicating the radiators which they supply. Lines of exposed pipe are shown by solid lines leading from the heater, and dotted lines show where concealed supply pipes are run under the floor. Only the flow pipes are given, as the return pipes are run, in every case, parallel and close to the flow pipes. The whole constitutes the perfection of a first-class heating apparatus, highly effective and economical in its operation, and is an interesting example of the methods of modern hot water engineers.

The apparatus for this work is, as above stated, the well-known Bolton Heater, which has such an excellent record for long and creditable service in the climates of Winnipeg and Montreal. In this country it is manufactured by the Detroit Heating and Lighting Company, and has rapidly attained a wonderful popularity. As a further indication of the extent of the Company's operations, it may be stated that among their many contracts they are now putting one of their heaters into the Washington residence of Senator McMillan; one in the remodeled residence of ex-Mayor Wm. G. Thompson, of Detroit, where a \$50,000 fire was recently caused by a defective heating apparatus; one in the Whitney National Bank at New Orleans; one in the residence of Mr. Jarvis Richards, President of the First National Bank at Chadron, Neb.; and one in the residence of W. W. Spalding, of Duluth, Minn. This also shows the wonderful adaptability of this system of heating to all ranges of climates, from the blizzard region of the Northwest down to the shelterless Western plains and the stormy Southern-gulf.



OFFICE OF  
THE MICHIGAN STOVE CO.  
DETROIT, Apr. 22, '89.  
Detroit Heating & Lighting Co.

DEAR SIR:—Replying to your favor of recent date, asking my opinion in regard to your Bolton Patent Hot Water Heater, which you put in my new house last fall, would say that it was only after considerable thought by my associates and self on the subject of heating and ventilation that we concluded that hot water was the best artificial heat, if the system of circulation and workmanship was properly done.

Your Heater, I consider A1, and your system of circulation and workmanship is well done, and every way satisfactory to myself and family, and I take great pleasure in making this statement. Yours respectfully,  
JEREMIAH DWYER.

# The California Architect and Building News.

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SAN FRANCISCO, CAL.

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NUMBER 6.

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A monthly Journal devoted to the Architectural interests of the Pacific Coast. Published on the 15th of each month by THE CALIFORNIA ARCHITECTURAL PUBLISHING COMPANY, 408 California Street, San Francisco, Cal.

W. P. MOORE, President.

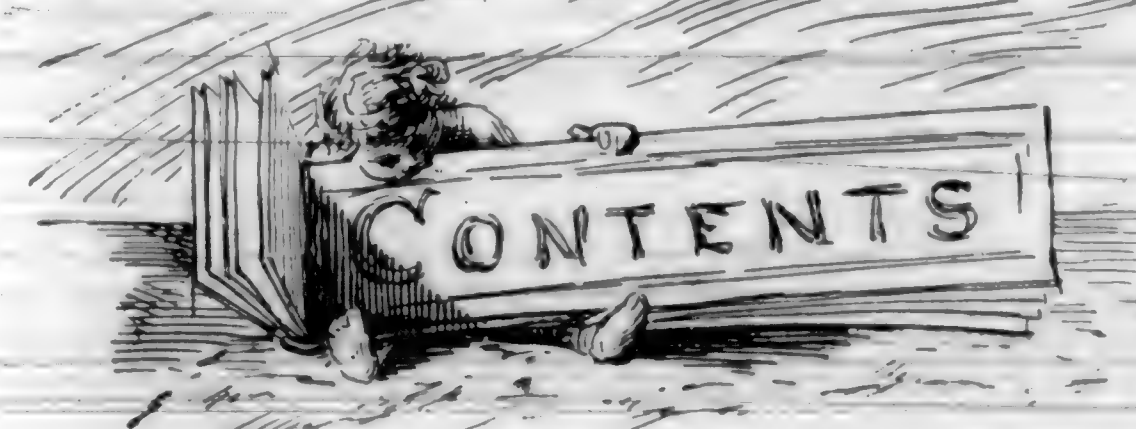
OLIVER EVERETT, Secretary.

THE CALIFORNIA ARCHITECTURAL PUBLISHING COMPANY is composed of Architects and others interested in the profession.

SUBSCRIPTION TO THE JOURNAL, \$2.00 PER YEAR IN ADVANCE.

| Space.       | 1 Month. | 3 Months. | 6 Months. | 12 Months. |
|--------------|----------|-----------|-----------|------------|
| 1 inch.....  | \$ 1.50  | \$ 4.00   | \$ 7.50   | \$13.00    |
| 2 inch.....  | 3.00     | 8.00      | 15.00     | 26.00      |
| 3 inch.....  | 4.50     | 12.00     | 22.50     | 39.00      |
| 4 inch.....  | 6.00     | 16.00     | 30.00     | 52.00      |
| 5 inch.....  | 7.50     | 20.00     | 37.50     | 65.00      |
| 6 inch.....  | 9.00     | 24.00     | 45.00     | 78.00      |
| 7 inch.....  | 10.50    | 28.00     | 52.50     | 91.00      |
| 8 inch.....  | 12.00    | 32.00     | 60.00     | 104.00     |
| 9 inch.....  | 13.50    | 36.00     | 67.50     | 117.00     |
| 10 inch..... | 15.00    | 40.00     | 75.00     | 130.00     |
| 11 inch..... | 16.50    | 44.00     | 82.50     | 143.00     |
| 12 inch..... | 18.00    | 48.00     | 90.00     | 156.00     |
| 13 inch..... | 19.50    | 52.00     | 97.50     | 169.00     |
| 14 inch..... | 21.00    | 56.00     | 105.00    | 182.00     |
| 15 inch..... | 22.50    | 60.00     | 112.50    | 195.00     |
| 16 inch..... | 24.00    | 64.00     | 120.00    | 208.00     |
| 17 inch..... | 25.50    | 68.00     | 127.50    | 221.00     |
| 18 inch..... | 27.00    | 72.00     | 135.00    | 234.00     |
| 19 inch..... | 28.50    | 76.00     | 142.50    | 247.00     |
| 20 inch..... | 30.00    | 80.00     | 150.00    | 260.00     |

Remittances should be in the form of postal orders, payable to THE CALIFORNIA ARCHITECTURAL PUBLISHING COMPANY, and all communications addressed to the office of the Company, 408 California Street, San Francisco, Cal.



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### NOTICE.

MR. George H. Wolfe, having no further connection with the business of this journal, correspondents will in future address their communications to the *California Architect and Building News*, 408 California street, San Francisco, Cal.

### NOTICE OF MEETINGS.

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

SETH BABSON, Pres.

W. P. MOORE, Vice-Pres.

OLIVER EVERETT, Sec.

JOHN M. CURTIS, Treas.

TECHNICAL SOCIETY OF THE PACIFIC COAST, meets first Friday of each month at 408 California Street.

JOHN RICHARDS, Pres. PROF. FRANK SOULÉ, Vice-Pres.

OTTO VON GELDERN, Sec.

JAS. SPIERS, Treas.

THE regular monthly meeting of the Technical Society of the Pacific Coast was held Friday evening, June 6th. A paper on logarithms was read and illustrated by Prof. R. Stringer of the University of Berkeley.

C. D. Harvey of this city exhibited samples of a new style of coupling for water and steam pipes. These couplings are made with shoulders on the inside to form a smooth flush surface on the inside of the pipe to prevent eddies in the flow of water or steam through the pipes.

At the next meeting the electrical storage company will exhibit the working of their apparatus.

P. J. Flynn, C. E., will read a paper on open drainage.

The society is now in a very satisfactory condition, and is constantly initiating members from all over the Coast.

THE regular monthly meeting of the San Francisco Chapter A. I. A., was held Friday evening June 13th. President Babson in the chair.

Architect Frank Shea was unanimously elected a fellow member.

An application was received from Herbert G. Lowry to become a student member, referred to a committee consisting of Cuthbertson, Sanders and Everett.

The committee appointed at a former meeting to procure papers to be read and subjects to be discussed by the Chapter reported that a syllabus had been prepared, and that the subject of the paper for the July meeting will be *The Scroll, the Star and the City*, by W. J. Cuthbertson. Other papers will be announced in the order in which they will be presented, and notice given in these columns previous to the meetings.

The committee appointed to decide on the merits of the drawings in the competitions of the A. I. A. Sketch Club reported first mention to S. C. Benson, second to H. J. Van Vlack, third to J. W. Rowell. Report accepted and committee discharged. A new committee consisting of Bugbee and Bestor was appointed to adjudge the mentions in this July competition on the subject of a wrought iron gate.

Mr. Sanders read the following paper elaborating an idea advanced by him at a previous meeting, looking to the erection of a commodious building for the accommodation of artistic and professional kindred societies.

MR. PRESIDENT AND GENTLEMEN: The subject of a "Home for the Professional Artisans," if such a term is admissible has, for many years past, in one form or another engaged the professional mind. If I err not the Grand Opera House was at one time intended as such a home.

Preceding that I remember early in the 70's, some scheme looking in the same direction, and only a few years since Col. Mitchell of the Ichi Ban interested the late Charles Crocker in a scheme which was brought to within an ace of realization, looking to a home for the Art Society as well as musicians, painters, architects and other allied professionals. This scheme included a small but very carefully arranged Opera House in the programme, and it was perhaps well that it was not finally consummated, as under the circumstances the whole enterprise would have been very likely to come to grief.



But aside from all previous schemes the object of the present paper is briefly to examine a few of the reasons for supposing that were a scheme of the sort realized under favorable conditions it might possibly be a success.

In the first place—beginning with our own profession—among the seventy or more architects, styled and self-styled, as well as recognized by the profession generally as entitled to that honorable designation, may we not reckon on at least one-third of them as properly embraced in the latter category and who could be regarded as *reliable* for proposed tenants? Then among the artists similarly classified, may not a similar proportion be found even if the members may not be represented as more than half as large. Then there are the engineers, a body of men second to none in respectability and solidity; then there are the engravers, photographers and others less intimately allied with the artistic professions and not forgetting the vigorous cult of sculptors and the ubiquitous and versatile decorators, carvers, professional house furnishers, etc., far too numerous to mention specifically. In view of all these different classes as constituency, is it not just within the possibility of fact that there may be in the neighborhood of one hundred good and true men in the professions allied to the arts of design, who could be reckoned on as a permanent corps of tenants for a building devoted to, and constituting a home for the Muses.

In connection with such a home, constituting an essential part of it should be an auditorium of moderate capacity so designed as to be appropriate, not only for lectures and public exhibitions, but as well capable of being used as a concert room though this should be regarded rather as a subordinate than as a primal qualification; and merely for the purpose of making the room remunerative when unused for other and more specially artistic purposes of a graphic character. One of these would be the holding of art exhibitions and for art auctions and sales, photographic exhibition and for the School of Design, for which also properly arranged class rooms, art rooms, life school and gallery would constitute a prime feature. Then the series of *artist's studios*, should be so arranged as to form a *suite* connected with one another at pleasure as well as with the art rooms of the school. The architect's ateliers should form another series similarly connected with a small gallery which could be devoted to the exhibition of competition drawings—or with the gallery of the hall itself and so on throughout the building, all being arranged with special regard to the needs of each class of tenants so as to render it as it were a sort of "*sine que non*" an absolute necessity for one who wished in any way to be in the *Savin*.

Then occupying the street levels should be arranged stores especially adapted to the exhibition and sale of artistic goods. Such stores as those of Shreves', Nathans', Colonel Andrews' Diamond Palace and others of like nature. Vickery's Etchings, Rare books, and art stores proper, of which Morris & Kennedy's remains, I believe, now the sole representative, of those in which an art gallery is combined with the store proper.

Such a building could easily be made to occupy a corner 50 vara, and if furnished with wide entrances, elevators and all modern appliances and carried at say from five to eight stories in height could hardly fail, it would seem, to prove successful. Such a project brought in a practical way to the notice of some capitalist of ample means should readily meet with his approval and support.

After transacting the routine business the meeting adjourned.

#### A. I. A. SKETCH CLUB.

THE A. I. A. Sketch Club which was formally organized May 13, 1890 with twelve members on the roll, held their regular monthly meeting on Thursday evening June 12th, in the rooms of the San Francisco Chapter A. I. A.

Three applications were received for membership.

The June competition on the subject of a *Wrought Iron Gate* was closed and the subject chosen for the July competition was *A Hall Clock*.

The officers of the Club are R. H. Wetmore, Jr., President; S. C. Benson, Vice-President and H. J. Van Vlack, Secretary and Treasurer.

All communications are to be addressed to the Secretary, room 94, Flood Building.

#### RULES AND REGULATIONS OF THE A. I. A. SKETCH CLUB, OF SAN FRANCISCO, CAL.

##### ARTICLE I. NAME AND OBJECTS.

1. The name of this organization shall be the A. I. A. Sketch Club, of San Francisco, California.
2. The object of this Club is to promote the professional knowledge of its members, and to facilitate their intercourse and good fellowship.

##### ARTICLE II. OFFICERS.

1. The officers of the Club shall consist of three members of the Club, elected at the annual meeting, namely: President, Vice-President, and Secretary and Treasurer.

##### ARTICLE III.

###### MEMBERSHIP AND BALLOTING.

1. The membership to consist of students only, employed in the offices of members of the San Francisco Chapter of the American Institute of Architects.
2. Persons desirous of becoming members may be proposed in writing by one member of the Club in good standing, and if no objection is made, referred to the Investigating Committee appointed by the President, and if favorably reported on by said committee, may then be balloted for at next regular meeting. Two black balls will reject such membership; application can not be renewed for a period of three months.

##### ARTICLE IV.

###### RECEIPTS AND DISBURSEMENTS.

1. The initiation fee to be \$1.00 and the monthly dues \$.25 payable in advance to the Treasurer of the Club. Members delinquent in dues at the time of the annual meeting will be dropped from the roll.
2. Expenses to be paid by vote of the Club.

##### ARTICLE V.

###### MEETINGS.

1. Regular monthly meeting to be held the Thursday preceding the second Friday in each month, for the transaction of all business and for lectures, etc., which may be arranged for said meetings.
2. The annual meeting to be held on the Wednesday preceding the second Friday in December.
3. The exhibition to be held one week following.
4. Special meetings called by President attested by Secretary.

##### ARTICLE VI.

###### COMMITTEES.

1. Auditing and Investigating Committees to consist of two members each appointed by the President. They shall report in writing on such business that they perform, at the regular meeting following their appointment.
2. The President may appoint committees from time to time as may be found necessary.

##### ARTICLE VII.

###### AMENDMENTS.

These rules may be amended by a two-thirds vote of the members voting at a regular meeting, such amendment having been proposed in writing, at a previous regular meeting.

##### ARTICLE VIII.

###### QUORUM.

1. A quorum in the Club to consist of one-third of the members on the roll in good standing.
2. Any member who absents himself from all the class and business meetings of any month without notification to the Secretary shall be dropped from the roll.

##### ARTICLE IX.

###### COMPETITIONS.

1. To be held monthly upon such subjects as shall be decided by the Club, monthly. All drawings to be delivered flat and in non de plume to the Secretary on or before the evening of the regular monthly meeting.

##### ARTICLE X.

Any Parliamentary question which may arise, not covered by these rules, will be decided in accordance with Roberts' Rules of Order.

##### ARTICLE XI.

1. Every member of this Club shall sign a manuscript copy of these rules and regulations.

#### AMENDMENT TO THE FIRE ORDERS.

A subscriber asks for information concerning the recently enacted orders relating to fire escapes and metallic stand pipe. Following is the full text of the new order and the date of its passage:

##### ORDER NO. 2203.

Amendatory of Section 18, Order 1917, to define the fire limits of the city and county of San Francisco, and making regulations concerning the erection and use of buildings in said city and county.

The people of the city and county of San Francisco do ordain as follows:

Section 18 of Order 1917 is hereby amended to read as follows:

[FIRE ESCAPES, STAND PIPES, IRON DOORS AND SHUTTERS.]

SECTION 18. Every building occupied above the second floor from the level of the street by two or more families, and every building occupied as a tenement, boarding or lodging house, or for a factory, mill or manufactory, or for offices or workshop, in which persons are employed above the second floor, and every school building more than two stories in height, shall be provided with suitable facilities for escape in case of fire, to be kept in good repair at all times and free from all obstructions, and sufficient for the safe egress, in case of fire, of all the persons usually employed in or frequenting the building.

Every building hereafter erected of four or more stories in height in the city and county of San Francisco shall be provided with one or more metallic ladders or fire escapes, with balconies and railings to extend in front of and to communicate with one window in each story, extending from the first story to upper stories of such buildings, to four feet above the roof.

They shall be of such location and numbers and of such material and construction as the Board of Fire Wardens of the city and county of San Francisco may determine. After such determination shall have been made, as aforesaid, any member of the said Board of Fire Wardens may, at any time, by a notice in writing served on the owner, agent or lessee, of any such building, by leaving with such owner, agent or lessee, or at his, or her, or their residence, or place of business, a copy of such notice, to cause such metallic ladder or fire escape to be placed upon such building, within thirty days of serving such notice.

Provided, however, that all buildings more than two stories in height used for manufacturing purposes shall have one metallic ladder or fire escape for every twenty-five persons or less employed above the second floor. In case such owner, agent, lessee, or either of them, so served with the notice aforesaid shall not, within thirty days after the service of such notice upon him or them, place or cause to be placed such metallic ladder or fire escape upon such building as required by this section and the terms of such notice, he shall be subject to a fine of not less than twenty-five dollars or more than five hundred dollars. And to a further fine of fifty dollars for each week of such neglect to comply with such notice after the expiration of the said thirty days.

Every building of four stories or more in height situated in the city and county of San Francisco shall have a four-inch metallic stand pipe outside the front wall, extending from four feet above the line of the sidewalk to four feet above the roof, and at each story there shall be proper branches with gate valves, and there shall be a siamese inlet four feet above the line of sidewalk, and a siamese outlet at the end of pipe over the roof, with gate valves attached, all to be made of proper dimensions to connect with the hose used by the Fire Department. All valves to open and close as the Chief of the Fire Department may determine.

All owners, occupants or the person or persons having control of any building on which iron shutters are placed shall leave all such iron shutters above the first story opened, and fitted so as the firemen can readily close them when needed to protect the building from fire. All iron doors and shutters to openings

on the first story of any building shall be hung on hinges, and the locks shall be so arranged as to admit of easy destruction by the Fire Department or Fire Patrol; provided, that all iron doors or shutters shall be securely fastened in the wall or be hung to an iron frame. This shall apply to all iron doors or shutters in the front, on the sides or in the rear of a building, and in no case shall all the iron doors and shutters of a building be fastened from the inside, but at least one of such doors in the front, on the side and in the rear shall be fastened with a lock as above described.

No gratings or bars of iron, wood, brass or other material shall be either temporarily or permanently placed, fixed, built or maintained in the walls or framework of any brick, stone or wooden building in this city and county, in the basement, or in any story or portion of any story of any building, or in the openings made for affording access or exit to or from any building, or in any space or opening for affording light or air, or in any opening made in any building for doors, windows or other purpose, without permission of the Board of Supervisors.

In Board of Supervisors, San Francisco, April 7, 1890.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Bingham, Wright, Boyd, Pescia, Bush, Ellert, Wheelan, Pilster, Kingwell.

Absent—Supervisors Becker, Barry, Noble.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, April 16, 1890.

E. B. POND,

Mayor and ex-officio President Board of Supervisors.

WE would call the attention of our readers to the vast field covered by advertisers in this journal. Any person desiring to know about the newest and latest improvements and inventions relating to building and construction and the materials and process employed, and where to go to procure the best goods of standard makers, has only turn to the index of our advertisers and read the matter therein contained to find information that no end of personal correspondence would be required to collect.

The majority of architects consign a circular to the waste basket as soon as received, often without troubling themselves to remove the contents from its envelope. We know from long experience that when they desire information on any particular subject, they turn to their trade journal, and in its well arranged columns find the particular circular they want, properly indexed and accessible at a moment's notice, which is a great convenience and saving of valuable time, as a busy architect cannot well spare the time to hunt through piles of circulars in search of a certain one, which perhaps has not been kept after all.

The moral of this is to advertise where it will do the most good and receive the most attention, and we will say that space in our columns is becoming more and more sought after by shrewd business men, who are not slow to recognize the truth of this proposition when placed before them.

The fact that our advertising columns are becoming more and more crowded with interesting matter and will soon have to again be increased in number, is one that should be considered by every firm or individual who has articles to introduce to public attention and who wishes to do so in the most direct and economical manner.

THE San Francisco Art Association desires to call the attention of the public in general, and of all those desirous of obtaining an art education, to the opportunity afforded by the California School of Design.

This Association has rooms at 430 Pine Street, that are large and perfectly adapted for the purposes they serve. There are three sessions yearly, each term three months in length, beginning on the first Mondays in January, May and September of each year.

There is at present a new arrangement in force designed for the benefit of teachers in the public schools, who may attend the Saturday class throughout the year.



## TESTS OF BUILDING STONES.

IN THE course of an exhaustive paper on this subject, Mr. Maddell describes in their proper order the various tests to which building stones are usually subjected:

1. THE SODA TEST.—In order to obtain satisfactory results from this test, at least eighteen cubes of each kind of stone to be tested would be required. They should be either 2-inch or 2½-inch cubes—probably the former would be better—as the 3-inch cubes are rather bulky. Six cubes should be thoroughly dried, then broken in a testing machine so as to obtain an average resistance to crushing. If the stone be of uniform quality, these six specimens would give a fair average, provided that the manner of manipulation in the machine were uniform, as it should invariably be; but if the quality vary decidedly in the different specimens, the number of the latter, both treated and untreated, should be increased.

The remaining twelve or more specimens of each kind of stone, after being distinctly marked, should be boiled twice a day for an hour at a time in a concentrated solution of sulphate of soda for fifteen days, at the end of which time the specimens should be tested, the boiling process being continued on the remaining process fifteen days longer. Before crushing, each treated specimen should be thoroughly dried.

To dry the stone, first keep them in a warm place for two days, then just before testing, place them in an open air bath for two hours, so as to drive off any moisture that may have been absorbed. Of course, if the specimens can be kept in a warm place until ready to put in a testing machine, the use of the air bath can be dispensed with. The main object should be to have all the specimens tested exactly alike.

There should be not less than three different kinds of stone represented in this test in order to obtain comparative results; and the more that is known concerning the qualities of the reference stones, in respect to their action when in actual use, the better.

One might suppose at first thought that the greater porosity of the stone, the greater the effect of the crystallization, but such is not the case; for if the pores were large and constituted a large portion of the mass, there might be room for the crystals to form without displacing any particle of the stone. The writer is led to conclude that such may be the case by the fact that the sulphate of soda manipulation appeared to have no deteriorating effect on Warrensburg sandstone, which is very porous in comparison with limestone.

2nd. THE FREEZING TEST.—Judging by the experiences obtained in making this series of tests, the conclusion has been reached that the employment of a freezing mixture is practically useless for various reasons. First, if special arrangements be not made to prevent radiation, it will be found impracticable to obtain the lowest possible temperature that can be produced from the mixture, and even if it could be reached, it could not be retained for more than a few minutes at a time. Again, a long continued alternation of freezing and thawing is necessary to produce any appreciable effect; and as the process is both tedious and expensive it would be better to employ a simpler and more effective one.

The method of conducting the test referred to would be as follows:

At least eighteen 2-inch cubes of each kind of stone to be tested would be prepared, one-third of the number being broken after a thorough drying in order to determine the crushing resistance of the untreated stones. Two or more flat wooden boxes with covers, divided into cubic compartments to contain the specimens would be prepared, provision being made to draw off all the water that might otherwise collect in the boxes. Each specimen before being placed in its compartment, would be accurately measured and weighed, after being thoroughly dried.

The boxes, when filled, would be covered and locked; then about the beginning of cold weather would be sent to a reliable person in some cold climate for manipulation. This would consist in first soaking the stones in water, then alternately freezing and thawing them daily throughout the entire winter, one box being drained before freezing, and the other being frozen in

a pan of water. At the end of the winter the boxes of specimens would be returned, then each stone, after thorough drying, would be weighed and crushed, thus determining the loss of both strength and weight due to the treatment.

3rd. ABSORPTION TEST.—This, although a very useful and satisfactory test, should not be considered a conclusive one in respect to the suitability of a stone for building purposes; for it is possible that a stone which absorbs but little water may deteriorate more quickly than another stone that absorbs considerably more water.

4th. FIRE TEST.—This is a good test, but as in the last case, is not conclusive; for a stone that will stand it is very probably good for building purposes, while one that fails under it may or may not be unfit for the same. It is possible that if a more moderate heat were to be employed than that used in making the tests just described, the results would be more distinctive and satisfactory. It would be well to the effect of repeated heating and sudden coolings, the temperature employed being constant, continuing the tests until all the specimens be rendered worthless, and noting how each specimen bears the treatment.

5th. ABRASION TEST.—No more impartial or convincing test than this could be devised, for the specimens of various kinds of stone are all treated at the same time and are subjected to exactly the same conditions. The results show indubitably the order in which the various stones resist abrasion combined with impact, such as that to which bridges and piers are subjected by floating ice and trees. It is barely possible, though, that after a number of years in actual use in bridges and piers, the stones, when subjected to this test, would indicate a different order of resistance.

For abrasion pure and simple without impact, a grindstone test would be conclusive. In this each specimen should be held by a constant pressure for a certain time, against a grindstone run at a uniform velocity by machinery. Then, if the specimens be of exactly the same dimensions, the percentages of weight lost by the grinding will indicate the order of resistance.

6th. CRUSHING TEST.—This, the most common of all tests, for stone, cannot always be relied upon to give even comparative results, unless all the tests considered, were made in precisely the same manner. The time element is the most important factor, because a specimen when tested rapidly, may indicate a greater strength than it would if tested slowly. Then again, it is a matter of judgment as to the exact period of the test, when the specimen may be said to fail the kind of crushion employed (or substance interposed between the specimen and the machine) will materially affect the result. Lead, which was commonly employed a short time ago, has fallen into disuse. Its effect appears to be a splitting of the stone, caused by flowing of metal into the irregularities of the compressed surfaces, thus indicating a lower resistance than would otherwise be developed. A thin layer of plaster of paris gives the best and most uniform results; nevertheless the water used in mixing it acts as a disturbing element by soaking into the stone when squeezed out of the plaster by the pressure. Pieces of blotting paper placed between the stone and the plaster of paris reduce the effect of this disturbing element.

As a rule it requires more tests than are ordinarily made upon any one kind of stone, to determine its average resistance to crushing, as even the most homogeneous appearing stones vary materially in strength when subjected to this test. Again, the dryness of a specimen will effect its crushing strength. Each kind of stone should be tested when both are thoroughly dry, and when saturated, and enough specimens should be broken in each case to determine a reliable average.

A knowledge of pressure a stone will bear when thoroughly soaked in water, is very desirable for an engineer, when dealing with masonry below water line.

7th. SPECIFIC GRAVITY TEST.—The making of this test is a comparatively simple matter, especially as no extreme accuracy is required. It will suffice to measure carefully all the dimensions of a number of cubes, and to weigh the latter without drying them; the weight per cubic foot will be found to vary from one to three pounds on each side of the average, the amount of variation depending upon the homogeneity of the stone, a small variation being a good characteristic, in that it indicates uniformity of composition.

8th. MICROSCOPIC TEST.—This test, which, as applied to building stone is quite new, is said by good authority to be the best of all tests for stone. It requires to be made by one who is a specialist in both lithology and microscopy.—Stone.

THE sensation of the past few days in building circles, is the discovery that portions of the walks and piers of the McAllister Street wing of the New City Hall have been stuffed with rubbish, instead of being the solid, massive masonry they appear to be, and were supposed to be by the public and the City Hall Commissioners. The newspapers have made much of the affair, and given the impression that the contractors would have benefitted largely by the frauds, had they not been discovered.

The contractors claim that the inferior work was done by a single vicious mechanic, who attempted to blackmail them, and being unsuccessful, vented his spite by informing the authorities of the poor work done.

The expert appointed to examine the whole work, reports that by taking down and rebuilding certain piers and arches the injured portions can be put in proper condition to safely carry the weights they were designed to support.

It would appear to a casual observer, that a deliberate attempt at a fraud of this nature would be unsuccessful from the fact that so many men must of necessity be aware of the doings, as to render it impossible to keep the matter secret. Such does not appear to be the case, however, as others besides the mechanics employed on the job claim to have been aware of the state of things, but did not concern themselves sufficiently to take the trouble to inform the proper officials, and it remained for a discharged mason to bring the affair to light.

THERE is now every probability that Market Street will be extended in a straight line to the Pacific Ocean.

It will be a most important improvement, and by giving access to a large tract of land at present quite inaccessible, cannot help but be of great benefit to the property in the locality it opens up.

MODELS of the four competitive designs for the City Hall statuary to be erected by the Lick Trustees, have been submitted. This is the second attempt at securing a competitive design worthy of execution; the first resulted in a fiasco, as is usually the case when a building committee, public officials, or private individuals attempt to secure something for nothing.



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.

Through the kindness of architect T. J. Welsh, we are enabled to give the plan and elevations of the New Supreme Court building, which is now being erected on the northwest corner of McAllister and Larkin streets. J. P. Hale is the owner.

The building fronts 120 feet on Larkin and 137 ft. 6 in. on McAllister street and is five stories in height besides the attic story. The fifth story and the attic will be used by the Supreme Court. The other stories will be utilized for office purposes, and the first floor for stores.

The materials employed are concrete, brick, and iron; the fronts are of pressed and stock brick, granite, San José sandstone and terra cotta. The building will have all modern improvements, and will cost about two hundred and fifty thousand dollars.

The perspective drawing of St. John's Church is from the designs of the architect E. A. Coxhead. The church will be erected near Valencia and Fifteenth streets in this City.

## DRAWINGS FOR REPRODUCTION.

ARCHITECTURE AND BUILDING for May 31, gives some excellent advice to draughtsmen and designers, on the requirements of drawings designed for reproduction, which we reproduce below:—

The art of drawing for reproduction like every kindred art has been steadily advancing. We have been repeatedly asked to indicate the principles upon which such work is done. Most of the drawings which are reproduced in our plates are very much larger in the original than in the reproduction, this fact necessitates a study of the effect of reduction upon the reproduced design.

Some draughtsman imagine that the larger the drawing and the blacker it is the better will be the reproduction, but the results are sometimes sadly disappointing. When a drawing is on a large scale, the light lines are reduced in width to such an extent as to appear to be mere scratches on the paper. If a drawing be on paper larger than 21 in. x 32 in. all the lines should be coarse or heavy, widely spaced, for a fine line would simply be reduced out of sight, or lines too near together would be blurred into a confused mass of inkness. Some of our finest draughtsmen endeavor, to get in an effect of perspective distance by means of lines of uneven intensity, beginning with great firmness and depth of black and fading or vanishing into a thin gray line. This method may be well enough for a design in a pictorial sense, but if it is to be reproduced the thin gray line becomes a series of straggling dots, and as a consequence, have no visible expression. There are, of course, exceptions to this general statement. Some of our readers who have had the pleasure of seeing the original pen-and-ink sketches of Mr. E. A. Abby or Mr. J. C. Stevens, will recognize the distinction we have in mind. These men have had many imitators, but few have been successful. An analysis of their work will show that no matter how finely drawn their lines may be they are firmly drawn, with a touch that is as bold or vigorous as it is delicate, and that their meaning has been thought out before being drawn, and because the delicate, beautiful pen work tells its story so well is only another proof that in art nothing is impossible. This method, however, is so exceedingly difficult, it is a method that is naturally so innate in the man's sense of touch that we feel it is a touch which cannot be acquired, and we cannot urge its cultivation for reproductive purposes. No matter how artistically shaded and cleverly rendered a drawing may be, if there is any trickiness in the apparent effect of the original, the camera catches the deception and exposes it in the reproduction. Cross-hatching in an architectural perspective becomes under reproduction a mere succession of blots run together, and give an effect of slovenliness.

Photo engraving and photo lithography are coldly mechanical processes, and permit of fine effects only by a studied gradation in width of line. As to the printing, every full, clear line printed has the same intensity, if apparently the intensity varies it is because the line has been weakly drawn. If contrast of light and dark are wanted in a reproduction the effect can be obtained only by a nicely calculated spacing and thickening of the line on the original; it cannot be produced by a variation in the intensity of color, of say two or more lines of equal thickness. In such an event the reproduction appears spotty or thin. If bright lights are wanted they can be obtained only by leaving the paper perfectly bare of lines at the points that the brightness is wanted. In our issue of May 10, a cottage at Baychester illustrates how very clearly and how strongly a drawing may be rendered to bring out an effect of vivacity and vigor. It will be no-



ticed that some of the lines on the roof appear to be weak and faint. This may be due to an oily surface on the paper at that point, causing it to refuse the ink, or it may have been due to too light a touch or lack of firmness in drawing the lines. On the roof of the porch the same defect is observable, but outside of that the drawing is clearly and firmly rendered, and tells its story in the best manner possible. One of the great difficulties to be overcome in drawing for publication is to obtain good ink and good paper. If the ink be too thin and flowing, it leaves a weak line on the paper that in its turn is weakened by reproduction. If the paper is bibulous it absorbs a portion of the ink into its pores, spreads it out and blurs the line. The ink should not be thick, otherwise it will be impossible to obtain a fine line. The best paper in the world to draw a perspective on is a hard surfaced bristol board; next to that is a hard finished bond paper. Tracing cloth will not take ink well on either glazed or dull side, and should not be used for perspectives that are to be reproduced. Lately we have seen a very fine French parchment, which has been imported by some of our Western architects, that takes the ink in an exquisite manner, and which is capable of receiving a hard rubbing without the destruction of its texture. The principal features to secure are: first, clearness of line at every point; second, brightness of effect by judicious disposition of the shades and shadows; third, a clear understanding of the effect desired, accompanied by a firm and bold rendering; and fourth, avoid delicacy of treatment, as it is apt to degenerate into a weak, unpictorial drawing.—*Architecture and Building.*

We give elsewhere the rules and regulations of the A. I. A. Sketch Club, organized under the auspices of the San Francisco Chapter A. I. A. The subject of their first competition was the decoration of a frieze and the three designs adjudged to be the best are given in the order of their mention, on our first page of lithographs. We regret that the second design could not be well reproduced as drawn, as it exhibited very careful draftsmanship and was shaded to perfection, but was not suited for reproduction by photo lithography, and so we were compelled to render it in line, which does not do justice to the work on the original. (In another column we give a description of some of the requirements of drawings designed for reproduction taken from *Architecture and Building*, and would call the attention of all draftsmen to the article, who have work of this description, as containing many valuable hints.



(This journal is not responsible for the opinions of its correspondents.)

### THE LELAND STANFORD JR. UNIVERSITY VIEWED IN AN ARTISTIC AND UTILITARIAN LIGHT.

TO EDITOR CALIFORNIA ARCHITECT:

Sir:—The Leland Stanford Jr. University has progressed sufficiently now for us to judge somewhat of its appearance and fitness for its purposes.

The first thing that strikes one as one approaches is the effect of its being in a basin—being a low one-story building adds to the low effect—however, being a quadrangular building it would be no doubt awkward to build it on the slope of the hill at its back, although the first impression is considerably marred by its depression. Getting nearer the effect is better, especially when one gets into the quadrangle where the arcaded cloisters cannot but be effective in any case. The detail of the caps of the columns, however, is very poor, no life or vigor exhibited in

the carving. The plan is excellent and the one-story arrangement as a college ought to be. The two deep stone transoms at each window is a serious objection in respect to cutting off the light, and it is an open question whether there will be sufficient light in the center of the class rooms for work. Light is life and should not be sacrificed to monumental effects.

Coming to the residence building we find a different principle permeating it, and many stories predominate instead of one. We fail to find the *raison d'être* of a five-story dormitory building in juxtaposition to a one-story class room building. It seems very ill-advised to put a building of so many stories up where there is so much ground to build upon, and unnecessary stairs, especially as the stairs have not an easy step. The ceilings of the studies and bedrooms are also altogether too low for California, being only 9 feet high in the upper stories.

These defects are excusable in the case of Eastern architects, but would not be tolerated in California ones. Those that come to live here, in a few years get, as it were, acclimatized, and then put up fine and suitable buildings. Until such time it is well not to experiment with exotic designs, especially for permanent public and monumental buildings.

In effect again the large five-story building completely dwarfs what should be the most important building, viz., the college proper, and the glaring monotonous color of the stone used does not add to its beauty.

The roof tiles being very thin do not look substantial enough for the substructure—the old fashioned thick pan tiles would have, no doubt, been more suitable, although heavier.

Yours, etc.,

STROLLER.

SEATTLE, WASH., May 10th.

CALIFORNIA ARCHITECT AND BUILDING NEWS:

Gentlemen:—I would be much pleased if you would insert an item in your paper for your advertisers to mail me their circulars and price lists.

Yours very truly,

W. LUFF MEREDITH.



Miss Minerva Parker, we believe, is the only woman in America actually practicing the profession of Architecture. Her office is at 14 South Broad street, Philadelphia. She proposes for the present to confine herself to domestic architecture, and has already satisfactorily designed and executed a number of residences and dwellings. Though she encountered many difficulties in obtaining the necessary knowledge, training and experience required to establish herself in business yet she has found her sex to be no obstacle to her advancement, and has received words of encouragement both from members of the profession and the public. A preliminary sketch for a cottage designed by Miss Parker appears in the May number of the *Journal of Building*.

The Pittsburgh Master Plasterers Association have established the following schedule of prices for the year 1890:

Common plaster, 32 cents per yard; adamant plaster, 50 cents per yard; wire lathing, 65 cents per yard; running cornices, 25 cents per foot; cementing, one coat, 75 cents per yard.

FIRE AND WATER for May 31st, contains the proceedings of the tenth annual convention of the American Water-Works Association. Among other valuable and interesting papers read and discussed was one by Mr. Le Conte on "Contamination of waters in certain storage reservoirs on the Pacific Coast and the palliatives resorted to." He describes in detail the causes of the putrefaction of vegetable and animal matter, contained in reservoirs during the summer months, and suggests methods of purifying the stored waters and preventing contamination.



CHURCH OF S. JOHN:  
SAN FRANCISCO CAL:

E.A. COXHEAD. ARCHITECT.  
SAN FRANCISCO CAL:







ELEVATION ON McALLISTER ST.

SCALE, EIGHT FEET TO ONE INCH

SUPREME COURT BUILDING



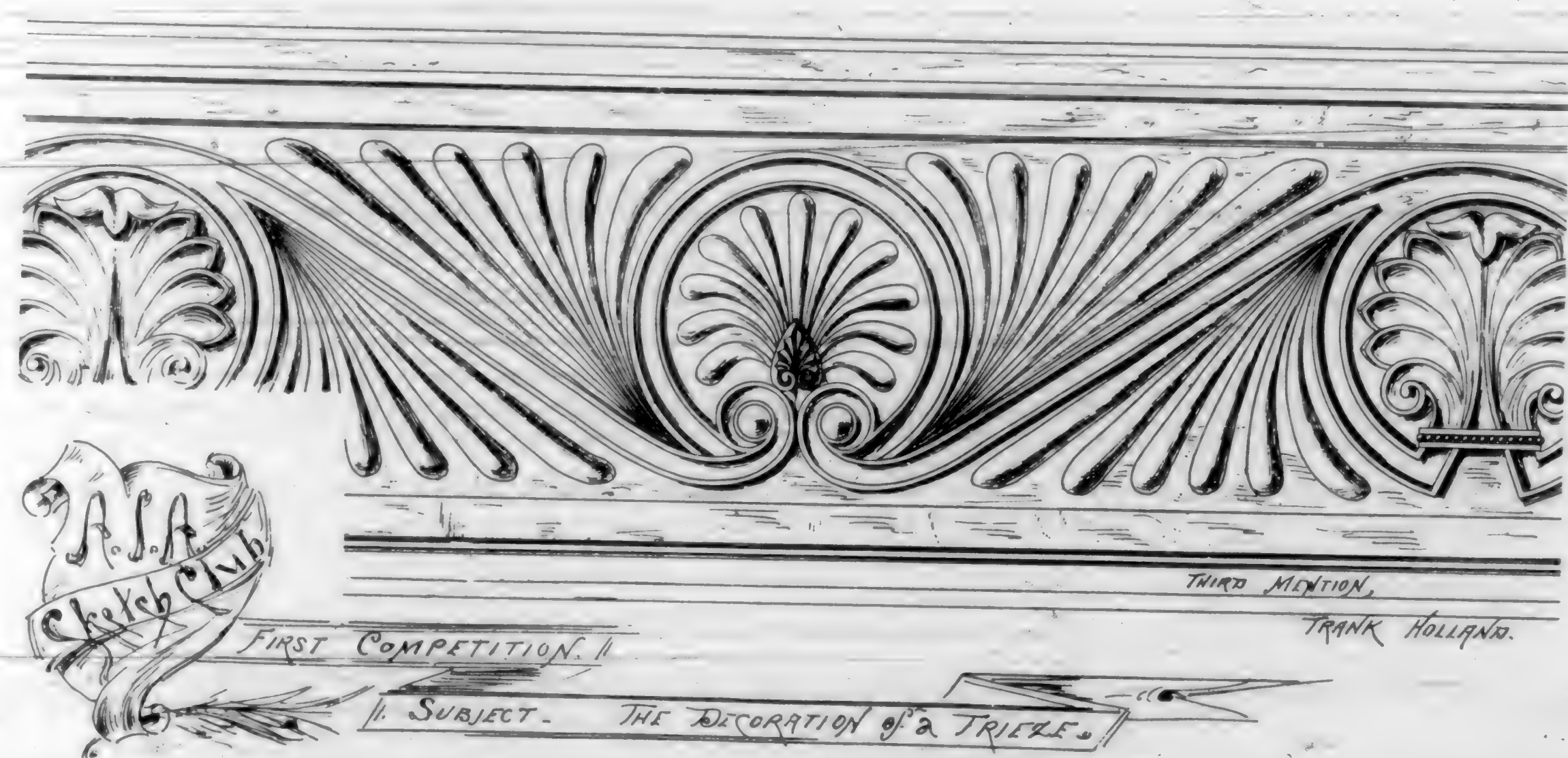
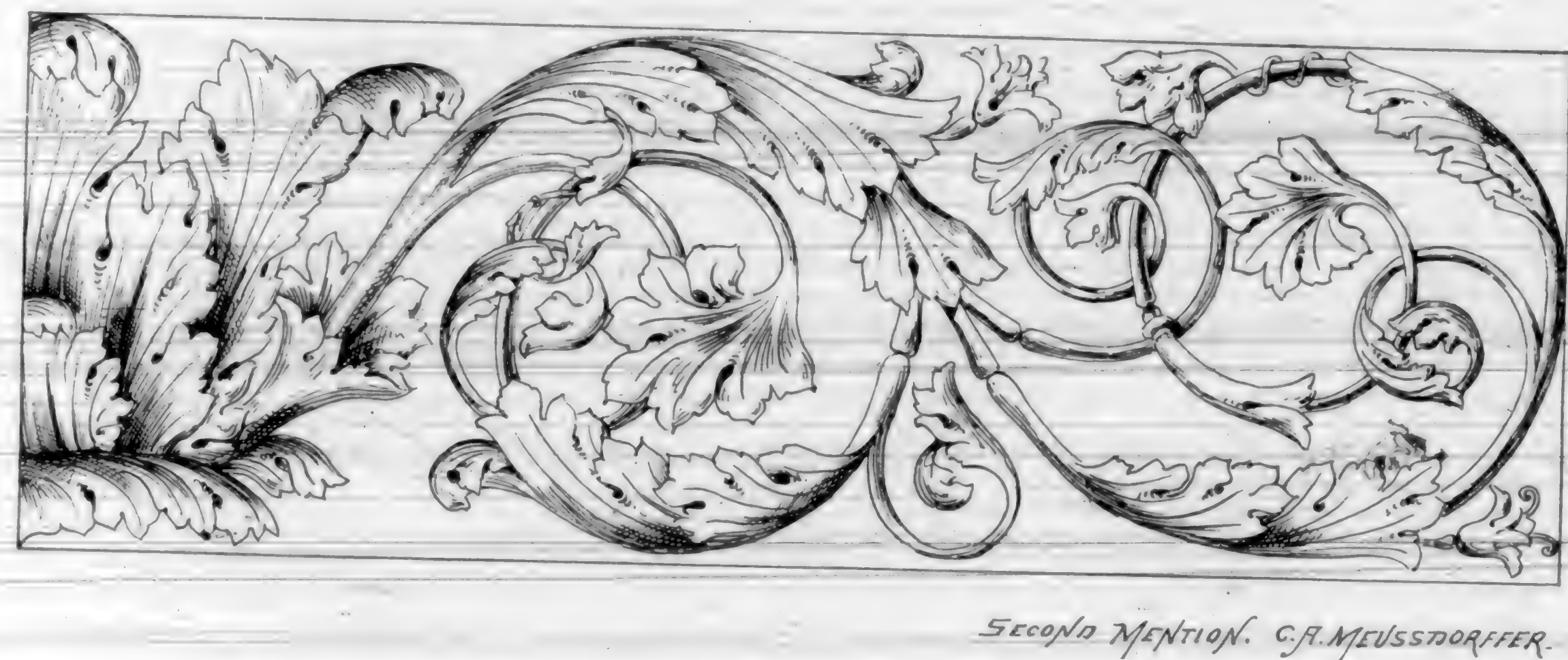
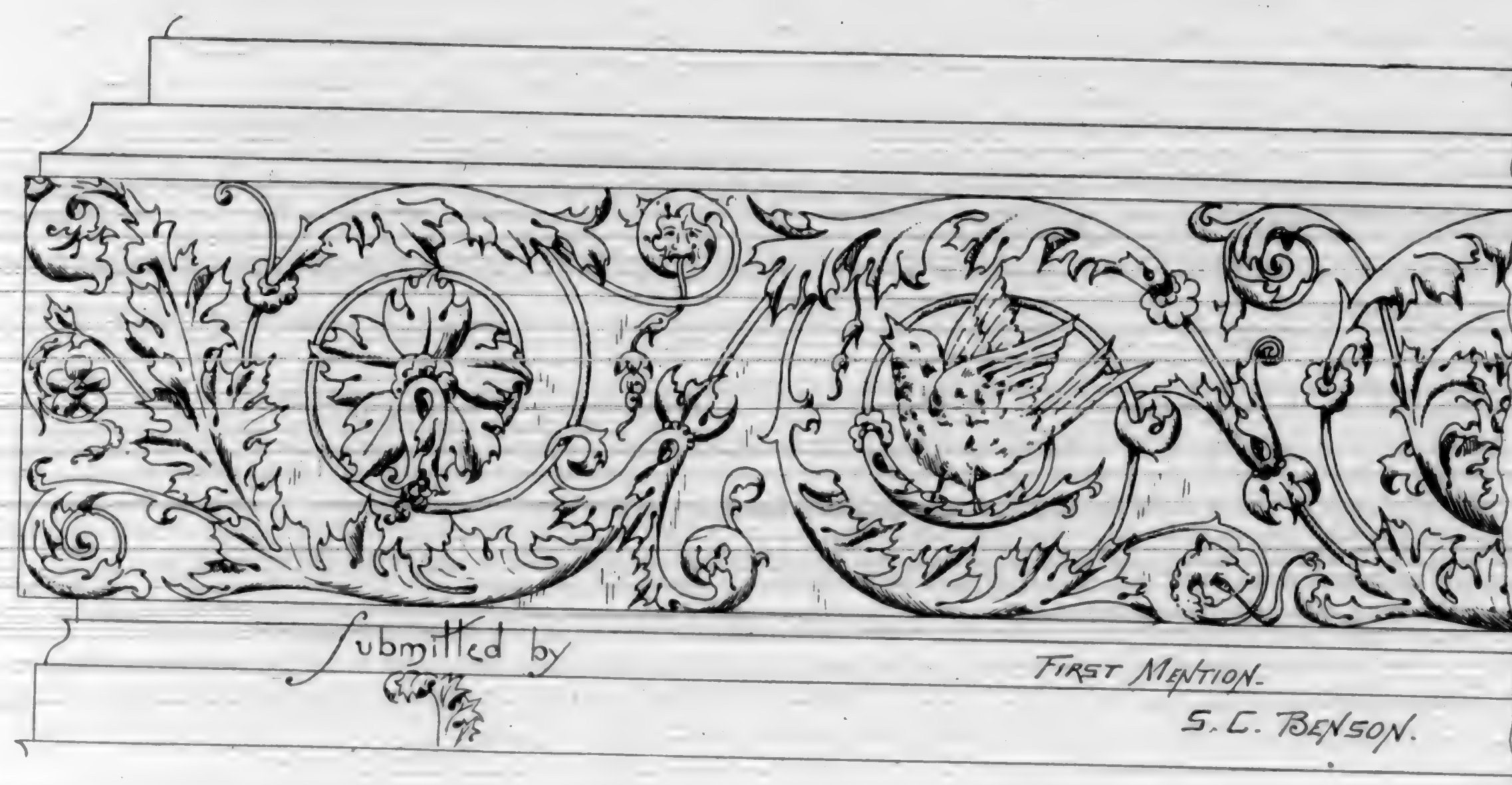
ELEVATION ON LARKIN ST.

SUPREME COURT BUILDING.

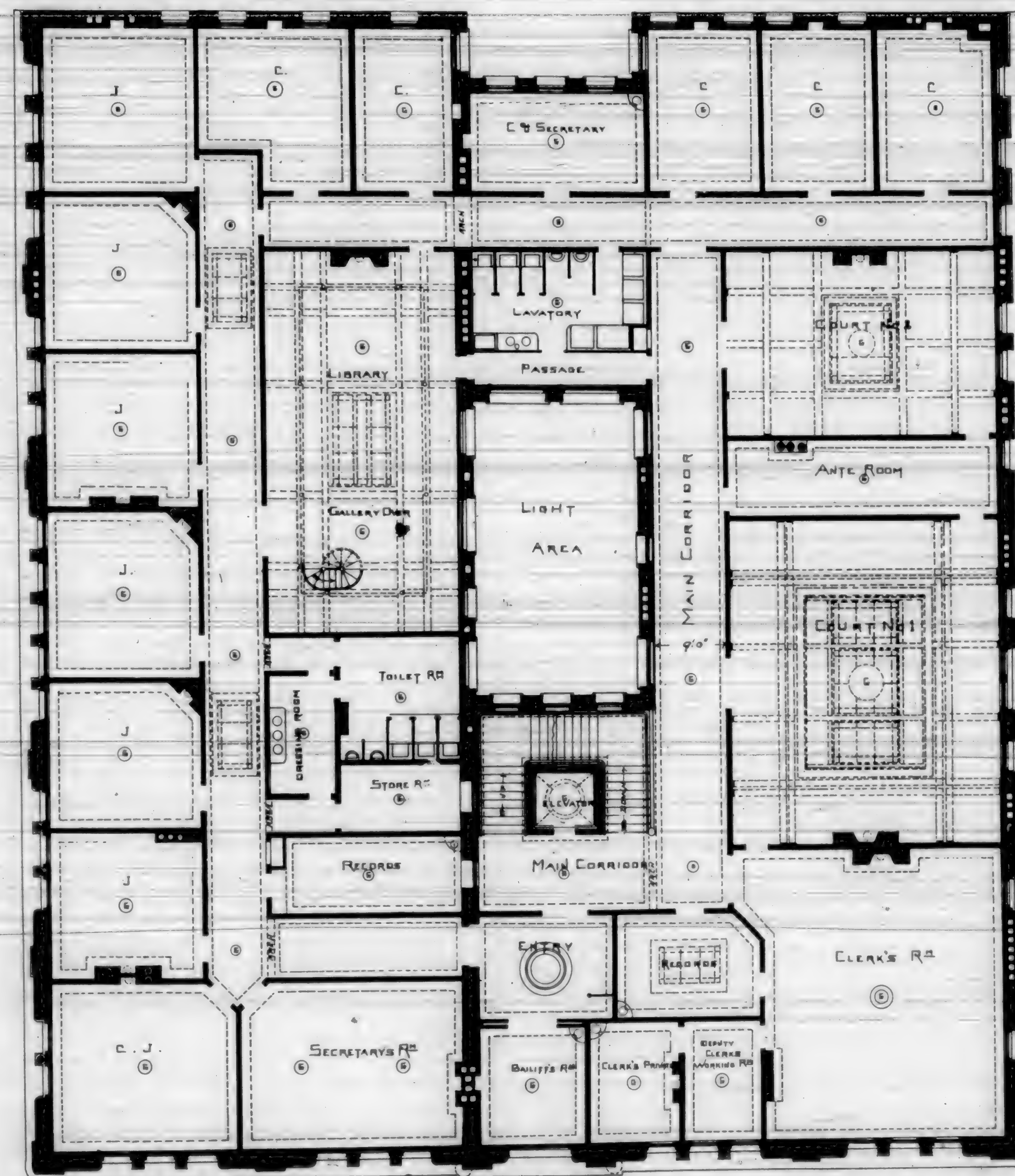
T. J. WELSH, ARCHITECT.  
Room 95, Flood Bldg.,  
SAN FRANCISCO.



# THE CALIFORNIA ARCHITECT AND BUILDING NEWS.



# THE CALIFORNIA ARCHITECT AND BUILDING NEWS.





THE ENGINEERING AND BUILDING RECORD in its issue of May 31st has a paper by J. Nelson Tubbs on a method to be employed in determining an equitable schedule of water rates for cities and towns.

HOUSE PAINTING AND DECORATING is endeavoring to get Congress to pass a law making it a misdemeanor to falsely label any pigment or oil. We hope it will succeed. If consumers wish to use impure materials they are at liberty to do so, but they should not be deceived into buying adulterated stock under the impression that it contains nothing but pure ingredients.

THE SANITARY PLUMBER suggests that as subway tunnels will become a necessity in the near future for such cities as New York, that the proper authorities should take time by the forelock, and by investigating the subject from all points, ascertain the best form, the proper size, and all other necessary information as will enable them to decide intelligently when the time comes for a decision.

ARCHITECTURE AND BUILDING of May 10 contains the designs for the Grand Stand at Monmouth Park, N. J. There is some dispute as to who is entitled to the credit of designing the large projecting roof, as well as who originally supplied the idea, several parties claiming credit therefor. The articles on Roman Architecture by Prof. Atchison are continued.

## SEMI-ANNUAL SUMMARY OF BUILDING OPERATIONS.

The first six months of this year has not been as prosperous as the indications at the beginning of the year promised. Many of the larger contracts of contemplated improvements having been postponed or altogether abandoned for reasons well understood. By a comparison with former years the contracts filed foot up less than for last year.

|               | No. of Bldg. | No. of Contr. | Brick Build- ing Value. | No. of Bldg. | No. of Contr. | Frame Build- ing Value. | No. of Bldg. | No. of Contr. | Alterations & Additions Value. | No. of Bldg. | No. of Contr. | Total Value. |
|---------------|--------------|---------------|-------------------------|--------------|---------------|-------------------------|--------------|---------------|--------------------------------|--------------|---------------|--------------|
| January.....  | 3            | 10            | \$102,754               | 21           | 83            | \$158,555               | 8            | 9             | \$20,479                       | 33           | 52            | \$281,779    |
| February..... | 5            | 18            | 261,945                 | 48           | 54            | 266,317                 | 6            | 6             | 24,723                         | 60           | 78            | 552,985      |
| March.....    | 6            | 15            | 192,120                 | 38           | 44            | 318,906                 | 5            | 5             | 15,675                         | 48           | 64            | 505,701      |
| April.....    | 5            | 16            | 232,372                 | 81           | 108           | 548,456                 | 10           | 10            | 30,516                         | 96           | 129           | 811,344      |
| May.....      | 3            | 25            | 161,408                 | 64           | 72            | 366,845                 | 18           | 19            | 45,510                         | 85           | 116           | 574,559      |
| June.....     | 10           | 17            | 136,027                 | 74           | 83            | 444,871                 | 11           | 17            | 64,192                         | 95           | 117           | 644,090      |
| Total.....    | 31           | 101           | \$1,086,686             | 326          | 589           | \$2,102,930             | 58           | 66            | \$204,831                      | 417          | 556           | \$3,993,858  |

To this amount the further sum of \$400,000 should be added for work done where no contracts have been filed, which would increase the sum total to \$3,793,858.

|                         |                    |
|-------------------------|--------------------|
| 1885—754 contracts..... | value, \$4,267,375 |
| 1886—670 ".....         | 2,486,633          |
| 1887—516 ".....         | 3,269,914          |
| 1888—437 ".....         | 2,719,820          |
| 1889—546 ".....         | 3,910,600          |
| 1890—556 ".....         | 3,793,858          |

## CITY BUILDING NEWS.

**Brick work.** Owner, Easton, Eldridge & Co.; architect, P. R. Schmidt; contractor, Richard McCann; cost, \$4,440; signed, May 22; filed, May 23; payments first and fifteenth day of each month.

**Broderick and Oak.** Two-story frame; owner, Julia S. Cohn; architect, M. J. Welch; contractor, S. Sarver; sureties, C. G. Butler and H. Ramillard, \$3,000; cost, \$3,900; signed May 9; filed, May 18; payments, \$975, framed; \$975, brown mortared; \$975, completed; \$975, 35 days.

**Bush and Fillmore.** Alterations; owner, Jas. Boyd; architect, M. J. Welch; contractor, J. E. McDonald; sureties, J. H. Kruse and J. Rothman, \$1,000; cost, \$1,080; signed, May 3; filed, May 9; payments, \$570, first floor plastered; \$500, brown mortared; \$1,000, white mortared; \$1,000, completed; \$1,000, 35 days.

**Brannan and Second.** Brick and wrought iron work; owner, J. R. Tobin; architects, Hurne & Everett; contractor, Geo. D. Nagle; cost, \$3,840; signed May 3; filed, May 5; payments, \$1,000, basement; walls up; \$1,985, completed; \$955, 35 days.

**Brannan and Second.** Carpenter work; owner, J. R. Tobin; architects, Hurne & Everett; contractor, F. Buckley; cost, \$2,040; signed, May 3; filed, May 3; payments, \$2,250, roofed; \$2,250, brown coated; \$2,250, completed; \$2,250, 35 days.

**Bush and Laguna.** Two-story building; owner, S. Baker; architect, John Gash; contractor, A. L. Campbell; cost, \$7,650; signed, May 31; filed, June 2; payments, \$81, brick work done; \$881, brown coated; \$881, white coated; \$881, doors and windows hung; \$882.50, completed; \$1,762.50, 35 days.

**Bush and Central Ave.** Two-story frame building; owner, Will Dodson; architect, A. Smith; contractor, G. G. Gillespie; cost, \$2,950; signed, May 27; filed, June 6; payments, \$553, framed; \$553, brown coated; \$553, white coated; \$553, completed; \$738, 35 days.

**Clayton between Page and Oak.** One-story dwelling; owner, F. Bryan and wife; contractor, H. Lehouse; cost, \$90 days; signed, May 25; filed, May 27; payments, \$800, framed; \$700, brown mortared; \$784, completed.

**Castro and Sixteenth.** Owner, F. Likens; contractor, Barbee & Fryer; sureties, A. Christensen and E. Lord; cost, \$1,441; time, 75 days; signed, May 30; filed, May 30; payments, \$41.75, chimneys up; \$45.75, floors laid; \$47.75, brown coated; \$47.75, completed; \$467, 35 days.

**Clara Ave. and Eighteenth street.** Two-story frame; owner, Wm. Menser; contractor, Jas. Campbell; cost, \$1,300; time, 40 days; signed, May 20; filed, May 21; payments, \$487.50, brown coated; \$487.50, finished; \$324, 35 days.

**Castro between 11th and 15th.** Frame; owner, Ino. McDonnell; contractor, S. D. Matthews; sureties, J. W. Wesson and Chas. Matthews, \$1,400; cost, \$1,400; signed, May 22; filed, May 23; payments, \$1,000, framed; \$1,000, window and door frames set; \$1,500, completed; \$900, 35 days.

**Clement and Eighth Ave.** Carpenter work; owner, Wm. N. Baronsfeather; architect, A. Stenbitt; contractor, Cook and Wry; surety, Thos. Richardson, \$1,000; cost, \$1,950; time, 20 days; signed, May 12; filed, May 13; payments, \$475, framed; \$475, lathed; \$500, white coated; \$500, 35 days.

**Diamond street.** Carpenter work; owner, J. C. Scott; contractor, Jos. W. Fish; sureties, Blyth & Trotti; cost, \$1,360; time, 50 days; signed, May 1; filed, May 8; payments, \$50, brown coated; \$390, white coated; \$220, accepted; balance, 35 days.

**Devisadero and Oak.** Two-story frame buildings; owner, J. Lutgens; architects, John and Balczynski; contractor, F. W. Kern; cost, \$11,740; signed, June 3; filed, June 3; payments, \$2,200, framed; \$2,200, enclosed; \$2,200, rough mortared; \$2,200, ready for painting; \$2,940, 35 days.

**Devisadero and Oak.** Brick and stone work; owner, J. Lutgens; architects, John and Balczynski; contractor, F. W. Kern; cost, \$2,280; signed, June 3; filed, June 3; payments, \$1,200, foundation laid; \$510, granite work done; \$575, 35 days.

**Ellis and Pierce.** Carpenter work, etc.; owner, A. Summerfield; architects, Salsfield & Kohlberg; contractor, Thos. Elain; surety, Chas. F. Doe and W. F. Meeker, \$5,000; cost, \$1,980; signed, April 25; filed, May 5; payments, \$1,000, framed; \$1,000, brown coated; \$1,000, doors hung; \$10, accepted; \$1,240, 35 days.

**325 Ellis Street.** Alterations; owner, J. Ross; contractors, White Bros.; surety, F. Joost, \$2,584; cost, \$2,584; time, 60 days; signed, May 13; filed, May 13; payments, \$1,300, third story ready for lathing; \$784, completed; \$2,484, 35 days.

**Eddy and Levenworth.** Two-story frame; owner, J. Molony; architect, M. J. Welch; contractor, J. Bruce; surety, Robt. Oxford and H. Williamson, \$3,000; cost, \$3,250; signed, May 7; filed, May 12; payments, \$812.50, framed; \$812.50, brown mortared; \$812.50, completed; \$812.50, 35 days.

**Eddy and Franklin.** Frame; owner, S. Goldstein; architect, Wm. Mooser; contractor, M. C. Lynch; surety, J. H. Kruse and C. E. Gillon, \$6,000; cost, \$10,372; time, 150 days; signed, May 17; filed, May 20; payments, 75 per cent as work progresses; 25 per cent, 35 days.

**Ellis and Pierce.** Plumbing, etc.; owner, A. Summerfield; architects, Salsfield & Kohlberg; contractor, S. Scheinheimer & Bro.; cost, \$471; signed, April 25; filed, May 5; payments, \$200, rough work; \$151, finished; \$120, 35 days.

**Eighth and Mission.** Owner, A. W. Manning; contractor, B. R. Rankins; cost, \$3,000; signed, May 3; filed, May 5; payments, \$500, foundations laid; \$1,375, framed; \$1,375, fronts in; \$1,375, brown coated; \$1,375, accepted; \$1,375, 35 days.

**Eddy and Franklin.** Brick and iron work; owner, M. C. Lynch; architect, William Mooser; contractor, J. F. Wagner; cost, \$1,894; signed, May 28; filed, May 28; payments, 75 per cent. of work done; balance, 35 days.

**Fell and Laguna.** Two-story frame; owner, Mary Borges; contractors, J. W. Mayden and G. W. Langhead; surety, K. T. Norman, \$1,500; cost, \$3,500; time, 70 days; signed, May 19; filed, May 21; payments, \$657, framed; \$650, roofed; \$650, brown coated; \$656, finished; \$875, 35 days.

**Flint Tract.** Four room cottage; owner, C. C. Bohabacher; architects, Salsfield & Kohlberg; contractor, Jacob Klein; cost, \$1,030; signed, May 3; filed, May 8; payments, \$400, enclosed; \$970, accepted; \$250, 35 days.

**Fell and Laguna.** A frame; owner, H. Donnelly; architect, Wm. Mooser; contractor, W. H. Wickensham; sureties, D. F. Lewis and C. F. Holmes; cost, \$5,300; time, 30 days; signed, May 23; filed, May 25; payments, 75 per cent as work progresses; 25 per cent, 35 days.

**761 and 765 Folsom street.** Brickwork; owner, P. G. Somps; architect, Geo. E. Voelkel; contractor, F. Hatt; cost, \$1,022; signed, May 15; filed, May 23; payments, \$765, second payment on contract is due; \$255, third payment on contract is due as specified.

**Folsom and Fifth.** Two-story frame; owner, J. Canepa; architect, M. J. Welch; contractor, E. Piscasso; surety, A. J. Turner; cost, \$1,400; signed, May 14; filed, May 14; payments, \$350, framed; \$350, brown mortared; \$350, completed; \$350, 35 days.

**Folsom and Second.** Stable; owner, Wells, Fargo & Co.; contractor, D. G. Crisholm; sureties, P. Connolly and Thos. Downing, \$15,000; cost, \$30,990; signed, April 21; filed, May 15; payments, 75 per cent. as work progresses; balance, 40 days.

**Folsom and Moss.** Two-story frame buildings; owner, J. Eagan; architect, M. J. Welch; contractor, Brennan Bros.; cost, \$5,310; signed, June 2; filed, June 5; payments, \$1,327.50, framed; \$1,327.50, brown mortared; \$1,327.50, completed; \$1,327.50, 35 days.

**Guerrero and Twenty-fifth.** Two-story frame; owner, M. Kinnery; architect, M. J. Welch; contractor, Sandy Gillogby; sureties, C. S. Holmes and Geo. Gillogby, \$4,000; cost, \$1,570; signed, May 13; filed, May 15; payments, \$1,125.00, framed; \$1,125.00, brown mortared; \$1,125.00, completed; \$1,125.00, 35 days.

**Grove Street.** Two-story building; owner, John Tyler; architect, Allen Decair; contractor, A. J. Belcher; surety, D. McMillion, \$2,000; cost, \$5,100; signed, May 20; filed, May 21; payments, \$1,080, framed; \$1,080, brown mortared; \$1,080, outside finish; \$1,080, accepted; \$1,080, 35 days.

**Geary and Larkin.** Plastering; owner, J. Schleicher; architects, John & Balczynski; contractor, A. O'Brien; cost, \$1,884; signed, May 6; filed, May 6; payments, \$700, rough coated; \$700, white coated; \$484, 35 days.

**Geary and Larkin.** Plumbing; owner, J. Schleicher; architects, John & Balczynski; contractors, Fritz & Kern; cost, \$1,237; signed, May 6; filed, May 6; payments, \$472, rough work done; \$500, completed; \$325, 35 days.

**Geary and Larkin.** Two three-story frames; owner, J. Schleicher; architects, John & Balczynski; contractor, F. W. Kern; cost, \$10,590; signed, May 6; filed, May 6; payments, \$2,000, framed; \$2,000, enclosed; \$1,940, brown mortared; \$2,000, ready for painting; \$2,650, 35 days.



**Harrison and Ninth.** Three-story frame; owner, Jas. McElearney; architect, M. J. Welch; contractor, C. A. Laherty; cost, \$8,125; time, 67 days; signed, May 22; filed, May 24; payments, \$1,875, brown coated; \$1,875, exterior finish on; \$1,875, completed; \$2,500, 75 days.

**Howard and Fourth.** Four-story brick; owners, Lenormand Bros.; architects, Huerne & Everett; contractors, Richardson & Gall; cost, \$20,747; signed, May 8; filed, May 9; payments, \$3,000, first-floor joists in place; \$3,112, third-floor joists in place; \$3,112, roof framed; \$3,112, brown plastered; \$3,112, accepted; \$5,187, 35 days.

**Henry and Sanchez.** Alterations; owner, D. Davalle; architect, C. M. Rosseau; contractor, E. Picasso; cost, \$1,050; signed, April 23; filed, May 5; payments, \$300, brick work done; \$250, brown coated; \$250, finished; \$2,000, 32 days.

**Howard and Fifth.** Plumbing; owner, P. F. Butler; architects, John J. & T. D. Newcom; contractors, Ford Bros.; cost, \$1,250; signed, May 6; filed, May 7; payments, \$267.50 rough work done; \$468.75, completed; \$312.50, 35 days.

**Harrison and Spear.** Brick work; owners, Peacock and Beck; architect, Chas. I. Havens; contractor, Mahoney Bros.; cost, \$15,750; signed, May 22; filed, May 23; payments, 75 per cent. as work progresses; 25 per cent., 35 days.

**Jackson and Devisadero.** Two-story frame; owner, J. C. Franke; architect, J. E. Kraft; contractor, R. O. Chandler; sureties, A. D. Moore & W. J. Adams; cost, \$10,300; time, 130 days; signed, May 22; filed, May 26; payments, \$1,700, framed; \$2,000, brown coated; \$2,000, plastering finished; \$2,000, accepted; \$2,600, 35 days.

**Leeds and Herman.** Frame building; owner, Margaret Gray; architect, H. T. Bator; contractor, J. Foster; sureties, J. Stolz and D. Berckin; cost, \$4,450; signed, May 29; payments, \$600, framed; \$650, roofed; \$1,000, brown coated; \$650, white coated; \$800, accepted; \$1,200, 35 days.

**Jackson and Buchanan.** School House; owner, Jane Boldt; contractor, F. Van Acker; cost, \$1,500; signed, May 22; filed, June 2; payments, \$500, framed; \$675, accepted; \$775, 35 days.

**Kearny, between Post and Geary.** Alterations; owner, Mrs. Annie Rouiller; architects, Piesis & More; contractor, J. B. Cogswell; cost, \$5,350; signed, May 22; filed, May 23; payments, 25 per cent. as work progresses; 25 per cent., 35 days.

**Lyon Street.** Owner, Hattie Griffin; architect, W. F. Lowell; contractor, W. A. Van Devort; sureties, D. S. Cartwright and Jas. Young; cost, \$3,750; signed, April 12; filed, May 24; payments, \$562.50, first-story joists in place; \$292.50, enclosed; \$292.50, brown mortared; \$292.50, white coated; \$292.50, finished; \$375, 35 days.

**Lyon and California.** Two-story building; owner, J. Deely; architect, P. R. Schmidt; contractor, W. A. Von Dervort; cost, \$4,465; signed, May 8; filed, May 9; payments, \$225, enclosed; \$825, brown coated; \$825, hard finished; \$1,165, 35 days.

**Laguna and Turk.** Three-story frame; owner, John B. Clot; contractor, C. Ziverlein; cost, \$5,500; signed, May 10; filed, May 15; payments, \$1,250, framed; \$1,200, brown coated; \$1,200, white coated; \$1,275, completed; \$1,625, 35 days.

**Leavenworth and Lombard.** Three-story frame building; owner, L. Marsch; architect, K. Zimmerman; contractor, G. T. Knopf; cost, \$4,250; signed, June 2; filed, June 8; payments, \$1,000, framed; \$1,000, brown coated; \$1,100, completed; \$1,950, 35 days.

**Lott, between Grove and Hayes.** Owner, Henry Fiala; contractor, B. K. Alberston; cost, \$1,400; signed, April 29; filed, May 5; payments, \$300, roofed; \$300, brown mortared; \$300, white coated; \$300, finished; \$400, 35 days.

**Minnesota and Napa.** Nine one-story cottages; owner, J. O. Rees; contractor, R. O. Davis; cost, \$7,335; time, 90 days; signed, May 13; filed, May 13; payments, \$1,467, raised; \$1,467, ready for plaster; \$1,467, brown mortared; \$1,467, white mortared; \$1,467, completed.

**203 Mission street.** Owner, Annie Woods; architect, J. M. Curtis; contractor, Paterson & Ackerson; sureties, C. H. Ackerson and Geo. H. Hoppe; cost, \$7,777; time, Sept. 18, '96; signed, May 30; filed, May 22; payments, 75 per cent. as work progresses; 25 per cent. 35 days after completion.

**Montgomery Ave. between Filbert and Greenwich streets.** Sidewalks; owner, B. Dimarini & A. Demarini; architect, E. Depierre; contractor, L. Capurro; sureties, G. B. Cavazza and A. Cravotto; cost, \$1,150; signed, May 17; filed, May 17; payments, \$300, iron work delivered on premises; \$400, curb set; \$450, completed.

**McAllister and Polk.** Grading and brick work; owner, Mrs. A. G. Townsend; architect, M. H. Armistead; contractor, Jas. O'Sullivan; sureties, J. O'Sullivan and C. A. Warren; cost, \$1,550; signed, April 25; filed, May 9; payments, \$800, basement walls ready for plaster; \$300, finished; \$250, 35 days.

**McAllister and Lott.** Two-story frame; owner, F. Mahoney; contractor, T. Sullivan; sureties, T. Sullivan and F. Jost; cost, \$2,500; time, 60 days; signed, May 8; filed, May 9; payments, \$450, framed; \$400, enclosed; \$450, brown mortared; \$400, white coated; \$400, finished; \$700, 35 days.

**Market and Golden Gate Ave.** Plumbing and etc.; owner, Jas. A. Donohoe; architects, A. P. Brown; contractors, Duffy Bros.; cost, \$200; signed, April 28; filed, May 7; payments, 75 per cent. as work progresses; 25 per cent., 35 days.

**Moore and Howard.** Alterations and additions; owner, J. J. Hintz; architect, W. H. Armistead; contractor, F. V. Steinmann; sureties, F. P. Latson and P. Swift; cost, \$2,000; signed, May 21; filed, May 26; payments, \$500, enclosed; \$500, brown coated; \$500, completed; \$500, 35 days.

**Natoma and Russ.** Three-story frame; owner, W. Zenler; architect, A. C. Lutgens; contractor, Tegeler & Muller; surety, L. Schlop and H. Schroder; cost, \$3,000; cost, \$11,700; signed, May 29; filed, May 29; payments, \$800, first-story joists are on; \$1,200, framed; \$1,500, enclosed; \$2,000, brown coated; \$1,200, white coated; \$1,975, completed; \$2,925, 35 days.

**Nineteenth and Ft. Lobe Ave.** One-story frame; owner, T. J. Barnett; contractor, F. Pfarrer and Son; cost, \$2,000; signed, May 7; filed, May 28; payments, \$400, roof in on; \$1,600, completed.

**Ninth and Sheridan.** Two-story frame; owner, E. McLaughlin; architect, Shea & Shea; contractor, A. Discher; surety, B. Jost; cost, \$2,550; signed, May 22; filed, June 3; payments, \$497, framed; \$497, brown coated; \$497, hard finished; \$497, completed; \$662, 35 days.

**Noe and Twenty-ninth.** Carpenter work; owner, Jas. McCormack; contractor, Nelson & Hamerton; cost, \$1,520; signed, May 5; filed, May 5; payments, 1/4 enclosed; 1/4, brown mortared; 1/4, completed; 1/4, 35 days.

**Oak and Webster.** Plumbing; owners, I. Lacher and M. Weidenrich; architect, Chas. I. Havens; contractors, Ford Bros.; cost, \$1,050; signed, May 13; filed, May 14; payments, \$350, pipes in; \$400, finished; \$300, 35 days.

**Oak and Webster.** Two-story frame; owner, M. DeWitt; architects, R. H. and R. White; contractor, Jno. Furness; sureties, F. Jost and Jas. Levi; cost, \$7,058; signed, May 24; filed, May 29; payments, \$1,100, roofed; \$1,300, ready for brown coat; \$1,308, standing finish on; \$1,575, completed; \$1,775, 35 days.

**Oak and Webster.** Two two-story frames; owners, I. Lacher and M. Weidenrich; architect, Chas. I. Havens; contractor, Jno. Furness; cost, \$10,000; signed, May 10; filed, May 12; payments, \$1,800, diagonal boarding on; \$1,900, brown coated; \$1,900, outside mill work up; \$1,900, completed; \$2,500, 35 days.

**Oak and Webster.** Two-story building; owner, J. H. Von Arhnden; architect, Chas. I. Havens; contractor, Jno. Furness; cost, \$5,325; signed, May 8; filed, May 10; payments, \$775, framed; \$1,000, brown mortared; \$1,000, hard finished; \$1,000, completed; \$1,350, 35 days.

**Oak and Filmore.** Two-story frame; owner, J. O. Noonan; architect, A. J. Barnett; contractor, P. F. Lynch; sureties, W. J. Adams and C. S. Holmes; cost, \$4,140; time, 50 days; signed, May 23; filed, May 26; payments, \$775, roof boards on; \$775, brown coated; \$775, white coated; \$781, completed; \$1,040, 35 days.

**O'Farrell and Filmore.** Two two-story buildings; owner, M. Kochman; architect, M. J. Welch; contractor, G. W. Handbrough; sureties, J. P. Taylor and J. M. Manning; cost, \$3,000; signed, June 3; filed, June 4; payments, \$2,437.50, framed; \$2,437.50, brown mortared; \$2,437.50, exterior finish in place; \$2,437.50, completed; \$3,250, 35 days.

**Oak and Ashbury.** Two-story frame; owner, W. E. Morgan; architect, J. C. Newson; contractors, F. A. Blanchard and W. E. Lane; sureties, Hyth & Trott and F. Jost; cost, \$4,292; signed, May 15; filed, May 16; payments, \$1,073, framed; \$1,073, brown mortared; \$1,073, accepted; \$1,073, 35 days.

**O'Farrell, bet. Hyde and Larkin.** Two-story, and one-story in rear; owner, J. H. McInnes; architect, W. O. Banks; contractor, M. Grossman; cost, \$5,510; time, 90 days; signed, April 30; filed, May 10; payments, \$1,200, framed; \$1,500, brown coated; \$1,410, completed; \$1,400, 35 days.

**Powell and Eddy.** Brick and stonework; owner, Schwartz Bros.; architect, P. R. Schmidt; contractor, P. Rinsmroe; cost, \$30,500; signed, May 24; filed, May 24; payments, first and fifteenth days each month.

**Powell and Eddy.** Excavating and grading; owners, I. and J. Schwartz; architect, P. R. Schmidt; contractor, C. A. Warren; cost, \$1497; signed, May 7; filed, May 8; payments, 75 per cent. as work progresses; 25 per cent., 35 days.

**319 and 321 Pine.** Steam heating; owner, James G. Fair; architects, Schulze & Meeker; contractors, Lawton & Britt; cost, \$1,694; signed, May 16; filed, May 18; payments, 75 per cent. as work progresses; 25 per cent., 35 days.

**Powell and Sacramento.** Grading and excavating; owner, V. Menesie; architects, C. R. and James M. Wilson; contractors, Geo. Duncan & H. McClure; cost, \$5600; signed, May 27; filed, May 28; payments, 75 per cent. as work progresses; balance, accepted.

**Polk and Union.** Two-story frame; owner, J. Oakley; architects, Shea & Shea; contractor, R. Guinoff; surety, P. F. Latson; cost, \$3,405; signed, May 22; filed, May 29; payments, \$655, framed; \$655, brown mortared; \$655, hard finished; \$655, completed; \$875, 35 days.

**Post and Stockton.** Brick work, stone work, cast iron work; owner, L. and M. Sachs; architect, P. R. Schmidt; contractor, R. Ringrose; cost, \$7,350; signed, May 22; filed, May 23; payments, on first and fifteenth day of each month.

**Pacific and Mason.** Three-story frame building; owner, M. Travers and wife; architect, C. M. Rosseau; contractor, E. Picasso; surety, A. T. Turner and B. S. McFarland; cost, \$4,000; cost, \$1,685; signed, May 31; filed, June 2; payments, \$842, first floor on; \$852, enclosed; \$852, brown coated; \$852, white coated; \$854, accepted; \$1,423, 35 days.

**Page and Laguna.** Two-story frame; owner, Elisa Robinson; contractor, Charles Quinn; cost, \$5,000; signed, May 12; filed, May 13; payments, 75 per cent. of value of work done; balance, 35 days.

**315 and 317 Pine.** Alterations; owner, Jas. G. Fair; architect, Schulze & Meeker; contractors, Simile Bros.; cost, \$2,469; time, July 1, 1890; signed, May 7; filed, May 13; payments, first of each month in sums equal to 75 per cent. of value of work done; balance, 35 days.

**315 and 317 Pine.** Alterations; owner, Jas. G. Fair; architects, Schulze & Meeker; contractor, Gus V. Daniels; cost, \$300; time, July 15, 1890; signed, May 7; filed, May 14; payments, 75 per cent. as work progresses; 25 per cent., 35 days.

**315 and 317 Pine.** Piling, capping, etc.; owner, Jas. G. Fair; architects, Schulze & Meeker; contractor, California Bridge Co.; cost, \$3,500; time, July 1, 1890; signed, May 7; filed, May 14; payments, first of each month 75 per cent. of value of work done; balance, 35 days.

**Pacific and Front.** Plumbing; owner, Jas. G. Fair; architects, Schulze & Meeker; contractors, Wm. Snook & Son; cost, \$2,524; filed, July 1, 1890; signed, May 7; filed, May 14; payments, first of each month as work progresses, 75 per cent. of value of work done; balance, 35 days.

**Pacific and Front.** Carpenter work; owner, Jas. G. Fair; architect, Schulze & Meeker; contractor, A. Jackson; cost, \$24,000; signed, May 9; filed, May 14; payments, 75 per cent. as work progresses; 25 per cent., 35 days.

**315 and 317 Pine.** Plumbing; owner, Jas. G. Fair; architects, Schulze & Meeker; contractors, W. T. S. Snook & Son; cost, \$890; time, July 1, 1890; signed, May 14; payments, 75 per cent. as work progresses; 25 per cent., 35 days.

**13 Summer street.** Alterations; owner, C. Kinsman; architect, John F. Hogan; contractor, Scott & McNeil; cost, \$850; signed, June 2; filed, June 3; payments, \$212.50, lowered; \$212.50, brown coated; \$212.50, accepted; \$212.50, 35 days.

**Sutter and Broderick.** Two-story frame; owner, C. A. Buckley; architect, P. R. Schmidt; contractor, R. O. Chandler; cost, \$1,970; signed, May 1; filed, May 12; payments, \$25, framed; \$925, brown coated; \$925, hard finished; \$925, accepted; \$1,270, 35 days.

**15 Summer St.** Alterations; owner, Catherine Kinsman; architect, John F. Hogan; contractor, M. C. Scott; cost, \$550; signed, May 13; filed, May 19; payments, 75 per cent. as work progresses; 25 per cent., 35 days.

**Second, between Bryant and Brannan.** Two-story building; owner, Annie Woods; architect, W. C. Jordan; contractor, Geo. Healing; surety, J. Healing; cost, \$1,310; signed, May 15; filed, May 22; payments, \$300, framed; \$250, brown mortared; \$250, inside finished; \$182.50, completed; \$237.50, 35 days.

**61 Shipley St.** Alterations; owner, Robt. Wilson; contractors, Mullins Bros.; cost, \$1,205; filed, May 28; payments, \$200, house raised; \$300, framed; \$250, inside finish on; \$174, completed.

**Sanchez and Sixteenth.** Two-story; owner, W. N. Baronsefather; architect, A. Stenbitt; contractor, R. Gillis; cost, \$9,850; time, 90 days; signed, May 27; filed, May 28; payments, \$2,450, rafters on; \$2,450, lathed; \$2,450, white finish on the wall; \$2,450, 35 days.

**Sutter and Octavia.** Brick work; owner, Jas. G. Fair; architect, Schulze & Meeker; contractor, John T. Grant; cost, \$2,992; signed, May 21; filed, May 28; payments, 75 per cent. as work progresses; 25 per cent., 35 days.

**Stockton and Union.** Two-story frame; owner, Italian Bersaglie, Mutual B. Society; contractor, J. G. Adams; cost, \$26,340; signed, May 27; filed, May 29; payments, \$4000, second-story joists up; \$4000, framed; \$4430, brown coated; \$4430, completed; \$10,000, 35 days.

**Scott and Oak.** Two-story building; owner, W. L. Eaton; architect, J. Maguire; contractor, G. Rickley; cost, \$3,815; signed, May 28; filed, May 29; payments, \$300, framed; \$960, roofed; \$1000, brown mortared; \$1055, accepted.

**Scott and Ellis.** Two-story frame building; owner, E. W. Cavanagh; architect, J. J. O'Brien; sureties, W. Dikens and P. Gilloghy; cost, \$3000; cost, \$3575; signed, May 22; filed, June 3; payments, \$558, framed; \$550, brown mortared; \$558, completed; \$1000, 35 days.

**Sherman and Eighteenth.** Two-story dwelling; owner, S. Blank; contractor, J. F. Loomer; cost, \$2200; time, 90 days; signed, May 6; filed, June 4; payments, \$700, enclosed; \$700, brown coated; \$800, 35 days.

**Second and Brannan.** Brick work; owner, R. J. Tobin; architects, Huerne & Everett; contractor, Geo. D. Nagle; cost, \$3980; filed, June 5; payments, three-fourths of said contract price as work progresses; one-fourth, 35 days.

**Treat Ave. and Twenty-first.** Two-story frame; owner, K. Scherstein; architect, H. Gelfuss; contractor, F. L. Hansen; cost, \$1,890; signed, May 7; filed, May 8; payments, \$658, frame is up; \$658, enclosed; \$658, brown coated; \$658, white coated; \$658, accepted; \$1,100, 35 days.

**Twentieth and Capp.** Two-story frame; owner, J. Glavin; architect, M. J. Welch; contractor, J. Bruce; sureties, Robert Oxford and H. Williamson; cost, \$3,000; cost, \$8,475; signed, May 7; filed, May 12; payments, \$683.50, framed; \$683.50, brown coated; \$683.50, completed; \$868.50, 35 days.

**Taylor and Union.** Two-story frame; owner, Mary Clausman; architect, Chas. M. Rosseau; contractor, J. Salama; sureties, Harris & Jones; cost, \$3,000; cost, \$4,140; signed, May 21; filed, May 24; payments, \$350, first-story joists are on; \$427, enclosed; \$775, brown coated; \$775, white coated; \$775, accepted; \$1,055, 35 days.

**Taylor and Golden Gate Ave.** Terra Cotta work; owner, Jos. A. Donohoe; architect, A. P. Brown; contractors, Gledhill, McBean & Co.; cost, \$9,499; signed, March 29; filed, May 6; payments, 75 per cent. as work progresses; 25 per cent., 35 days.

**Twelfth and Polson.** Two buildings; owner, B. Kavanaugh; architects, Jordan & Lyons; contractor, B. R. Rankins; cost, \$7,225; signed, May 24; filed, May 27; payments, \$350, old building is placed on new foundations; \$350, old building is completed; \$1,100, new building framed; \$1,100, partitions set; \$1,100, brown coated; \$1,400, completed; \$1,820, 35 days.

**Twelfth, bet. Howard and Polson.** Double tenement house; owner, P. C. Lynch; architect, W. O. Banks; contractor, A. McDonald; sureties, F. P. Latson and J. J. McKinnon; cost, \$4,700; time, 90 days; signed, May 28; filed, June 2; payments, \$900, rustic on; \$1,000, brown coated; \$700, white coated; \$965, completed; \$1,200, 35 days.

**1122 Treat Ave.** Owner, J. Granville; contractor, A. Delair; surety, G. M. Slyter; cost, \$1,200; filed, May 31; payments, \$300, enclosed; \$300, brown mortared; \$300, completed; \$300, 35 days.

**Union bet. Larkin and Polk.** Two-story frame; owner, L. J. Nevers; architect, Wm. Armistead; contractor, J. Dyer; surety, J. Willis and A. Hinds; cost, \$3,645; signed, April 24; filed, May 24; payments, \$900, framed; \$900, brown coated; \$925, accepted; \$925, 35 days.

**Van Ness Avenue and Pine Street.** Plumbing; owner, A. S. Baldwin; architect, J. C. Newson; contractor, Wm. F. Wilson; cost, \$2,485; signed, April 12; filed, May 20; payments, 50 per cent. of value of work done as work progresses; 50 per cent., 35 days.

**Washington and Laguna.** Two-story brick; owner, Henry J. Crocker; architect, Frank Freeman; contractor, Thos. H. Day; signed, May 16; filed, May 23; payments, 75 per cent. as work progresses; 25 per cent., 35 days.

**Webster and Herman.** Three-story frame; owner, Mrs. M. McCulloch; architect, P. R. Schmidt; contractor, R. O. Chandler; cost, \$6,261; signed, May 17; filed, May 21; payments, \$1,235, framed; \$1,235, brown coated; \$1,235, hard finished; \$1,235, accepted; \$1,600, 35 days.

**Washington and Baker.** Carpenter work; owner, A. Scheier; architect, Harold D. Mitchell; contractor, W. A. Van Dervort; surety, O. H. Greenwald and D. H. Bibb; cost, \$5,000; cost, \$6,240; signed, May 24; filed, May 25; payments, \$930, first-story joists in; \$930, framed; \$930, brown coated; \$930, and finish on; \$930, accepted; \$1,550, 35 days.

**Webster and Hayes.** Carpenter work; owner, J. B. Shannon; architect, M. J. Welch; contractor, J. O. Connell; cost, \$7,265; signed, May 3; filed, May 6; payments, \$1,497.75, framed; \$1,497, brown mortared; \$1,497, exterior finish up; \$1,996, 35 days.

**Washington and Baker.** Owner, A. Silverstein and wife; architect, H. D. Mitchell; contractor, W. A. Van Dervort; surety, O. H. Greenwald and D. H. Bibb; cost, \$5,000; cost, \$6,240; signed, May 24; filed, May 25; payments, \$930, first-story joists in place; \$930, enclosed; \$930, brown coated; \$930, white coated; \$930, accepted; \$1,550, 35 days.

**Washington and Steiner.** Alterations and additions; owner, J. H. Meredith; architect, Chas. I. Havens; contractor, J. Furness; cost, \$1,260; signed, June 3; filed, June 5; payments, \$450, first coat of plaster is on; \$460, entire work is finished; \$590, 35 days.

**York and Twenty-second.** Plastering; owner, H. Riecke; contractor, Schultz & Curry; cost, \$1,800; signed, May 14; filed, May 15; payments, \$500, rustic on; \$450, first coat of plaster on; \$450, completed; \$850, 35 days.

## Oakland.

**Mortuary Vault in St. Mary's Cemetery.** Owner, Mrs. Annie McMenamin; architect, Chas. J. Devlin; contractor, D. Dwyer; cost, \$1,725; time, 10 weeks; signed, May 12; filed, May 13; payments, to be paid 35 days after the entire work is completed.

**Alameda and Oak streets.** Two-story brick; owner, The Masonic Association of Alameda; architect, Chas. Man; contractor, J. H. Corey; cost, \$5,814; ready for second-story joists; \$5,812, roofed; \$5,812, brown coated; \$5,812, completed; balance, 35 days.

**Thirteenth and Twenty-third streets.** Two-story; owner, J. Gillian; architect, R. G. Frise; contractor, J. C. Nelson; cost, \$2,000; time, July 10, '90; signed, May 5; filed, May 7; payments, \$700, enclosed without rustic; \$700, brown coated; \$700, outside finish on; \$700, 35 days.

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## BUSINESS MOSAICS.

## IMPROVEMENT OF BUSINESS PROPERTY.

**Property** is valuable, relatively, as it becomes available for business purposes—therefore, any improvement in arrangement or construction that may add to its utility for such purpose is desirable from an architectural point of view; and when we take into consideration the increased revenue from buildings erected with abundance of light, room and air for portions heretofore unused, the advantage to owners of such property is apparent. The cantilever and arch principal as applied to the construction of sidewalks or vault coverings, by Mr. P. H. Jackson of this city, is an improvement of this kind, and should be looked into carefully by everyone who may be interested in the subject. By an inspection of the advertisement on another page, the form of construction is shown. This method of building the arch and sidewalk in combination allows about six inches additional height in the basement under the sidewalk. This is an important feature, especially in the portions of the city where the streets are low and every additional inch for height of basement is a consideration. Where brick arches are used in the usual way, the under side of the arch requires a finish by plastering, cementing or painting, while by the improved method of Mr. Jackson, the finish is included in the construction, and where the imbedded tensile rods are used, the supporting beam may be moulded in any form desired. The forming of a separate joint between the key arch and cantilever abutments allows a very considerable margin for any unequal strains, caused by variations in the expansion and contraction under special conditions, and which may be liable to occur from unequal settlement. Arches formed in this manner are better adapted for the insertion of elevator and man-hole openings, as the frames for such can be solidly imbedded in the material of the arch.

In addition to the improved arch for sidewalks, etc., the manner of furnishing an increased amount of daylight is worthy of special mention. For a distance of a few feet next the building is placed a platform, either level with the sidewalk or raised one or more steps and formed of iron frame work set with *Hyatt's Patent Reflectors* to direct the daylight into the basement in any direction. At the line of the building the bearing beam for the support of the inner end of the light tiling is set at sufficient height to allow no projection of the beam below the light tiling. By this arrangement the reflected light is not obstructed in its diffusion throughout the upper portion of the space, while in the basement along under the front wall, the supporting pillars and columns of the building are the only obstructions to light, all supports for sidewalk at this line being left out.

At the line joining the illuminating tiling and sidewalk, Mr. Jackson has introduced a method which is a great improvement over the old way of continuing the sidewalk beams to the building line, as it was found that a very considerable portion of the oblique rays of light were obstructed by these beams. By the improved method, the ends of the sidewalk beams are connected with iron beams laid parallel with the line of building, and supported upon iron columns of size and strength to support sidewalk only, and the connecting line between the sidewalk and the illuminating tiling is made over this beam. It can readily be seen that by this form of construction the least possible obstruction is presented for the diffusion of light to the back portions of the basement.

The illuminating tiles are made with an even upper surface of glass lenses of various forms and set in artificial stone with an iron base plate.

The form of arch construction under consideration need not necessarily be used for sidewalks only, the principle of construction being correct, it follows that floors or coverings of any kind of vault work, where strength, lightness and fire-proof qualities are wanted, this method offers many advantages, and we hope our readers will investigate for themselves by sending to Mr. P. H. Jackson, 228 and 230 First street, this city.

The Stover Manufacturing Co. of Freeport, Ills., notifies the trade that the prices heretofore in force have been revised for Common Sense, Empire and Ideal Sash Pulleys. Send for discount list.

The raising and moving of frame buildings is of such common occurrence as to pass without particular attention, but when we come to brick buildings complications ensue which requires more than ordinary apparatus and of sufficient strength and adaptability for the purpose. The ability of the person having charge of such work should be above the average. In this connection we wish to call particular attention to Mr. Kelleher, 101-103 Juniper street, who has had an extended experience in such heavy work.

When you see any fashionable whim in house building or decorating which you think you want, look in the CALIFORNIA ARCHITECT AND BUILDING NEWS, and see who supplies such articles. The advertising columns are as useful as the reading columns to the wise.

The improvement in closet fixtures, from a sanitary view, has been great. Yet the best is none too good. This fact has been fully realized by the veteran closet manufacturer, Joseph Budde, 43 Fremont street, who presents in this issue improved models for this class of fixtures combining the utmost safety with artistic forms.

Persons looking for ready worked materials of wood should examine the list of materials as published on our advertising page, supplies ready for use by the Excelsior Redwood Co., C. A. Hooper & Co., corner of Fourth and Channel streets, this city. This company also furnishes ready made houses which can be put up in a few hours' time. Many of those houses have been shipped to adjacent countries where they have given entire satisfaction.

Hill's Patent Inside Sliding Window Blinds have become such a necessity that no building with any pretensions to present requirements is complete without them. A perfect sun-shade having stationary or rolling slats, perfect adaptation and adjustment, easily removed for cleaning and as easily replaced. No tearing of curtains and no danger to hinges on account of projecting finish around windows. Try them and you will have no other. Manufactured by Edw. B. Hindes & Co., 411 Mission street.

During a short trip through the country we noticed a larger proportion than formerly of the warehouses and farm buildings in course of erection were being covered on sides and roof with Corrugated iron, thereby reducing the fire risks materially and to the manifest benefit of the owner. Corrugating Co. of Piqua, Ohio, manufacture and furnish this material of almost any size, and with their improved lap joint is superior to that of other makes. This material can be obtained in this city of Dunham, Carrigan & Hayden Co., 17 and 19 Beale street, 18 to 24 Main street, and of W. W. Montague & Co., 309 to 317 Market street.

While reading ancient history the student should give careful attention to the case of Samson and his method of advertising. In his first attempt he took two "solid columns" which brought a house and several thousand people to him.

R. Schmid, the sculptor, 17 Ridley street, has some important work on hand. Mr. Schmid is the sculptor who modeled the "Grizzly Bear" that adorns our editorial table.

Occasionally the architect comes in contact with a contractor who for "ways that are dark and tricks that are vain," resemble the "heathen Chinese." It is related that a well known member of the old school of Toronto architects once proved himself more than a match for a contractor of the class to which we have referred. The contractor was engaged in the erection of a large building under the architect's supervision. The latter, while paying a visit of inspection one morning observed a pile of soft bricks, and having called the contractors' attention to them, told him that they must not be allowed to go into the building. The contractor professed surprise that such inferior material should have been delivered to him, and declared that he would have the manufacturer cart them back to the yard again. The architect said no more, but went and stationed himself at the upper window of an empty warehouse near by, from which he could command a view of the operations of the contractor and his employees. He saw the pile of soft bricks gradually disappear and take its place in the construction of an inner wall. The operation occupied a large portion of the day, but he remained patiently at his post until it was finished. Then he went to the contractor and told him in somewhat forcible language what he had seen, and ordered him to set to work and undo what he had done and build the wall of proper material. *The Canadian Architect and Builder.*

Where is the man who does not like to have the latest and most approved articles used in construction of his building. The advertising department of this journal acquaints one not only with the new and hitherto unknown methods, but how to apply old and tried appliances to new conditions.

A new door check has been lately introduced by Messrs. Weatherly & Jardine, No. 135 Market street. See their advertisement in another column. The adjustment of these instruments is so perfect and the door works so easily that the temptation is strong to reopen the door in order to observe more particularly the movement. At least, such is the case with the one on our office door, receiving additional praise at opening and closing.

Cement Bricks have been made in this city for some time; those already used being of such excellent quality a general demand has been the result, to meet which, the Pacific Tile & Brick Co., have erected extensive works supplied with the latest improved machinery at 108 Utah street, where pressed cement bricks are made in all colors and shades according to formulas used by this company.

E. G. Bossi & Co., 612 Post street, are engaged on some sgraffito and fresco work, which will be more fully described in a future number.

Attention has lately turned in the direction of a more extended use of Plaster of Paris in the finish of interiors. The carrying of tons of water into a building to be dried out through saturation and evaporation seems absurd when compared with Plaster of Paris, where the water enters more fully into the hardening process. Our Pioneer—the Golden Gate Plaster Mills of Lucas & Company, 215 and 217 Main street, will probably give especial attention to the subject, so that before long slowly setting plaster will form a portion of all wall finish.

O. E. BRADY,

Mason and Builder,

Room 11, Box 22. 314 MONTGOMERY ST. } S.F.  
822 VALENCIA ST. }

FORT & TEMPLE, LOS ANGELES.

Speyer & Guernsey's  
Cyclopædia of

THE MANUFACTURES AND PRODUCTS  
OF THE UNITED STATES.

comprises Every Article made in this  
Country—Indexed and Classified—and  
under each article the names and addresses

THE BEST MANUFACTURERS.

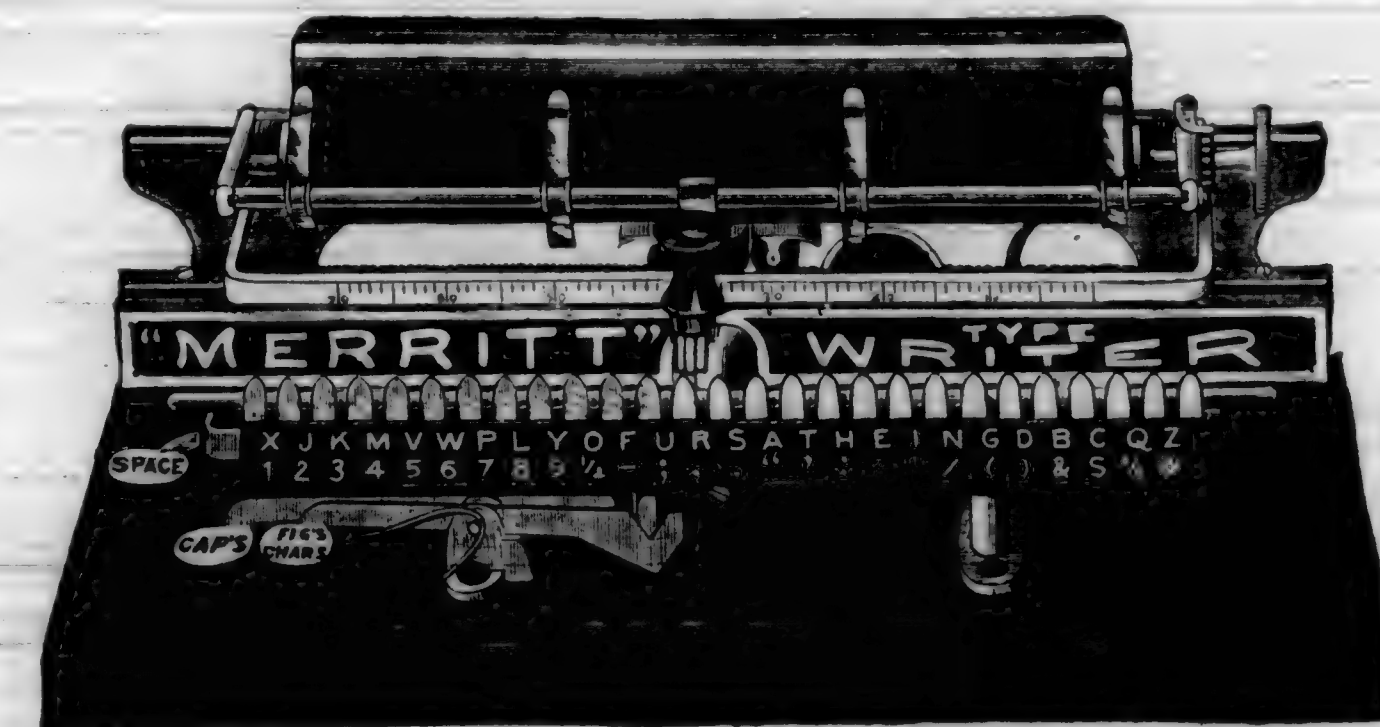
Complete in One Royal Octavo Vol. of over 1300pp  
Price in (full) 16 in. Maroon 78 in. flexible Leather \$10.  
INDISPENSABLE  
to Buyers of Articles in all lines and  
invaluable as a Statistical work.  
Orders received at office of this Paper.

The water closet is one of the most important fixtures in a house, and should receive careful consideration. In this connection we would call attention to the Pacific Water Closet Works of W. T. Rustmeyer & Co., 215 Mission street.

Chapman's Empire Hose Reel is being used generally in new buildings. Having so many good points it becomes a great favorite wherever tried.

Persons having old buildings to be taken down or removed would do well to call on Barnard & Williams, 713 Stockton street. This firm will contract for the taking down of old buildings. They also deal in old or second hand building materials.

The Manly Manufacturing Co., of Dalton, Georgia, has lately increased their facilities for the manufacture of artistic and structural iron work for buildings. This company was, until recently, in business in Philadelphia, but decided to remove to Dalton, Georgia, where the raw materials could be furnished at the least possible cost, consequently, and with apparent reason that they can supply the finished work at correspondingly low cost.



THE  
MERRITT  
TYPEWRITER  
PRINTS FROM CLEAR METAL TYPE, IS  
SELF INKING & BEAUTIFUL IN STYLE & FINISH.  
**DOES work equal to the One  
Hundred Dollar Machines.**  
What YOU want to know is how, when,  
and where to get the best returns from your  
investment in a Typewriter?  
We solve the problem for you in the MERRITT. A  
Simple, Compact Machine within the means of all.

This is exact copy of the MERRITT'S work. It is equal to that of any High Priced Typewriter. Relieves fatigue from steady use of pen. Improves spelling and punctuation. Interests and instructs children. The entire correspondence of a business house can be done with it. Learned in a half hour from directions. Prints Capitals, small letters, figures and characters, 78 in all. Price \$15 complete.

Write for Circulars, Voluntary Testimonials and sworn-to Speed Test of 60 words a minute.

MENTION THIS PAPER.

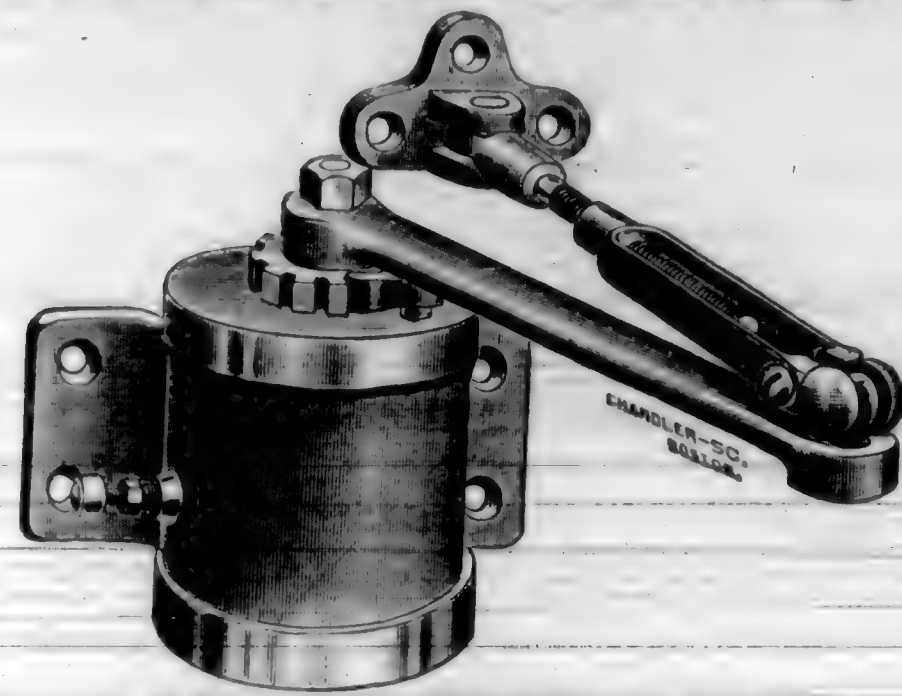
LYON MANUFACTURING CO.,

SENT IMMEDIATELY TO ANY  
ADDRESS ON RECEIPT  
OF PRICE, \$15.00

59 FIFTH AVE., NEW YORK CITY.

Sole Agents.



**The BLOUNT Door Check and Spring.**

**WEATHERLY, JARDINE & CO.**  
PACIFIC COAST AGENTS.

132 Market Street, San Francisco, Cal.

A perfect mechanical device with parts so arranged that all friction or wear is reduced to a minimum.

It is free from packing friction, and the frequent repairs required on all door springs using leather packing.

It will work equally well in cold or warm weather, adjusting itself to all changes of temperature.

The regulating thumb screw on side of cylinder quickly adjusts the check to slow or rapid closing of the door.

A novel feature of this door check is the ready adjustment of the spring power by turning the ratchet on upper cylinder cap, for which a wrench is furnished.

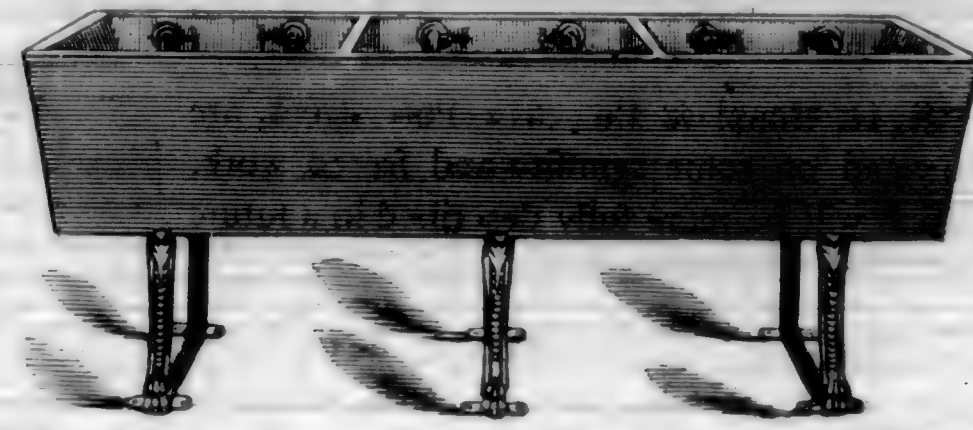
The arms are connected by a ball joint, which prevents the check from binding in case the door sags or swings out of line.

It is the best and cheapest check on the market, and everyone is guaranteed.

Agents wanted in all the large towns in Oregon and Washington.

**THE PACIFIC LAUNDRY TRAY.**

These Trays are the most economical in the market, they are manufactured in the most careful manner, all in one piece, of the best Portland Cement and Crushed Granite, and neatly capped with metal.



MANUFACTURED BY

**JOHN DIXON,**

1219 Market St.,

San Francisco,

California.

**SCHUSTER BROS.,**

Importers - of - Metals, - Stoves - and - Ranges,

**MANN'S PATENT CHIMNEYS.**

SANITARY PLUMBING AND GAS FITTING,

**306 SUTTER STREET,**

**SAN FRANCISCO, CAL.**

TELEPHONE No. 675.

MANN'S PATENT EARTHQUAKE AND FIRE-PROOF CHIMNEYS are the safest and best in use. The leading Architects specify them. We guarantee any Chimney of our make to draw and work. We use the best of material, and all chimneys put up in a workmanlike manner.

**SCHUSTER BROS., MANUFACTURERS.**

**306 Sutter Street,**

**San Francisco, Cal.**

**Hot Water and Steam Heating**

**For all Classes of Buildings.**

I have introduced this system in over 400 houses on this Coast where it is now in operation. All work Guaranteed.

Sole Manufacturer of

**HARVEY'S HOT WATER RADIATOR AND BOILER.**

Sole Agent for

**BUNDY'S PATENT STEAM AND HOT WATER RADIATOR.**

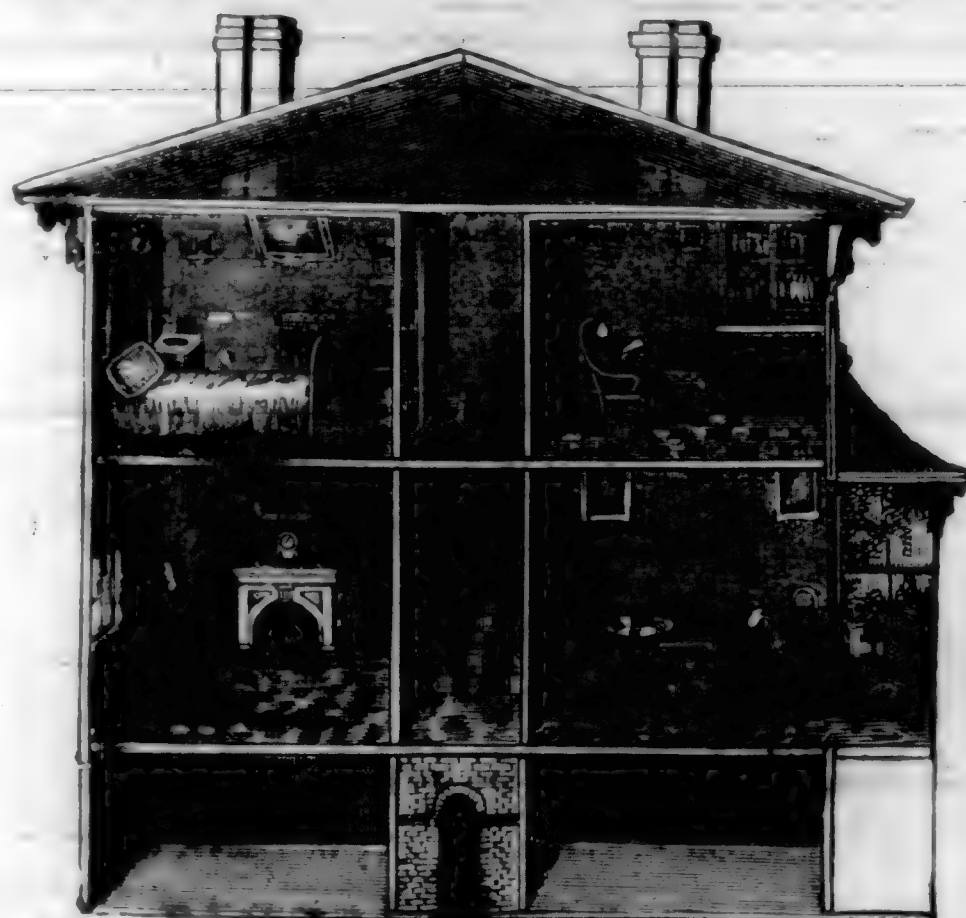
Also Agent for

Gold's Improved Sectional Boiler for Low Pressure Steam

Office, 28 New Montgomery St., under Palace Hotel

Illustrated Circulars furnished on application.

**C. D. HARVEY.**

**The California Architect and Building News.**

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408 CALIFORNIA STREET,

SAN FRANCISCO, CAL.

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JULY 20, 1890.

NUMBER 7.

**The California Architect**

and Building News.

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W. P. MOORE, President.

OLIVER EVERETT, Secretary.

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**NOTICE.**

M. R. George H. Wolfe, having no further connection with the business of this journal, correspondents will in future address their communications to the *California Architect and Building News*, 408 California street, San Francisco, Cal.

**NOTICE OF MEETINGS.**

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

SETH BABSON, Pres.

W. P. MOORE, Vice-Pres.

OLIVER EVERETT, Sec.

JOHN W. CURTISS, Treas.

TECHNICAL SOCIETY OF THE PACIFIC COAST, meets first Friday of each month at 408 California Street.

JOHN RICHARDS, Pres. PROF. FRANK SOULÉ, Vice-Pres.

OTTO VON GELDERN, Sec.

JAS. SPIERS, Treas.

**SAN FRANCISCO CHAPTER, A. I. A.**

The regular meeting of the Chapter was held July 11, President S. Babson in the chair and H. T. Bestor, Secretary *pro tem*.

After reading of minutes and the usual routine of business had been finished, the President introduced Mr. Cuthbertson who interested his audience by the reading of a paper entitled *The Scroll, the Star and the City*.

The paper was replete with fresh thought and originality, and was listened to with marked attention. On motion it was ordered printed in the next issue of the CALIFORNIA ARCHITECT.

The committee to whom was referred the *Sketch Club* competition for gates reported:

S. C. Benson, first mention; H. J. Van Black, second; J. N. Rowell, third; C. A. Meussdorffer, fourth; and Max Rosenberg, fifth mention.

Drawing of the July competition for a hall clock was then opened for inspection and referred to a committee to report at the next regular meeting.

H. G. Lowry was elected as a student member.

**A. I. A. SKETCH CLUB.**

REGULAR meeting of the A. I. A. Sketch Club held July 10, 1890. Applications of Mr. C. E. M. Hubbell and Herbert G. Lowry for membership were received and referred to the Investigation Committee.

Four designs were submitted in competition from the members, the subject being a *Hall Clock*. The competition for August to be a *Country Chapel*, seating capacity 150; scale, 1/8 inch to 1 foot. General conditions required. Plan, elevation and perspective, on sheets 15x24, rendered in pen and ink.

The Club is about to form classes for water color painting and modelling.

THE regular monthly meeting of the Technical Society of the Pacific Coast was held Wednesday evening July 9th. A paper on open channels was presented by P. J. Flynn, C. E.

B. McIntire, C. E. who is at present connected with the Vulcan Iron Works of this city, read a paper on Ropeway Construction. The ropeway described and illustrated was for the conveyance of freight for a mine in Mexico. The line was about two miles long with a fall of about fifteen hundred feet to the mile, the load being conveyed to the lower end and worked by gravity.

**LEGAL INFORMATION.**

With the present issue under the heading of Court Decisions, we commence furnishing our readers with abstracts from decisions rendered by the Supreme Courts of the different States, selecting such as may have special reference to the building interest on this coast.

As there are many parallel cases constantly arising in all parts of the country, the knowledge of such decisions may lighten the burden of care that often weighs heavily upon the busy architect, contractor or investor, and may assist him in shunning complications that may arise in his business relations.