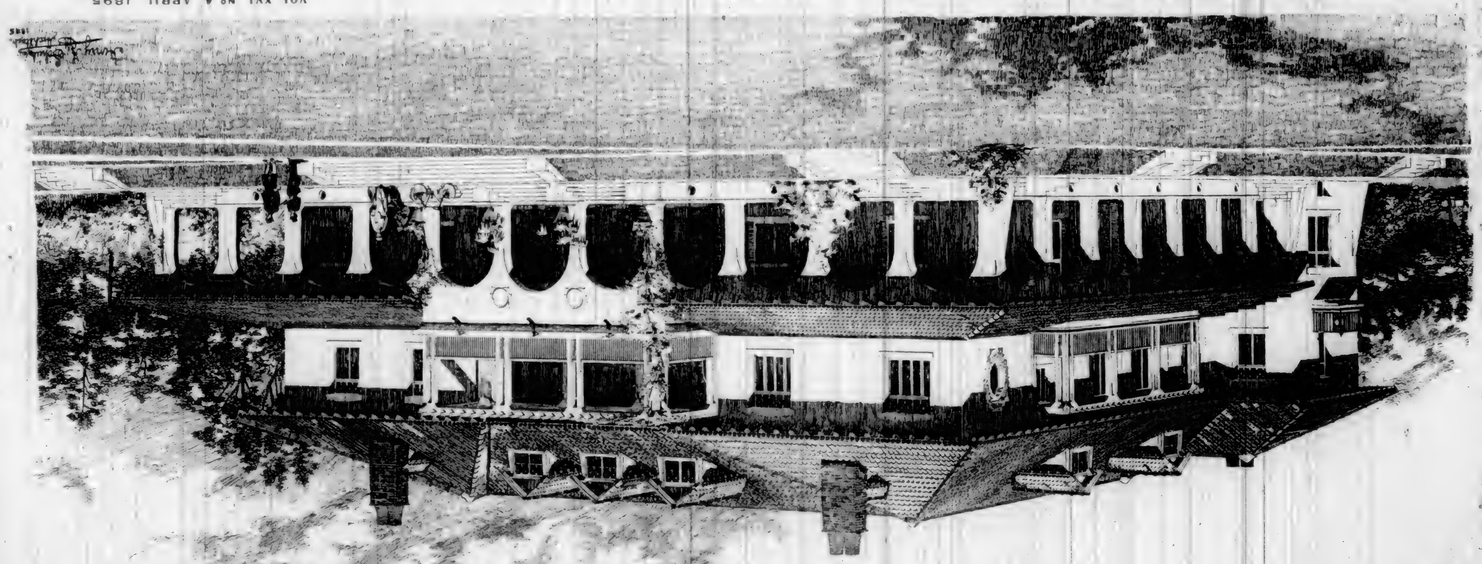
PRELIMINARY SKETCH
FOR MR. F. H. KERRIGANS. RE
SIDENCE AT SAUCELITO MARIN CO.
HAVENS & TOEPKE ARCHTS.
33 FLOOD BUILDING S.F.
TOEPKE
'95.

BRITTON & REY PHOTO LITH.

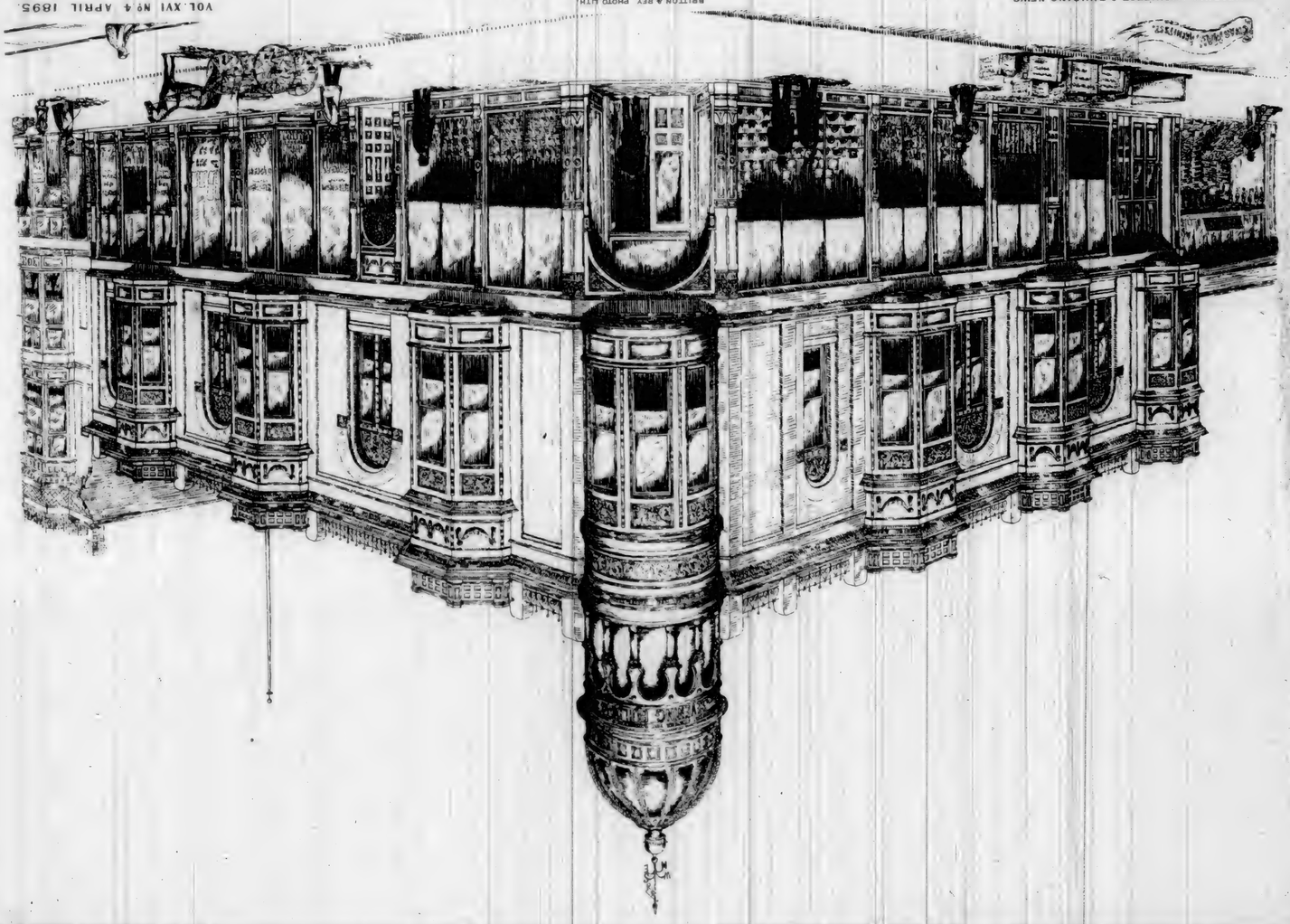
RESIDENCE FOR MR. S. H. ZIS BAKERSFIELD, CAL.



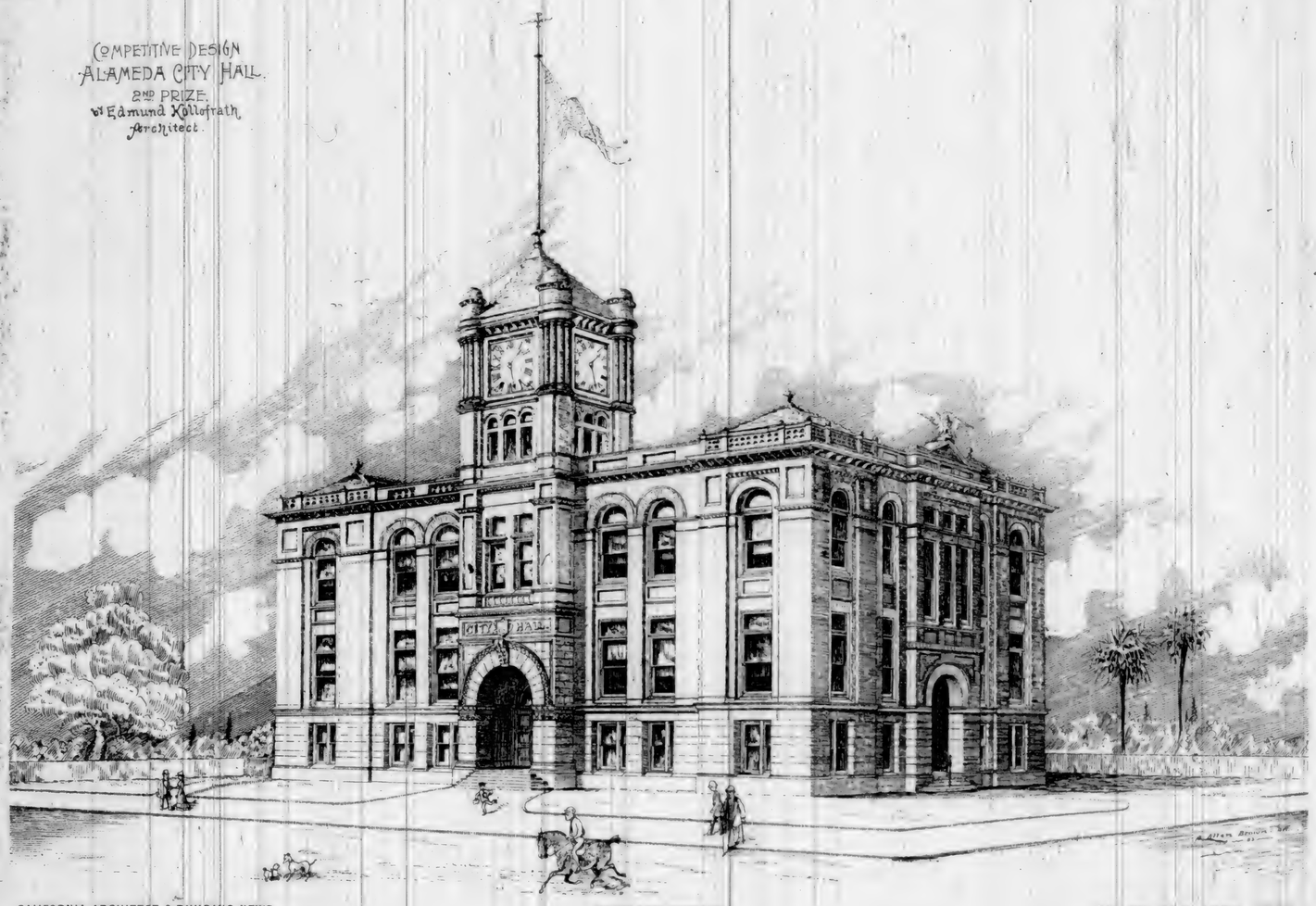
CALIFORNIA ARCHITECT & BUILDING NEWS
SAN FRANCISCO.

BRITTON & REY PHOTO LITH.

VOL. XVI. № 4 APRIL 1895.



COMPETITIVE DESIGN
ALAMEDA CITY HALL.
2ND PRIZE.
Wm Edmund Kollofrath
Architect.



INSTITUTE OF BRITISH ARCHITECTS
MDCCCXCIV

NOTICE OF MEETINGS.

SAN FRANCISCO CHAPTER, AMERICAN INSTITUTE OF ARCHITECTS, meets second Friday of each month at 408 California street.
SETH BABSON, Pres. GEO. W. PERCY, Vice-Pres.
OLIVER EVERETT, Sec. JOHN M. CURTIS, Treas.

SOUTHERN CALIFORNIA CHAPTER AMERICAN INSTITUTE OF ARCHITECTS, meets first Wednesday of each month at 114 Spring street, Los Angeles, Cal.
OCTAVIUS MORGAN, PRES. A. M. EDELMAN, Vice-Pres.
ARTHUR B. BENTON, Sec't. AUGUST WACKERBARTH, Treas.

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

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

EUROPEAN FORESTRY WORK.

NEARLY all the nations of Europe are engaged at the present time in no controlling the forest supply that every bit of public and private property in trees is placed under restriction against destructive cutting. The forests are all so highly protected, says the *Boston Herald*, and even where no state control exists, the freedom in cutting trees which exists in this country is unknown.

In Germany during the last twenty-five years some 300,000 acres have been reforested, and the government has granted $300,000 in this way to private owners of waste land. In Austria, since 1852, a forest law, which exercises a strict supervision over the forests, both public and private, has been in existence, and no one is allowed to devastate a forest to the detriment of adjoining holders of land, and cleared or cut forest must be replanted within five years.

In Italy the effort is constant to increase the amount of wooded lands, and the government contributes three-fifths of the cost of reforestation, upon condition that the work is done according to its plan and instructions. In Switzerland the national government contributes from 30 to 70 per cent of the establishment of new forests, and from 20 to 50 per cent for the planting of protected forests, and the law is very strict in regard to cutting.

France is also deeply interested in public forest property. The forests belong largely to communities and public institutions, as well as to the state, and they are controlled in a manner similar to the regulation of forests in Germany. Here, as well as there, no clearing is allowed except by consent of the forest administration.

In all these countries the strictest attention is paid to the subject of forestry, and schools are everywhere maintained for the purpose of instructing men in this work. Russia has been the only nation where forests have been until lately under no restriction, but since 1888 even this country has had its forest laws, and offers loans on favorable terms for the protection and increase of the forests. Hardly any European nationality is without its state control of the forests or without the training schools in which men are instructed how to take care of them.

They are trying in Europe in every way possible to save the forests, and in the United States efforts are now being made in nearly every commonwealth to regulate and control the wooded lands, but our people are not ready to accept the stringent measures which have been empioyed as a necessity for preservation.

THE BUILDING THAT IS TO BE.

DESCRIPTION OF THE STRUCTURE DESIGNED FOR THE SITE AT SEVENTH AND MISSION STREETS.

THE acting Supervising Architect of the Treasury has at last secured the approval of the plans for the proposed new postoffice building for San Francisco. The following is the official description of the building as furnished to the *Examiner* by Mr. Hamilton, the Civil Engineer, who has charge of the drafting room of the Supervising Architect's office.

The main dimensions of the building will be 250 by 215 feet, a height of 70 feet in the main, 90 feet at the main entrance, which will be on Seventh street. This main entrance will project 20 feet from the main building and there will be pavilions on the corners and in the center of the other facades 12½ feet each, making dimensions for Seventh street to the rear 270 feet, and from Mission to Stevenson street 240 feet. The building is to be three stories in height in the main and five stories over the center pavilion on Seventh street.

IN RENAISSANCE STYLE.

The design is what is known as Renaissance, with pavilions on each corner and in centers of facades. The main entrance will be fifty feet wide, divided into three arched doorways. The other entrances will be forty feet wide and will also have three arched doorways with carved pediments over them and in the rear, with tympanums of appropriate designs. The pavilion in the center of each facade will be flanked with columns and pilasters, and the whole building will be crowned with a balustrade. There will be a group of statuary over each center pavilion. The building will be constructed of either granite or marble, which has not yet been determined.

The first story will be set apart for the use of the San Francisco Postoffice. In the center will be a clear space 200 feet square for the use of carriers and other employees engageed in the reception and distribution of mails, and in alcoves there will be rooms for the Postmaster, Assistant Postmaster, and money order and registry offices. This story will be eighteen feet in height.

In the second story there will be three rooms set apart for United States Courts, one each for the Circuit Court, District Court and Federal Court of Appeals. These rooms will by 50x30 feet in size. On this floor there will also be rooms for judges, attorneys and other officials of the courts, jury-rooms and library. This story will be fifteen feet in height.

The third story has been designed with a view of accommodating the Railway Mail Service, Signal Service and Pension Agent. There will be rooms for railway mail clerks, Superintendent of Railway Mail Service, Postoffice Inspectors, a dormitory for mail clerks when off duty, offices of the Signal Service, United States Pension Agent and his clerks and miscellaneous offices for Federal officials. This story, as well as the fourth and fifth, will be thirteen feet in height. In the basement will be located machinery for operating the heating and ventilating apparatus. Here will also be a large space for storage.

PLENTY OF LIGHT.

It is proposed to have plenty of light and ventilation for people employed in the building. All corridors above the first floor will look out upon a court 153x120 feet. This

court will leave a clear space above the postal clerks employed on the first floor, so that there will be no lack of natural light at any time. The ventilating apparatus will also be of the latest improved kind, and there will be four ventilating flues to carry off foul air.

The offices on all floors above the basement will open upon the street. Thus each will be will supplied with light and air. There will be four elevators, two each at the Seventh-street and Mission street entrances. A peculiar feature of the postoffice buildings recently planned is that lookout stations are provided on top of the postoffice safes which are to be built on the first floor. Inspector will have entry by a circular shaft in the basement, which by means of a spiral stairway will enable them to mount to the top of those safes located in different parts of the floor and overlook all the operations of the postal clerks.

ONE MORE MOVE.

The House Committee on Appropriations wrestled for some time to-day with the San Francisco public-building imbroglio. Representives Loud and Maguire were present at the request of the committee and the question was discussed in all its phases. After quite a lengthy wrangle the committee reached a decision. There will be added to the appropriation already available for the building only $50,000, instead of $150,000, as Secretary Carlisle first recommended. This appropriation will be incorporated in the Sundry Civil bill. There will also be further delay in begining work, on account of the decision of the committee that an investigation must be made to determine whether it is safe to erect on the site selected.

The first surprise at to-day's meeting came when it was announced that Secretary Carlisle has revised his first estimate for the appropriation, and requested of the Appropriations Committee only $50,000 in addition to about $190,000 left over from the purchase of the site. When this matter was brought up before the committee, both Representatives Maguire and Loud vigorously protested against this small appropriation for beginning so large a building, but Chairman Sayers was firm, and refused to allow any more than the Treasury Department had requested. Then the San Francisco Representatives conceded that it was a wise course that this appropriation be made a contingent one, and only available after thorough examination of the site has been by United States Army Engineers.

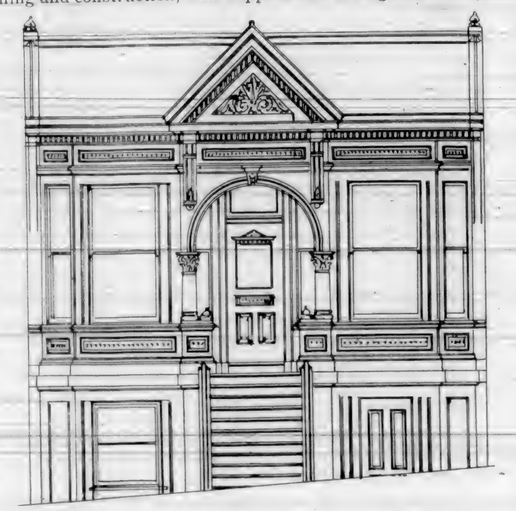
A CASTLE ON TWIN PEAKS.

F. AVERY McCarthy, secretary of the Stanford Addition Land Company, is authority for the statement that a rich English friend is negotiating for the purchase of the Twin Peaks and about thirty-five acres of the adjoining land for the purpose of erecting a handsome residence, built after the style of the old English baronial castles. The site is a perfect one for such a purpose, as it commands a view which cannot be equaled in variety and extent. From the rugged outlines of Marin County to far down among the San Mateo hills, and from the horizon out on the ocean to the mountains back of Oakland, there is nothing which does not come within view from the Twin Peaks.

Perched upon the top of the peaks a large building such as would be put there would stand like a sentinel over Market street, for that thoroughfare would lead right up to its doorstep should it ever be carried out so far. Senator Stanford at one time signified an intention of securing the property for the city, to be used as a public park, but it was sold to others and finally came into the hands of Mr. McCarthy's family.—*Call.*

BOOKS AND PERIODICALS.

MODERN OPERA HOUSES AND THEATRES. Examples selected from playhouses recently erected in Europe, with a short descriptive text and a treatise on theatre planning and construction, with supplements on stage machinery,



FRONT ELEVATION.

theatre fires and protective legislation. By Edwin O. Sachs, Architect, F. S. S., and Ernest A. E. Woodrow, Architect, A. R. I. B. A. Preparing for publication. Illustrated by a Series of 220 plates, reproduced in the best manner by Photo-lithography, from line drawings specially prepared for the Work, and some hundreds of diagrams in the text, reproduced from original working drawings, with all plans and sections drawn to a uniform scale.

The work will be in three volumes, size 23 by 16 inches (58 by 40 cm.), strongly and suitably bound in buckram.

Upon publication the price of the work will be £15 15s., but for the *Subscribers, on whose support the issue entirely depends, the charge will be £9 9s. net.* Half the subscription price will be payable on the issue of the first volume, and the remainder on the completion of the work. A List of Subscribers will be printed in each volume. The first 150 Subscribers will receive numbered copies with a distinguishing title page.

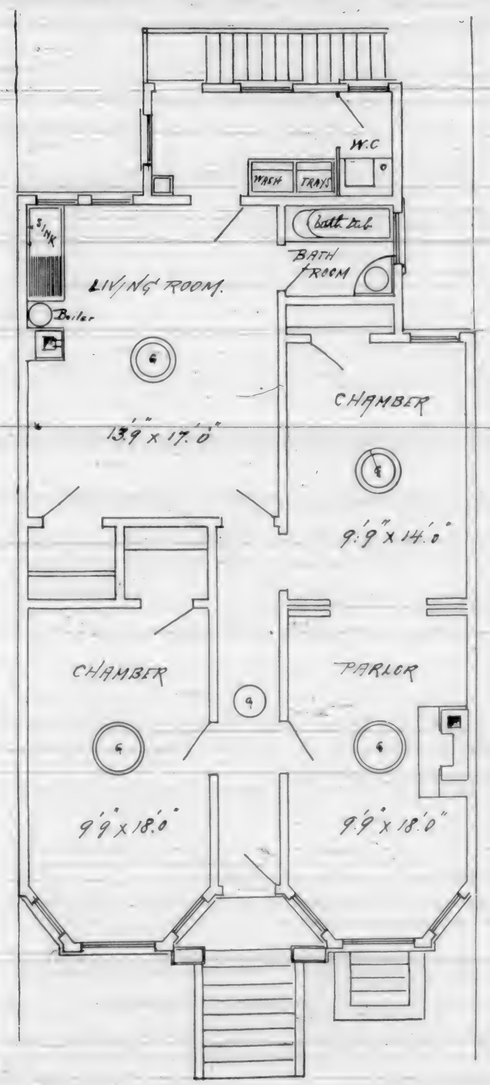
LIPPINCOTT'S MAGAZINE for April, 1895. The complete novel in the April issue of Lippincott's is "Alain of Halfdene," by Anna Robeson Brown. It is a stirring tale of the sea, pirates, rescuers and Mt. Desert (then by no

means so well known as now), in the days when Washington was President.

"At the Hop-Pole Inn," by Mrs. Poultney Bigelow, tells how curiously a nearsighted Englishman and his young wife were reconciled after a first quarrel. "The Defendant Speaks" to some purpose in a story by Genie H. Rosenfeld; result, a divorce is avoided.

Mary Dawson relates the innocent loves of a dancer, 'The Butterfly," and her young man. Marjorie Richardson shows how the young woman who occupied "The House with the Paint Worn off" procured its external rehabilitation.

THE ENGINEERING REVIEW edited by J. Stevens Jeans, London, England, can be truly called the "Epitome of the World's Current Literature". The American agency



of this ably conducted monthly magazine is at 12 Cortlandt street, New York, conducted by Messrs. Spon & Chamberlain. American subscription $1.75 per annum.

An illustrated description of a visit to the works of Messrs. Charles Cammell & Co., Limited, Sheffield, England, gives a very vivid account of these immense works for the manufacture of steel and iron as well as the various application of these metals in the way of heavy ordnance, forged cylinders, steel nails, armor plates, etc.

The late Mr. Charles Cammell was the founder of this company in 1837, who in partnership with Mr. Thomas Johnson commenced as steel and file manufacturers and merchants. The demand for their steel proved so great that from time to time enlargements in their works have been made, until at the present time it includes mines of coal and iron ore, and every appliance of turning out the immense production full tables of which will be found in this very interesting article.

We were pleased to notice that the editor gives many notices of recent works of engineering in this country. The article entitled "Recent Progress of Electrical Engineering" by Major T. Flood Page will be read with interest by the Electric Engineers of this country.

LEGAL DECISIONS.

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

TENANT'S REMEDY FOR BREACH OF AGREEMENT BY LANDLORD.—Where a landlord agreed to make improvements for the benefit of the tenant, his failure to make them does not relieve the tenant in possession from liability to pay rent. And, in such case the tenant is entitled to damages, the measure of which is the difference between the rental value of the premises without the improvements and their rental value with the improvements.

Long v. Gieriet, Supreme Court of Minnesota, 59 N. W. Rep. 194.

ACTION FOR BALANCE ON CONTRACT FOR WORK AND LABOR.—Where no time is fixed for the completion of work under a contract in an action thereon for a balance due, the party for whom the work is being done is not entitled to credit for wages voluntarily paid, in the absence of the contractor to another, to do part of the work he had contracted to do.

Wagner v. Jennings, Court of Civil Appeals of Texas, 27 S. W. Rep. 888.

EFFECT OF DESTRUCTION OF BUILDING AS TO MECHANICS' LEIN.—Under the statutes, giving a contractor who performs labor or furnishes materials in the construction of a building "a lien thereupon, and upon the interest of the owner of such building in and to the land on which the same is situated," and extending the right to subcontractors, neither a contractor nor a subcontractor has any lien for materials or labor when the building is destroyed before completion.

Goodman v. Baerlocher, Supreme Court of Wisconsin, 60 N. W. Rep. 415.

RIGHT TO MECHANICS' LIEN ON THEATRICAL SCENERY.—Scenery and other articles constituting the stage and scenic outfit of an opera house are part and parcel of the edifice, as such, they being essential to the completeness of a building of that class. This being so, the furnishing of such outfit, or of the materials composing same, is furnishing materials for the improvement of real estate; and the person by whom said furnishing is done is entitled to a lien upon the opera house and premises, under the provisions of the statutes giving mechanic liens.

Waycross Opera House Co. v. Soseman, Supreme Court of Ga., 20 S. E. Rep. 252.

LIABILITY FOR DANGEROUS PREMISES.—By contract with an elevator company a party agreed to put fire extinguishers in its elevator. The elevator company was to furnish the staging for the men employed to put in the apparatus. One of these men while at work was killed by a fall caused by a defective plank in the staging. The evidence showed that there was a knot in the plank, and the deceased could not possible have seen it, by reason of the darkness. It was held by the Supreme Court of Wisconsin, that the workman was not guilty of contributory negligence, and that the elevator company was liable by reason of its contract to put in the staging, although the contract was not made with him.

Bright v. Barnett & Record Co. 60 N. W. Reporter, 418.

BUSINESS MOSAICS.

What house is complete without some decoration? Samuel Kellett manufacturer of plaster decorations, plastering repaired and whitened. 28 Ellis street, San Francisco; 375 Twelfth street, Oakland.

"Were you ever up before me?" asked a Police Judge. "Shure I don't know, yer anner. What time does yer anner get up?"—*Boston Commercial Bulletin.*

W. H. Wickersham, as we have had occasion previously to remark is a Building Contractor at 1125 York street, San Francisco, whom if you once employ, is sure to give such satisfaction that he is again called for when more work in his line is wanted, this we consider the highest kind of recommendation.

"Why do you punch that hole in my ticket?" asked a little man of the railroad conductor. "So you can pass through," was the reply.—*Boston Commercial Bulletin.*

If you need water only when the wind blows; if you are satisfied to utilize but a small fraction of the water in your well; if you prefer heavy bills for repairs after each storm in winter, by all means use a windmill; but if you want water at any time, and up to the full capacity of your well, put in the Ajax Coal Oil Gas Engine, the latest thing in mechanics, an engine that uses common coal oil for fuel, and is built by the well known firm of Palmer & Rey, San Francisco, Cal.

Labor AGITATOR—"Every man is the architect of his own fortune." MURPHY (from the rear of the hall)—"Yis, that's so, but he stands a mighty poor chance when he has nothing but a shovel or hod to draw his plans wid."—*Ex.*

Architectural and Ornamental Iron Work. Stable fixtures, hay racks, feed boxes, stable guards, harness fixtures, etc. Now that horses are so cheap is a good time to fix over your stable; of late years much attention has been paid to having the horse housed in a proper manner, and if the rage continues the stable is likely to out do the parlor, unless the madam put her foot down. 135–145 Fremont street, San Francisco, is the headquarters of the Vulcan Iron Works.

"Highstep seems very blue since Miss Coins threw him over." "Yes; he's heartbroken to think what an excellent husband she has missed."—*Chicago Inter-Ocean.*

Miss PEART—"Do you think one is liable to catch anything from kissing?" MRS. PLACID—"That's the way I caught my husband."—*Ex.*

Clawson's Patent Chimney's generally considered the most complete and safest in the market, can be found at 1340 Market street, San Francisco.

"Here's a lovely cigar I picked out for you." "Thanks, but give me one you bought for yourself."—*Humoristische Blatter.*

Wm. Bateman manufacturer of wood mantles, interior finish, inlaid floors, banks, offices, stores and steamboats fitted up. If in want of any of this kind of work you have only to call upon Mr. Bateman at 411 Mission street, who will soon convince you that your wants can be supplied at his establishment.

The antique Roman who fell on his sword made a much better historical figure than the modern militiaman who tripped with the same weapon twisted between his legs.—*Puck.*

Proper Lubricant for Cycle Chains.—It is conceded by all wheelmen that some lubricant is needed to prevent wear of chain and sprocket wheel; such a lubricant not only prevents wear but very largely increases speed and ease of driving. Oil or grease, while useful for the moment, catches and holds dust and dirt. After much experimenting it has been found that graphite makes the most perfect lubricant, when the right kind is used and properly prepared.

The word graphite, like the word charity, covers a multitude of sins. Under the name graphite lubricant are found compounds of cheap black-lead, stove polish, foundry facings, soapstone, etc. Safety in buying, and the surety of getting the best graphite lubricant made, lie in purchasing of a firm of world wide reputation and long experience. Such a firm is the Joseph Dixon Crucible Company, of Jersey City, N. J.

He—"Oh, yes, when I was in London I was enthusiastically received in Court circles." SHE—"What was the charge against you?"—*Pick-me-up.*

Tin Roofers on the Coast will be glad to notice by our columns in the present issue that the old house of N. & G. Taylor Co., Tinplate Manufacturers, Philadelphia, now carry a large stock of their world wide celebrated brand of

Roofing Tin, The Taylor "Old Style" at San Jose, in charge of the well-known house of Messrs. John Stock Sons. This firm announce that they are now ready to supply all dealers and consumers, with either prices, samples or general information as to the merits of the goods.

The Taylor "Old Style" has been largely used in the past throughout California, and also in Oregon and Washington. It is now being used on the Grand Central Station on the Northern Pacific R. R. at Portland. It is handled for the North West as a distributing point by Messrs. Goldsmith & Loewenberg, Portland, Oregon. Thousands upon thousands of buildings all over the United States are lasting testimonials of the worth and great durability of this, the original and genuine "Old Style" brand of Roofing Tin, its many imitations have made the "Genuine" almost a household word among the roofing fraternity. To our readers it should be borne in mind that it is made in the same way as Roofing Tin was first made in 1830, over 65 years ago, in Philadelphia, and then handled by Messrs. N. & G. Taylor Co., and as the firm states, "There are roofs East covered with this brand of Tin that are just as good to-day as when first put on nearly 70 year ago." The wear is certainly the true test of value.

Architects in naming the brand in their specifications can run no risk of substitutes or "just as good". The brand can be obtained quickly from Messrs Jno. Stock & Sons, each sheet is stamped with the name of the brand, the thickness, and the name of N. & G. Taylor Co. who warrant the tin, and it is the only tin on the market that is warranted in the sense demanded by the user. We compliment the Messrs. Taylor on the step they have taken, and congratulate Roofers on the advantage they thus secure.

CITY BUILDING NEWS.

Baker near Greenwich. To build; owner, Mrs. T. M. Sheilds; contractor, Jacob Schuler; signed, April 5; filed, April 8; cost $2200.

Beaver street, No. 15. Additions; owner, Mrs. F. Loth; contractor, C. Eriksen; signed, March 23. filed, April 3; cost $2000.

Butchers Reservation, lot 3, block 22. Cold storageplant; owner, Henry Miller; architect, H. F. Spencer; contractor, Cyclops Iron Works and Gurney Refrigator Co.; signed, March 29; filed, April 3; cost $22,000.

Broadway near Stockton. Mason and terra cotta work; owner, V. Pucinelli; architect, E. Deplerre; contractor, P. A. Anotonelli; signed, March 14; filed, March 14; cost $2750.

California and Montgomery. Steam heating; owner, Cal. Safe Deposit and Trust Co.; architect, H. A. Shulze; contractor, P. Leprohon; signed, March 6; filed, March 15; cost $4235.

California and Montgomery. Electric Lighting, etc.; owner, Cal. Safe Deposit and Trust Co.; architect, H. A. Schulze; contractors, Will & Finck Co.; signed, March 6; filed, March 15; cost 3592.

California and Montgomery. Plumbing, gas fitting, etc.; owner, Cal. Safe Deposit and Trust Co.; architect, H. A. Schulze; contractor, James Duffey; signed, March 6; filed, March 15; cost $16,954.

California and Montgomery. Carpenter work and the addition of two stories; owner, Cal. Safe Deposit and Trust Co.; architect, H. A. Schulze; contractor, Thomas Day & Sons; signed, March 6; filed, March 15; cost $95,400.

California and Jones. Ornamental Iron Work; owner, Nob Hill Development Co.; architects, Bugbee & Gash; contractor, D. Jordan; signed, March 18; filed, April 4; cost $4550.

California and Jones. Anchors beams, etc.; owner, Nob Hill Development Co.; architects, Bugbee & Gash; contractor, Dennis Jordan; signed, March 18; filed, March 19; cost $20,600.

California and Jones. Plumbing, gas fitting, etc.; owner, Nob Hill Development Co.; architects, Bugbee & Gash; sub-contractor, J. Doherty; signed, March 13; filed, March 20; cost $10,990.

California and Jones. Electric Elevators; owner, Nob Hill Development Co.; architects, Bugbee & Gash; contractor, Frank A. Hall; signed, March 18; filed, April 4; cost $7,000.

California near Heyman. To build; owner, Mr. Lindberg; contractor, J. Gillogley; cost $1600.

Castro near 19th. Two flats and coal yard, except plumbing; owner, Edward Ring; contractor, Thomas McKee; signed, March 3; filed, March 13; cost $2625.

Carl near Stanyan. To build; owner, A. M. Bruischer and wife; architect, J. T. Kidd; contractor, W. A. Muller; signed, April 2; filed, April 3; cost $1460.

Central Ave. near Clay. To build; owner, W. R. Van Alen; architects, McDougall & Son; days work; cost $5000.

Clement street and 4th Ave. Three two-story frame residences; owner, D. F. McGraw; architect, C. F. Robinson; cost $9000.

Clementina near 4th. To build; owner, Chas. Giovanetti; architect, C. R. Wilson; contractors, Cuneo & Cavaglia; signed, April 8; filed, April 8; cost $3750.

Chattanoga near 23d. Alterations and additions; owner, Samuel Hortop; contractor, D. Currie; signed; March 16; filed, March 19; cost $2400.

Clay near East. Driving 316 piles; owner, J. D. Montanya; architects, Percy & Hamilton, contractor, S. F. Bridge Co.; signed March 14; filed, March 15 cost $4218.60.

Church near 21st. To build; owner, R. M. Barry; architects, Mahoney & Ryland; contractor, T. E. Corrigan; signed, March 13; filed, March 19; cost $2595.

Clayton near Frederick. To build; owner, Mary O'Leary; architects, Shea & Shea; contractor, James Mooney; signed, March 12; filed, March 15; cost $2838.

Collins near Pt. Lobos Ave. To build; owner, J. McMahan; contractor, J. D. Barton; cost $1600.

Dolores near 22d. Raising old building and additions; owner, Samuel Mathews, Jr.; contractor, W. P. Smith; signed, March 18; filed, March 18; cost $640.

Duncan near Guerrero. To build; owner, Kate Marron; architect, J. T. Welsh; contractor, P. R. Bassett; signed, April 3; filed, April 8; cost $2250.

Dupont near Francisco. To build; owner, J. Kucich; architects, Salfield & Kohlberg; contractor, John Pecavich; signed, March 19; filed, March 20; cost $2230.

Eddy near Buchanan. To build; owner, Simon H. Bush; contractor, C. W. Depew; cost $5000.

Elizabeth near Noe. Raising building; owner, M. J. Fitzgerald; contractor, Wm. Plant; signed, March 15; filed, March 19; cost $1065.

Elizabeth near Noe. To build; owner, R. P. Thompson; contractor, W. W. Rednell; signed, April 2; filed, April 9; cost $1600.

Fell near Gough. To build; owners, Mrs. Mary F. and George F. Kelly; contractors, Wheeler & Perry; signed, March 27; filed, March 28; cost $4800.

Francis near Mission. To build; owner, James and Dello Rice; contractor, P. H. McKenna; signed, April 1; filed April 1; cost $800.

Folsom near 20th. To build; owner, J. H. Robinson; contractor, H. J. Weiss; signed, March 23; filed, April 2; cost $3313.

Folsom near 21st. To build; owner, Jacob Rohrer; architect, Emil John; contractor, H. T. Grieb; signed, March 28; filed, April 2; cost $2900.

Fourteenth and Howard. Alterations and additions; owner, Maria L. Rerrel; architects, Pissis & Moore; contractor, F. W. Kern; signed, March 19; filed, April 3; cost $6350.

Filbert near Dupont. To build; owner, Pietro Queirolo; contractors, Cuneo & Cavaglia; signed, March 21; filed, March 26; cost $6000.

Fillmore near Washington. Alterations; owner, Mrs. R. Greenfield; contractor, G. G. Gillespie; signed, March 27; filed, March 27; cost $3000.

Fifteenth Ave. near Point Lobos. To build; owner, E. G. Flanders; contractor, W. W. Redmall; signed, March 19; filed, March 23. cost $1350.

Fulton near Baker. To build; owner, Hannah Mahoney; contractor, J. C. Kelly; signed, March 21; filed, March 23; cost $2360.

Fulton near Baker. To build; owner and builder, Thomas Volden; cost $6000.

Franklin and California. To build; owner, Edward Coleman; architect, W. H. Lillie; contractors, Farrell & Bell; signed, March 18; filed, March 19; cost $13,640.

Geary near Leavenworth. To build; owner, Dr. C. D. Cleveland; superintendent, J. W. Blundon; days work; cost $3500.

Green and Taylor. To build; owner, Thomas McCarthy; contractor, A. E. Waller; signed, March 16; filed, March 19; cost $3300.

Grant Ave. and Sutter. Two-story brick; owner, J. W. Tamm; architect, A. J. Barnett; contractor, A. G. Johnson; signed, April 5; filed, April 6; cost $4000.

Hayes and Octavia. Plumbing; owner, Mrs. Reinle; architects, Stone & Cahill; contractor, J. Doherty; cost $960.

Hattie and 17th. To build; owner, Jas. Kelly and wife; architects, McDougall & Son; contractors, Brennan Bros.; signed, March 28; filed, March 28; cost $1740.

Hermann near Steiner. To build; owner, Chas. Huber; architects, Mahoney & Ryland; contractor, Geo. Reichley; signed, March 30; filed, April 3; cost $1980.

Jasper Place near Filbert. To build; owner, A. Cahri; architects, Townsend & Wyneken; contractors, Cuneo & Cavaglia; signed, March 21; filed, March 23; cost $1450.

Jessie near 2d. Five stories and basement, brick; owner, D. Keil; superintendents, Hansbrough Bros.; days work; cost $15,000.

Jessie near 7th. Additions; owner, Michael McNamara; architects, Hatherton & Ross; contractor, J. W. Sandy; signed, March 20; filed, April 3; cost $1250.

Jersey near Noe. To build; owner, Laura H. Wells; architect, Frank Mead; contractor, W. H. Mead; signed, March 27; filed, April 10; cost $1950.

Jones near Chestnut. To build; owners, Mr. and Mrs. David Crowley; contractor, J. W. Pauls; signed, April 6; filed, April 10; cost $3600.

Jones near Post. Berkshire Hotel plumbing; owner, Emily B. Hopkins; architect, J. H. Littlefield; contractor, H. Williamson; signed, March 27; filed, March 28; cost $2750.

Jones near Post. Alterations and repairs; owner, Mrs. Emily B. Hopkins architect, J. H. Littlefield; contractor, D. Currie; signed, March 30; filed, April 1; cost $1200.

Kentucky near Sierra. To build; owner, Catherine Sullivan; architect, A. J. Barnett; contractor, Timothy Sullivan; signed, March 14; filed, March 18; cost $2600.

Laguna near Vallejo. To build; owner, Caroline S. Townsend, architect, W. H. Wharff; contractor, F. W. Maurice; signed, March 14; filed, March 15; cost $11,230.

Laguna near Vallejo. Plumbing and gas-fitting; owner, Caroline S. Townsend architect, W. H. Wharff; contractor G. C. Sweeny; signed, March 28; filed, March 29; cost $1210.

Laguna near Pine. Alterations and additions; owner, Z. Wollberg; architect, H. Geilfuss; contractors, Hood & Watson; cost $1000.

Lafayette Place near Green. To build; owner, G. Gardella and wife Giovanni; contractors, B. Pagano and G. Capelli; signed, March 25; filed, Marth 25; cost $3194.

Liberty near Guerrero. To build; owner, W. J. Pattersen; architects, Martens & Coffey; contractor, H. Behrens; signed, March 26; filed, March 28; cost, $2444.

Liberty near Guerrero. Concrete, Grading, etc.; owner, W. J. Patterson; architects, Martens & Coffey; contractor, Cushing Welmore Co.; signed, March 25; filed, March 28; cost $695.

Lyon near Fulton. To build; owner, K. C. Richard; contractor, Wm. Harvard; signed, March 25; filed, March 25; cost $3250.

Market street, No. 1318. Alterations and repairs; owners, Dunn Bros.; architect, J. W. Rowell; contractor, W. H. Hughes; signed, March 16; filed, March 16; cost $1348.

Market and O'Farrell. Alterations to entrance, Phelan Building; owner, Phelan Estate; architect, Wm. Curlett; cost $6000.

Market near 5th. Mason work on Parrott Building; owners, Parrott Estate; architects, Pisses & Moore; contractors, Richardson & Gale; Estimated cost $76,156.

Market near 5th. Cast iron casing for steel columns; owner, Miss Emma Spreckles; architects, Reid Bros.; contractor, Bay City Iron Works; signed, Feb. 26; filed, March 28; cost $1235.

Market near 5th. Marble work; owner, Miss Emma Spreckles; architects, Reid Bros.; contractor, Vermont Marble Co.; filed, March 28; filed, March 28; cost $3600.

Market near 5th. Finishing a bar room; owner, Chas A. Zinkand; architect, Emil John; contractors, Fink & Schindler; signed, April 2; filed, April 4; cost $11,250.

Market and 4th. Elevator alterations; owner, Mrs. Flood; contractors, Cahill & Hall; cost about $25,000.

Mason near Green. Six dwellings complete; owner, A. J. Garibaldi; architect, E. Deplerre; contractor, Jas. McLean; signed, April 1; filed, April 3; cost $6150.

Mason near Geary. Plumbing, etc.; owner, Hall Association N. S. G. W.; architect, A. C. Lutgens; contractors, Allen & Rooney; signed, March 30; filed, April 2; cost $2790.

McAllister near Baker. To build; owner, Thomas J. Campbell; architect, J. B. Campbell; contractor, James McConahey; signed, March 28; filed, April 12; cost $2700.

Montgomery near Vallejo. To build; owner, G. Capura; architect, E. Deplerre; contractor, Jas. McLean; signed, March 9; filed, March 12; cost $2345.

Mission near 7th. To build; owner, O. Nolte; architect, C. M. Rousseau; contractor, R. J. Pavert; signed, March 19; filed, March 21; cost $4000.

Octavia and O'Farrell. To build; owner, Hannah Maurer; architect, E. J. Vogel; contractor, M. J. Savage; signed, April 1; filed, April 2; cost $9140.

Ocean House Road. Excavations and embankment for a race track; owner, Alexander F. Williams; Engineer, M. M. O'Shaughney; contractors, P. Broderick and J. Kelso; estimated cost $25,000.

Pacific Ave. near Jones. To build; owner, John and Annie Wrede; architect, F. B. Wood; contractor, Robert Frost; signed, March 12; filed, March 13; cost $2475.

Presido. Pneumatic Gun Power House; owner, U. S. Government; architects, Percy & Hamilton; contractors, Francoeur & Bowers; cost $4200.

Post near Pierce. To build except plumbing; owner, Wm. Kaiser; architects, Salfield & Kohlberg; contractor, T. R. Bassett; signed, March 12; filed, March 14; cost $5600.

Post near Pierce. Plumbing; owner, Wm. Kaiser; architects, Salfield & Kohlberg; contractor, W. D. Hobro; signed, March 12; filed, March 14; cost $1125.

Polk and Sutter. Plumbing, etc.; owner, M. H. DeYoung; architect, Clinton Day; contractor, E. J. Duffey; signed, March 7; filed, March 27; cost $4000.

Ridley near Valencia. To build; owners, Galland Bros. & Caro; architect, M. J. Lyon; contractor, J. N. Cobura; signed, March 13; filed, March 16; cost $875.

Sacramento near Walnut. To build; owner, Felix Latz; contractor, F. G. Kronnick; signed, March 14; filed, March 14; cost $4000.

Sanchez and 19th. Additions; owners, Mr. and Mrs. Carmile; contractors, Hood & Watson; cost $900.

Second Ave. near Clement. To build; owner, Mrs. Adline Froham; architect, Herman Kraetzer; contractor, B. I. Taylor; signed, March 21; filed, March 25; cost $2500.

Second Ave. near Lake. To build; owner, T. G. Barker; architect, H. J. Kraetzer; contractor, Byron I. Taylor; signed, April 5; filed, April 10; cost $2500.

Seventh Ave. near A. Cottage; owner, J. C. Shea; architects, Shea & Shea; contractor, Jos. Keaney; signed, March 25; filed, March 28; cost $1100.

Shotwell near 24th. To build; owner, Samuel G. Hammond; architect, E. N. Snell; contractor, C. S. Emmons; signed, March 12; filed, March 12; cost $3363.

Sharon near 18th. To build; owner, Mrs. HuldaHeine; contractor, C. V. Bunce; signed, March 16; filed, March 22; cost $1800.

Stockton near Filbert. To build; owner, V. Podesta; architects, Townsend & Wyneken; contractor, G. Massoletti; signed, March 27; filed, March 28; cost $1425.

Steiner near Hayes. Plans and specifications filed; owner, Anna Cornahrens; architect, Henry Geilfuss; contractor, J. H. Munster; signed, April 6; filed, April 8; cost $4196.

Sutter near Central Ave. To build; owner, Miss Rebecca E. Mathews; architect, C. F. Robertson; contractor, Thomas J. Crawford; signed, March 8; filed, March 16; cost $2300.

Sutter near Powell. Alterations to Elsmere House; architect, Wm. Curlett; cost $3000.

Third street No. 44. Painting, glazing, etc.; owners, Hymen Bros. Co.; architects, Percy & Hamilton; contractors, Merchant & Nickles; signed, April 5; filed, April 8; cost $1500.

Turk near Larkin. Additions; owner, Geo. Scott; contractor, G. A. Hunnewell; signed, March 20; filed, March 20; cost $1200.

Turk and Fillmore. Car House; contractor, Wm. A. Butler; cost $28,000.

Twenty-fourth near Bryant. To build; owner, C. H. Dolan; architect, M. J Welsh; contractor, W. G. Hughes; signed, March 16; filed, March 16; cost $1348

Valencia near 16th. To build; owner, W. A. Bahr; architect, Emil John; contractor, F. A. Hellmuth; signed; March 14; filed, March 15; cost $2585.

Valencia and 15th. Excavations, etc.; owner, Rose A. Pickering; architects, Havens & Toepke; contractors, Whittle & Smith; signed, March 16; filed, March 22; cost $1891.

Van Ness Ave. near Vallejo. To build; owner, John Evans; architect, J. P Chadwick; contractors, Wm. Smith & Thomas Rindell; signed, March 15 filed, March 8; cost $3675.

Vallejo near Buchanan. To build; owner, Thomas F. Boyle; architect, J. C. Newsom; contractor, Jas. McLean; signed, March 28; filed, March 30; cost $4647.

Vermont near Nevada. To build; owner, Isaiah Leslie; contractors Holmgren & Westerlund; signed, March 30; filed, April 2; cost $1200.

The California Architect and Building News.

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OFFICE, 408 CALIFORNIA STREET, SAN FRANCISCO, CAL., U. S. A

VOLUME XVI. MAY 20th, 1895. NUMBER 5.

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

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

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

ESTABLISHED 1879. INCORPORATED 1889
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OF late a great many accusations have been made of inferior workmanship being done in the construction of the foundations destined to carry the superstructure of the new ferry depot, which the State Board of Harbor Commissioners are erecting at the foot of Market street. The daily press have taken the matter up and redoubled the noise made by the accusers, till a disinterested public would be justified in believing it dangerous to even walk across the concrete arches and piers already completed. From the Governor of the State down through the Grand Jury and investigating committees and experts of all kinds, the foundations have been bored and tapped and tested, with the result that the more they are investigated the better they prove to be, and not a single serious charge against the contractors or the engineer in charge has been made to stick. But as a scape-grace must be found, it is now charged that the architect did not make a sufficient number of personal visits of inspection, and our worthy watch-dogs of the treasury will try to avoid any further payment of the architect's commission on that ground.

There is no doubt that the architect would have been held responsible in case the foundations had been found defective; it is a poor rule that will not work both ways; if the architect is responsible for the proper execution of the work, and would be blamed if things went wrong, why in the name of Justice is he not entitled to some credit when praise of the ferry foundations is the order of the day.

WHAT THE STATE OF MASSACHUSETTS HAS DONE IN REGARD TO GOOD ROADS.

STARTING in June, 1892, a Temporary Commission was appointed to examine into the condition of the roads, and to draft a bill providing for the improvement of the highways of the Commonwealth. The law suggested by the Commission was, with some changes, passed in June, 1893, but, before any petitions for construction of State highways were submitted to the General Court, an act was introduced and passed June 20, 1894, increasing the powers of the Commission, and permitting the Selectmen of any town, or the Mayor and Aldermen of any city, as well as County Commissioners, to petition the Highway Commission for taking roads as State highways. In place of submitting to the Legislature a separate bill for the construction of each road, it was voted that the appropriation be used by the Highway Commission, without further legislation, in building State highways.

The $300,000 has been pretty evenly divided among fourteen counties. Before deciding which of the many petitions should be granted an official visit was paid to each locality, and full information as to the value of the proposed improvement collected. While this method has distributed the work in small sections of roads, thus increasing the expense per mile, the advantage to the people at large will be greater, for the reason that each portion of the State highway constructed is intended to be an object lesson to those living near by. County Commissioners and other officials will watch the work as it progresses, and follow out the same lines in building county and other roads which are not intended for State highways.

The plan is to build, section by section, such roads as will connect the great centers of trade, and join with through roads in other States, so that both local and interstate communication will be benefited. Under date of January, 1895, the Massachusetts Highway Commission has rendered a report which covers the work of the past year, and this publication should be consulted by those who are considering legislation.

The provisions of our law will permit contracts for the construction to be let to municipalities or to private corporations, but the former arrangement is preferred, as it is more effectual in teaching the people the art of road building, and protects the State against cheapening the work by the importation of foreign laborers, an element which is apt to be objectionable.

A resident engineer is appointed by the Commission, and it is his duty to be in attendance, and keep a correct account of all items to be paid for by the State.

Wherever the traffic was of sufficient proportions to warrant it the roads have been broadened. The advantage to owners derived from the construction of the way is, as a rule, so much greater than the injury to them by widening the road that, in a large majority of cases, the town officials have been able to procure releases without any cost.

Thirty-eight sections have been contracted for, and only eight of them are to have a width of eighteen feet of hardened surface, all others being fifteen feet wide. As the primary object is to get length of way, the Commissioners are considering the advisability of building single-track roads in the thinly-settled districts. These would not be over nine feet wide, with here and there portions of double width as convenient passing points for carriages. A mile and a half of such roads can be built for less than the cost of a mile of fifteen feet width, and the advantage in getting produce to market is not lessened, provided such construction is confined to localities where the average traffic is from six to eight vehicles an hour.

There is need of legislation to regulate the care of, and responsibility for, sidewalks on State highways. These being of purely local advantage should be under the supervision of the town, the wheelways alone being constructed and kept in order by the State.

Progress has been made in the laboratory work on the road building stones of the State. Experiments of this kind are carried on at Harvard University in the Lawrence Scientific School, whose dean, Prof. N. S. Shaler, is a member of the Highway Commission. The chief aim of these inquiries has been to determine the qualities which constitute fitness for road making. This will be of value to the Commission in enabling them to utilize the road material near at hand, and thus lessen the cost of construction. As this phase of the work progresses maps are made showing the location of all deposits suitable for road building.

A number of towns have already appropriated money to build their streets in the same careful manner as those constructed by the State, and others have purchased road machinery with the intention of extending the work on roads other than State highways.

Careful consideration has been given to the plan of planting shade trees along the highways. With this end in view, experts have been consulted concerning the best varieties for the purpose, and the wayside trees have been examined, so as to determine the species well adapted to the climate and soil of Massachusetts.

As the estimated expense of procuring and planting these trees is not less than one-half a million dollars, the Commission has rightly made this question secondary to road building, but in the meantime they are collecting such data as will enable them to work with profit on the adornment of the roads after the construction is well in hand. The American and English elms have the advantage of fairly rapid growth, with shade high above ground, and the leaves falling from them give but little obstruction to the gutters. They have the disadvantage of being subject to the attacks of insects, so that the cost of protecting them from these pests would be considerable. Maples grow well and are beautiful, though they often shade the road too much. It is the custom in parts of Europe to plant the road-sides with trees which yield profitable crops. In France and Germany, for example, cherry trees abound. In these countries the yield of the wayside trees belongs to the neighboring land owners, but in some cases to the community, and their product is well guarded by law. There will be more or less experimenting on the part of the Commission before they decide upon the species to be planted. The law provides for the beginning of this work in the Spring of 1895, and from that time it will be carried on slowly, so as to give us the benefit of experience.

Every State should make a beginning on road improvement. In thinly settled regions of the country, where the people do not feel able to undertake much, they can do no better than to start the reform by constructing sections of single-track roads. No community can afford to neglect the common roadways. Our prosperity is too intimately connected with the facilities for communication.

I have spent many thousands of dollars in inaugurating and advancing this reform, and continue to take an active part in it, though for a long time I have not addressed you on the subject.

The interest is now general, and the leaders numerous, consequently there is a demand for road news, more especially for the recent advancements in the line of actual experience.

ALBERT A. POPE.

GLASGOW—A MODEL MUNICIPALITY.

TO the thoughtful mind, nothing is more interesting or a more hopeful sign of the times than the growing interest which we in Great Britain are learning to take in questions of municipal government. Sixty years ago representative municipal government, in the sense that we attach to the word to-day, was a thing unknown. The towns were then in the hands of the old close corporations. The representive principle only received final sanction in 1833, in Scotland; two years later, in England. It has grown up with the Victorian era, nor is it the least of the important developments that have done the same. Perhaps a cynic might find significance in the fact that the real importance of Parliament as an administrative body has been steadily decreasing during the same period. The House of Commons has been more and more given up to the demons of speech, irrepressible and leading nowhither, until in this present year of grace men are learning to look to the remarkable renascence of municipal spirit as the most likely source of the reforms that are needed to adjust the conditions of modern life to modern people. Even London, whose inherited *inertia* has combined with her proximity to the central authority of the Empire to make her neglect her own salvation, has at last awakened to the desirability of good self-government, and the consequence is that her inhabitants have, some of them at least, ceased to ask, with disdainful scorn, whether any good thing could come out of Nazareth or Sunderland. They are not unwilling to take counsel from the experience of Berlin and Paris, even of Manchester and Glasgow. The whole change that has come over the public mind in this respect in the last twenty years is admirably expressed in a recent speech of Mr. Chamberlain, who has himself contributed to it in no small degree. "Now," he said, "people are beginning to appreciate the fact that municipal government is the most potent agent of social reform, and that it is the best instrument by which the wealth and the influence and the ability of the whole community can be concentrated and brought to bear in order to relieve the pressing wants of its least fortunate members, and in order to raise the general level and standard of the whole population." There are many towns to-day from which this definition might be illustrated. Manchester and Birmingham and Bradford are all keen at the work. But Glasgow, whom her citizens delight to call the second city of the Empire, assuredly deserves the name of first, both in regard to the chronology of modern municipal development and to the success with which she has executed all her designs. Glasgow was on the crest of the wave of reform which began to gather in the cities of the United Kingdom about the middle of the century, and she has many lessons to-day to teach even her most advanced sisters. Some of these I am now to sketch, with the apologies for the necessary limitation of my canvas.

The municipal policy of Glasgow for the last fifty years may be defined in words used by her present Lord Provost, Mr. James Bell, who is himself an epitome of the social enthusiasm, the business capacity and the enterprise that distinguish the city over which he rules. It is, in brief, to attempt to make the life of the citizens as healthy and as happy as is possible. The Corporation recognise three duties as being lain upon them: to fulfil their trust by economical administration of the city's finances; to improve public health, both physical and moral; and to give brightness and the possibility of happiness to civic life. There are few residents in Glasgow to-day who are unwilling to admit that this rather ambitious programme has been carried out to the full. Good financial management is placed first partly because the Glasglow town council is composed of business men who apply the lessons of their practical life to their municipal work; partly because (to quote the Lord Provost again) their duty "is to the whole body of the citizens rather than to individuals, and low rating is the most widespread of boons." The result is that the well-to-do Glasgow householder enjoys his manifold advantages for a rate of little more than half-a-crown, while his poorer brother is still more lightly taxed. Beyond that, the Glasgow Corporation hold it their duty to undertake the supply of those necessaries of life—light, fresh air and pure water—which private enterprise cannot generally be trusted to provide. Further, they attend to the prevention and cure of the moral and physical diseases that always threaten a large community. They prefer prevention to cure, and therefore they endeavour to give everybody a chance of owning a clean and decent home, with fresh air, sunlight, and opportunities of recreation for himself and his children. Parks and picture galleries, recreation grounds and concerts are supplied by them on a sound commercial basis. "The power of the multiplied penny" is very thoroughly understood in Glasgow, where Councillors are accustomed to boast that for an infinitesimal fraction in the rates they can give their constitutents parks and picture galleries that no millionaire could afford to own so near the heart of a town. Indeed, if the chancellor Oxenstiern had known Glasgow to-day, he would probably have instructed his son to go and see with how little expense and how little fuss the world could be governed, and so have deprived the leader writer of one of his favourite *cliches*.

As in case of most governing bodies which have come into being by evolution, not by creation, the functions of the Glasgow Corporation are distributed in a somewhat arbitrary manner. The seventy-seven gentlemen who compose the Council meet now as one body, now as another, for the discharge of various duties. This Proteus-like transformation is a relic of the past that might be spared. But there is no difference in the constitution of the various ruling bodies, and the Council is really one and indivisible for all its functions. The administration of the city's property is in the hands of the Town Council, as also that of certain minor trusts chiefly educational. Next come the trusts of greater importance which are in the hands of the Magistrates and Council of the City of Glasgow. Thus we have the City Improvement Trust, the Markets Trust, and the Water Trust. The supply of gas and electric light, the parks and picture galleries, the public baths and wash-houses, and the tramways are also managed by the Town Council. That body controls in addition the Michell

Library, a collection of upwards of 100,000 volumes, which Glasgow owes to private generosity. Persevering attempts are being made to get the Free Libraries Act adopted, but it is one of the few blots upon the fame of the city that they have not yet been successful.

The Corporation adopts the name of the Police Commission in order to discharge some of the most important of its duties. Indeed, it may be said that the Town Council might perhaps be spared, but the Police Commission never could. It has also been said that that the one corresponds to the spiritual power, the other to the secular arm; but it is not well to push the metaphor too far. The name of the Police Commission recalls the old Scottish connection with France and the once universal Roman law. It must be taken in the wider significance of the Greek *politeia*, rather than in the narrower sense which England attaches to the word. The duties of the Police Commission of Glasgow include the work of the policeman proper, of the lamplighter and the fireman—watching and lighting, in short; further, the whole of the very important sanitary department, the repair and cleansing of the streets, and the purification of sewage before it is sent into the Clyde, a work that is as yet only done in part. It has long been contended by certain critics that this distinction between the Council and the Police Commission is wasteful, since it involves the duplication of certain officials, and it is possible that the administration of the city will soon be unified in name, as it has long been in reality. But this is another story.

When an outsider proceeds to look more closely than this Pisgahsight has done into the municipal activities of Glasgow, he finds that both in chronological order and in magnitude the water supply is the first matter that calls for attention. This has long been a text for the sermons of would-be municipal reformers in other towns. The wave of municipal progress that appeared in Great Britain about the middle of the century probably arose from the scare that was caused by frequent outbreaks of cholera and typhus in the large towns. In Glasgow it showed itself in uneasiness about the water supply, which was then derived from the comparatively unpolluted Clyde. Forty years ago this supply was both impure and limited; nasty, though by no means cheap; and the Corporation decided, with some misgivings, to venture on the then unprecedented step of taking water for their city from the beautiful and romantic Loch Katrine, thirty-five miles distant. The domestic water-rate was then 1s. 2d. in the pound. In the course of the first sixteen years years after the introduction of the Loch Katrine water it was reduced to 8d., and for the last four years it has stood at 6d. The necessary raising of the Loch has destroyed the famous Silver Strand· but Glasgow is not so romantic as to think that an offset to the fact that the water, "caught within cloudland, is purity itself." There is practically an unlimited supply for domestic purposes, and in consequence the Corporation are able to rejoice over the fact that Glasgow is said to use more water per head of her population than any town in the kingdom. Only Dublin gets cheaper water, and not even Manchester gets it better.

The finance of the matter, though dry, is practically interesting, since it relates to the first experiment in municipal collectivism that was made on a big scale in this country. One cannot, unfortunately, say of statistics, as Philaminte did of Greek, that with them *on ne peut gâter rien*; but on a subject like this the reader must be entreated to pardon a certain sprinkling of figures. The capital outlay on the waterworks up to 1894, then, was nearly two and a half millions sterling. In 1870 a sinking fund was established. Through its agency about three-quarters of a million have been paid off up to the present time. And this sinking fund will pay off the whole of the remaining debt by 1941, when the present waterworks will be the unencumbered property of the Corporation. In the meantime the supply of water has been immensely increased, the quality vastly improved, and the price more than halved. It has been calculated that the aggregate saving to the consumer since 1870 amounts to more than two-thirds of the debt now outstanding. It has, in short, been conclusively proved that municipal management of such a business as the supply of water is compatible with a direct saving of money to the consumer and a great improvement in the supply, while it is impossible even to guess at the economy in life and coin that has been effected by the introduction of the soft, pure, and abundant water of Loch Katrine to the crowded city.

The Water Trust is also about to supply power in the form of water at a pressure of 1,000 lbs. to the square inch, throughout the business area of the city. The hydraulic mains will be extremely useful in case of fire. Further, the selling of power ought to prove another interesting experiment in municipal "business."

Along with water one naturally thinks of gas as another necessary of life. Here, too, the Glasgow Corporation have long held the field. It was no doubt, the marked success of their dealing with the water that encouraged them to assume control of the lighting of the city. In 1869 they took over the production and sale of gas from the two private companies which then performed it. The quantity of gas sold has since more than trebled, while its price has been correspondingly decreased. The total debt on the gas works is still nearly two millions, but one is credibly assured that this formidable sum will be cleared off in twenty-five years from now by the operation of the present sinking fund.

The Corporation have also supplied electric light for the last three years. Many streets are lighted with it, in a rather pleasing fashion, and there are about five hundred private consumers.

But perhaps the most brilliant affair is the undertaking of the tramways. The history of this business is worthy of record. The tramways of Glasgow have hitherto been worked by a private company which had a lease of them for twenty-three years, that expired June 30, 1894. Some six years ago the Council requested the Tramway Company to assent to certain conditions, regulating, amongst other things, the hours of work of the Company's servants. The Company refused point-blank to do anything of the kind. Immediately thereafter it was suggested by some of the more advanced Councillors and their friends—especially by their friends—that the town should take the tramways into its own hands on the expiry of the lease. For some time this proposal was generally treated as "rank Socialism." But it was not long in commending itself to the citizens. As ofter happens, the citizen tail wagged the Corporation dog, and a speedy *volte-face* was made by Councillors who had been most backward in the matter. The Company, confiding in what is fondly considered to be its necessity to the town, refused to make any concessions. And so it was determined that the lease should not be renewed. One consequence of this was that the Company felt itself much injured, and threatened to do its utmost to wreck the Council's business. It was known that the Company was going to

put omnibuses on all the tramway routes, and to start a brisk competition; also that the Council had to begin the service without experience, with new men, new plant, and new horses. So this notable experiment in municipal tramway management was tried under perhaps the most unfavourable conditions that could have been selected.

It is no light matter for inexperienced men to start a tramway business on a scale that involves 300 cars, 3,000 horses, and 1700 men, even with plenty of time in which to prepare. The only possible practice that the Corporation could give their men and horses was "under difficulties, in tracks temporarily laid down at the depot." Their achievement under the circumstances was little short of miraculous. At midnight on June 30th the last of the Company's cars left the lines. At five the next morning those of the Corporation began to run. Luckily it was a find Sunday; still more luckily, the citizens were well aware that the experiment was being made in their interest, and were lenient judges of the inevitable defects of the first few days. The general criticism was, that these defects were wonderfully few in number.

It was a trial start, and with so many new men and unaccustomed horses, some confusion might not unnaturally have been expected. On the contrary, however, the service seemed to go like clock-work from the first hour . . . The horses were only given about half work to begin with, and this was gradually increase as they became somewhat seasoned. Within two months from the start they were able for full work, and the complete service of cars was running."[1]

There was no doubt whatever that the new cars were a vast improvement upon the old. They were larger, more roomy, and much easier of access. The corporation, besides improving the service, also reduced the fares. They introduced the halfpenny fare, hitherto unknown; they extended the penny stage, and made twopence the maximum fare. There were not wanting critics to declare that, in face of the keen competition of the old company's 'buses, this was madness, and to prophesy a serious deficit on the first six months. The Corporation refused to be discouraged, and gave their servants the six-day week, not to exceed sixty hours in all, while the Company has steadily declined to concede.

About two months ago the first opportunity was given for judging as to the financial success of the Corporation. To satisfy the very general and not unjustifiable curiosity, a trial balance was struck for the half-year ending December 31, 1894, The Lord Provost announced the gist of this as follows:—

"The result is that, after providing for all charges for working, maintenance of plant (including permanent way), interest, and also payment to the Common Good, as arranged at the rate of £9,000 per annum, the accounts still show a credit balance on the six months' working; or, to give it perhaps in more detail, the revenue has met all working charges, interest on capital, the half-year's payment to the Common Good, upkeep of cars, upkeep of plant and buildings, upkeep of permanent way, covers loss of horses by death and horses found unsuitable and sold under cost, and still leaves a credit balance; and further, nothing has been placed to capital beyond initial expenses incurred prior to 1st July last. It must be kept in mind that this result has been achieved with the keep charges of a full stud of horses, but as these at 1st July were soft and unfit for heavy work, the service was begun with only 108 cars, gradually increasing until now about 250 are in daily use. All fares have been reduced, on some routes to the extent of 33 per cent, while to the great benefit of the people, halfpenny fares have been introduced."

This result, in face of the opposition of the 'buses, is enough to fill every believer in the possibilities of municipal enterprise with gratification, and reflects much credit upon the business powers of the men who engineered it.

(1) Let me here say that this quotation is taken, like so many of my facts, from the admirable summary of the year's work now annually published by the Lord Provost, whose innovation may be recommended to the heads of other municipalities; let me also take this opportunity of thanking him and other members and officials of the Corporation for the courtesy with which they gave me the information I desired.—G. F.

Continued in June number.

MOSCOW'S BIG BATH-HOUSE.

THE death of the enormously wealthy Russian philanthropist, M. de Tegorow, at Moscow, will probably have the effect of opening to the public the great baths which, some nine years ago, he caused to be constructed under the shadow of the Kremlin walls. Not only was provision made for the classes, but also for the masses, while the clothes of each bather who desired it were to be washed and ironed free of cost. M. de Tegorow spent many million roubles in the erection and furnishing of this establishment, which was to have been thrown open on January 1, 1885. Dismayed, however, by the prospect of too much cleanliness, the gypsies, whose aversion to the quality which is generally considered as being next to godliness is well known, determined to devote all their efforts to frustrate the excellent intentions of the philanthropic millionaire, and consequently an old woman who had besought him to permit her to tell his fortune, warned him that he would die on the day that the baths were opened. Like all his countrymen, M. de Tegorow was extremely superstitious, and the dismal prophesy resulted in the huge structure with all its magnificent appointments remaining unopened and unused. Meanwhile, the object of the gypsies had been attained, for nobody would invest money in the construction of other baths while any possibility of those built by M. de Tegorow remained. The result is that Moscow and its citizens have lived up to their reputation of being the dirtiest city and the most uncleanly people, not only in the Empire, but in all Europe. It is likely, however, that before the summer comes, the establishment will be in full operation, and that the people of Moscow will have the oportunity of pronouncing themselves in favor of cleanliness or filth.—*Marquise de Fontenoy in the Philadelphia Press.*

RICHMOND IMPROVING.

SINCE January, 1893, up to date there have been over 2000 houses built in San Francisco, of which it is estimated 15 per cent have been erected in Richmond. Miles and miles of streets have been graded and sewered. A scientific system of sewerage, with proper outlet to the bay, has been laid down, and to-day, it is said, Richmond is the only properly sewered district in the city. It also enjoys excellent transportation facilities, and when the Sutro road is completed and the Geary street line continued it will, with those roads now running through the district, be ahead in this respect also. Saltwater mains have been laid in the district for private baths, flushing sewers, sprinkling streets and putting out fires, for which purposes it is superior to fresh water. The Spring Valley mains give an abundant supply of good fresh water. The location, scenery and shelter is unsurpassed. Its closeness to the park and bay, coupled with the advantages enumerated above, make Richmond, with its magnificent marine views, a favored locality for building homes.—*Daily Call.*

DURABILITY OF RED LEAD ON IRON.

AN old painter thus sums up his fifty years' experience with red lead as a paint on iron work exposed to severe atmospheric influence: "It was about thirty years ago that I first began to take any interest in the causes of decay in paint on iron surfaces, and then I began to think and inspect work I had done ten years previously. About thirty-five years ago I had to do some iron rods, which were string-bolts for holding a large roof together in a flax spinning factory. These rods had been painted with oxide of iron and had rusted. They were cleaned to the iron, and so thoroughly that the iron was made bright with rubbing. I had to paint them with red lead mixed with half oil and half turps, and some liquid dryer of my own make. This dryer was composed of black wad, red lead and oil boiled to a pulp and then thinned with turps. The second coat was about the same as the first. The third coat contained less turps, and the fourth and last coat hardly any turps. This work has not been done since, and is to-day as perfect a protection to the iron as then. Four years ago I visited the place and was allowed to examine these bolts, and when I scraped off the paint the iron was as bright as when I painted them. Another case is a water wheel which has been built seventy-five years. Twenty-five years ago I had a contract to paint this wheel. The owner thought he would have it cleaned and painted. I employed men to clean it thoroughly and to my surprise I found no rust. When I called the attention of the owner to the fact, he informed me that his father had painted it fifty years before, when it was built, and the red lead was made from ore got in a hill just by, and smelted in the village. However, I gave it two coats of red lead, mixed as I have stated. This wheel is still running, has not been painted since and is in good condition. Now, in regard to work rusted on a smooth surface, I have done work of this kind also, which has been exposed to the sea air. My first step is to clean thoroughly, and then, if badly rusted, to mix a thin mixture of lamp black with plenty of turps and dryers, and a little oil, and when dry apply the red lead as above. This will give a lasting job, as the lamp black arrests and prevents the rusting. In conclusion, I would say if any of your readers want a job of iron painting, let them try the above plan, and I am sure that they will be repaid for the trouble and extra cost as compared with the customary *wash* of matallic paint and oil."—*The Hub.*

TRADE PAPERS DESERVE THEIR SUCCESS.

A man who subscribes for a trade paper does so, not only because he is alive to the interests of his trade in general, but because he expects to find in it—and generally does—information and suggestions of value in the conduct of his own business. Such a man reads his paper from end to end, advertisements and all, commenting as he goes along. Many things are jotted down on his memo. pad for every day use, as well as for inquiring further into on his first visit to market. And as it is necessary for a man to be wide-awake nowadays in order to succeed in business, these are the men who subscribe to their trade journal, and are the advertisers' best patrons. The cannot afford to pass anything which promises help or suggests additional profits. Hence, the trade journal is the best medium for advertising things which concern the business man.—*Newspaperdom.*

APARTMENT HOUSES AT POMPEII.

OUR architects should not forget that the modern system of hotels and apartment houses on a vast scale is merely child's play compared with the practice of the ancients in the same direction. Recent excavations at Pompeii have unearthed some enormous buildings of such beauty and solidity in architecure, such perfect drainage, and such provisions for health and comfort as to fill all who have seen them with astonishment. These newly discovered buildings contain thirty or forty immensely spacious apartments on the first floor, and as many on the second. The rooms looked out on a rotunda nearly forty feet long; courts supported by columns surround the bedrooms which opened upon large, ornamental gardens with fountains. Provision for light and air was made upon the most extensive scale. On the second floor were found evidences that there were suites of rooms built upon the flat plan of to-day. In fact, the revelations made by the exhumers at Pompeii show that place to have been one of the most wonderful watering places for splendor, comfort, health, and enjoyment, and gave every evidence that floor-renting, like many other modern improvements, is not a new thing under the sun.—*Carpenter and Builder.*

ILLUSTRATIONS.

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.

COTTAGE for Marin County shore, Herman & Swain, Architects.

SECOND United Presbyterian Church, Samuel Newsom, Architect.

PROPOSED Hotel, near Golden Gate Park, San Francisco.

Miss Antique—"How dare you kiss me?" Jack Gallant—"I don't know. Must have had a temporary fit of insanity."—*Rochelle Life.*

"Have you heard that big sleeves are going out George?" "Yes, but I don't believe it." "Why not, pray?" "I don't believe they can get through the door."—*Harper's Bazar.*

INSTITUTE OF BRITISH ARCHITECTS MDCCCXXXIV

SECOND UNITED PRES-
BYTERIAN CHURCH
REV. E. B. STEWART PASTOR. S. F.
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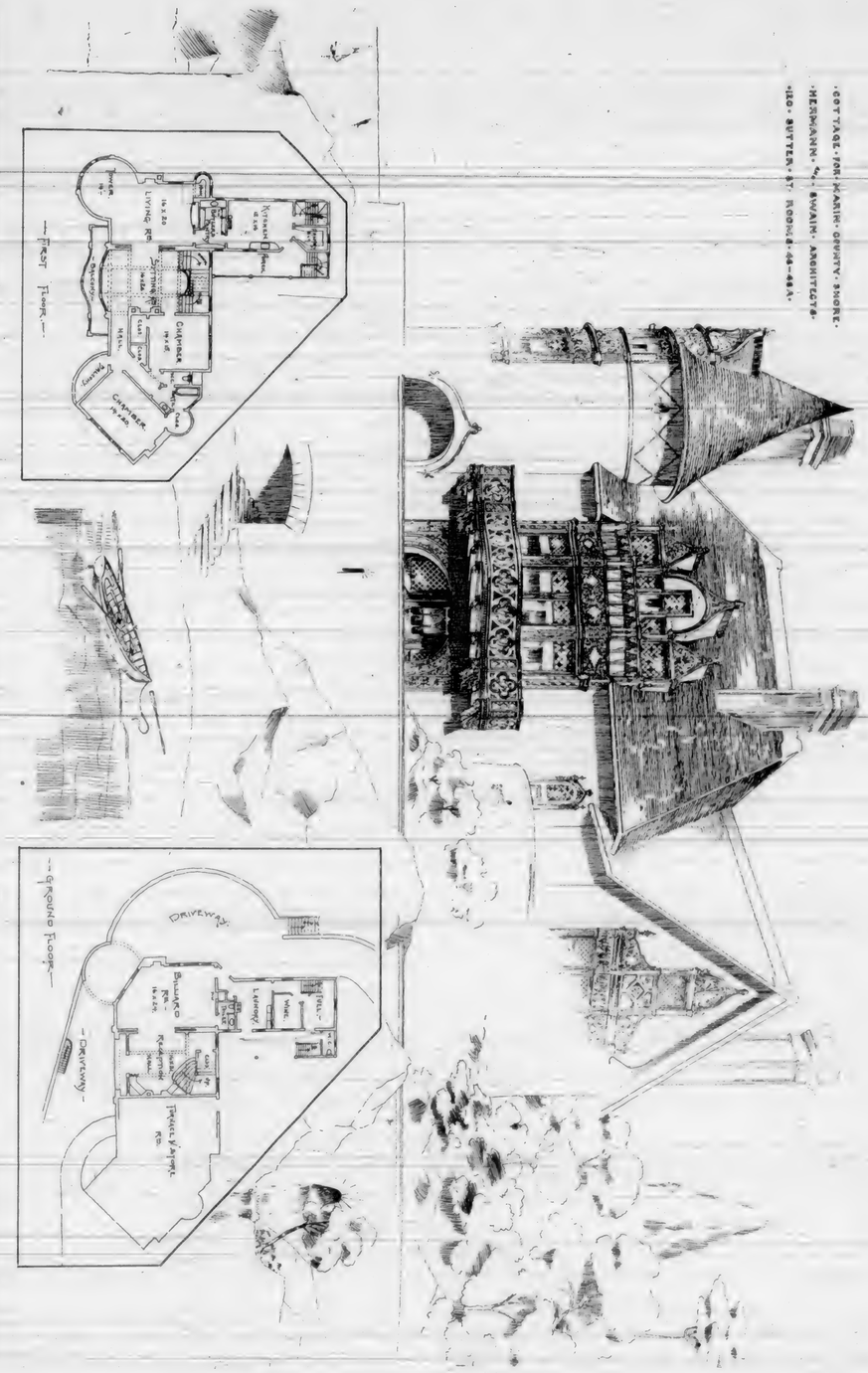
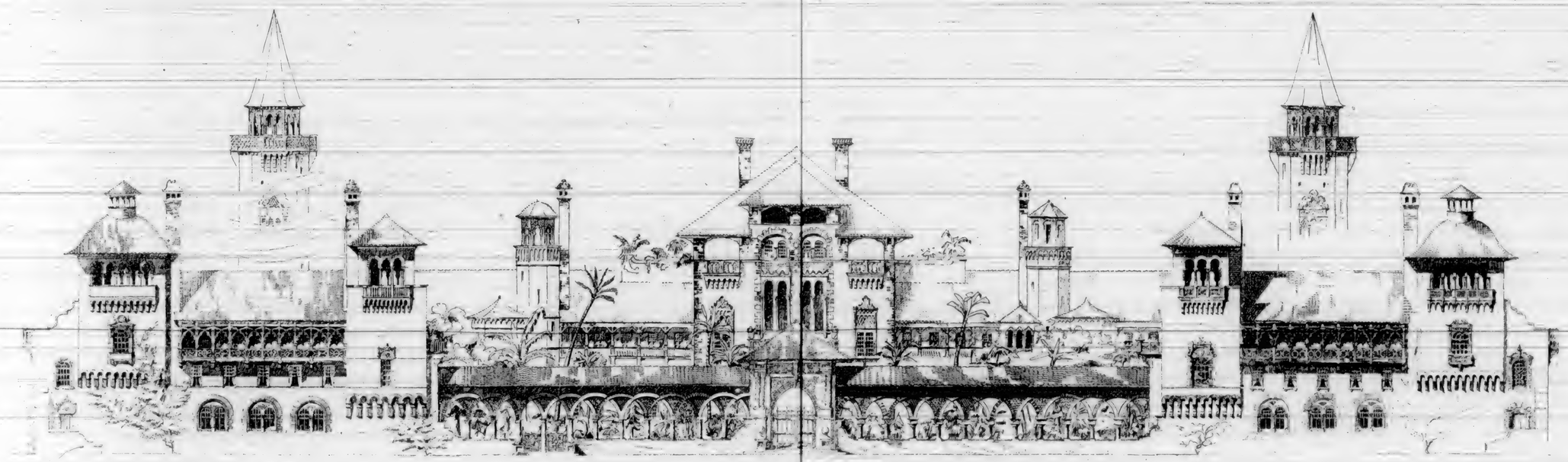
COTTAGE FOR MARIN COUNTY. SHORE.
NEUMANN & SWAIN. ARCHITECTS.
120 BUTTER ST. ROOMS 46-48 A.





CALIFORNIA ARCHITECT & BUILDING NEWS
SAN FRANCISCO

BRITTON & REY PHOTO LITH.

VOL XVI Nº 5 MAY 1895

PROPOSED · HOTEL · NEAR · GOLDEN · GATE · PARK:
SAN · FRANCISCO · · · · CALIFORNIA:
ARCHITECT · · · SAMUEL · NEWSOM:

NOTICE OF MEETINGS.

SAN FRANCISCO CHAPTER, AMERICAN INSTITUTE OF ARCHITECTS, meets second Friday of each month at 408 California street
SETH BABSON, Pres. GEO W. PERCY, Vice-Pres.
OLIVER EVERETT, Sec. JOHN M. CURTIS, Treas.

SOUTHERN CALIFORNIA CHAPTER AMERICAN INSTITUTE OF ARCHITECTS, meets first Wednesday of each month at 114 Spring street, Los Angeles, Cal.
OCTAVIUS MORGAN, PRES. A. M. EDELMAN, Vice-Pres.
ARTHUR B. BENTON, Sec't. AUGUST WACKERBARTH, Treas.

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

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

BOOKS AND PERIODICALS.

THE NEW SCIENCE REVIEW. A miscellany of modern thought and discovery, conducted by J. M. Stoddart, published in Philadelphia, New York and London.

This quarterly review made its fourth appearance in April and continues to sustain the promise made in the opening number—while at times it flutters near the boarders of the unknown. It contains much of practical and useful information, along side of John W. Keely "Operation of the Vibratory Circuit."

"Where the Steamboat was Born" by Maggie Symington, as well as autobigraphical notes by Prof. Richard A. Proctor, are very delightful to read, and will prove of interest to the general reader while "Ether and its Functions," by Geo. Fraser Fitzgerald, F. R. S., Trinity College, Dublin, belong to the realm of science; "Railroad Facts and Figures" by Melville Philips come home to the hearts of all, as who does not travel nowadays. The facts here given would have been thought visionary and impossible fifty years ago.

THE YELLOWSTONE NATIONAL PARK. "Sketches of Wonderland" is the title of a beautiful pamphlet published by the Northern Pacific Railroad of which Chas. S. Fee, St. Paul, Minn., is the general passenger and ticket agent, it will be sent to any address on receipt of six cents in stamps. Anyone on the lookout for the summer outing, cannot do better than to send for a copy. This is no common adqertising sheet, but truly a work of artistic merit, that no one can examine with care, without a desire to see something of the "Wonderland" so graphicly described.

OUR DUMB ANIMALS.—This always welcome publication is before us, as ever its hand and pen is raised against cruelty to dumb animals in any form, but more especially to the cruelty of docking horses. As a specimen of Mr. Angell's direct way of writing we quote the following from the April number, after giving extracts from "The Nineteenth Century" by Dr. Geo. Fleming, a distinguished English veterinary surgeon, he adds: "Any man who, having read it, will be guilty of causing another Polo pony or other horse to be so mutilated, is either a heartless fool, a heartless scoundrel, or an incomprehensible idiot."

The following extract shows that Mr. Angell is as full of fun as he is full of mercy:

Flossie is six years old. "Mamma," she called one day, "If I get married will I have to have a husband like pa?" "Yes," replied the mother, with an amused smile. "And if I don't get married will I have to be an old maid like Aunt Kate?" "Yes." "Mamma,"—after a pause—"it's a tough world for us women, ain't it!"

THE FORTNIGHTLY REVIEW for April, 1895, published by Leonard Scott Publication Company, 231 Broadway, New York, comes to hand full of good things as usual, among others one that should be read with care by all lovers of their country, and a sound currency, we refer to "The Monetary Question" by Honorable Alex. Del Mar.

GEYER'S STATIONER.—Devoted to the interests of the stationary, fancy goods and notion trades, a weekly journal published in New York.

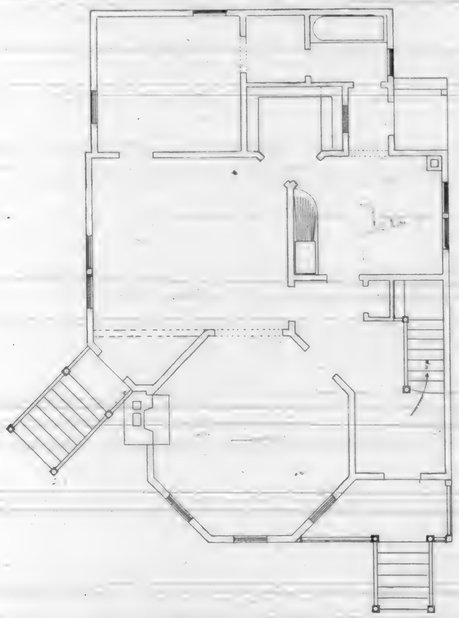
As all the business world is interested in good stationary, it is no wonder that a large mass of information can be accumulated every week on this subject, still the reader cannot help being astonished at the great number of useful and pretty things in the stationary line that this journal calls attention to. Notwitstanding the information is designed to call the attention of the retail stationer of what he may want and where he may get it, the general reader cannot fail to find much of interest even in the advertising column.

BOSTON MUSEUM OF FINE ARTS.

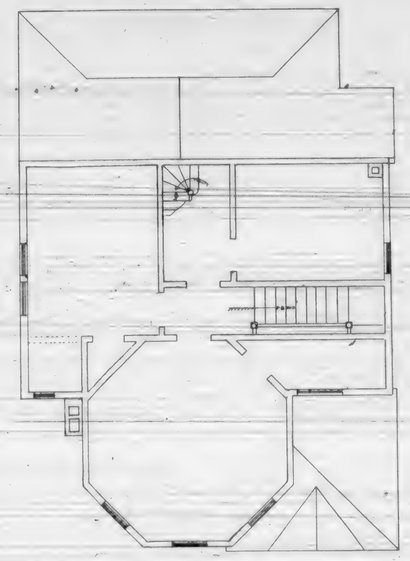
THE Boston Museum of Fine Arts has recently acquired what is beyond comparison the most important collection of Greek vases ever brought to this country. It comprises fifty-three specimens, and those who are familiar with Greek ceramics will appreciate their value from the fact that they include signed examples of such masters as Euphronios, Hieron, Hermogenes, Kachrylion, Duris, Brygos, Pamphaio, Nikosthenes and Xenokles. A number of them contain interesting inscriptions besides the makers' names; but the most remarkable feature of the collection is its intrinsic beauty. Every specimen is a masterpiece of the type to which it belongs, both in shape and in the quality of the drawing upon it, and will appeal to the artist no less than to the archæologist. Boston is not the only city to be congratulated upon this splendid acquisition; for the opportunity it gives to all American students to see Greek pottery at its very best, and the stimulus which is hereby given to the study of the subject, cannot fail to be of benefit to the country generally. It is pleasant to learn that the museum was able to make this purchase out of its own funds, it having received several important bequests lately for the purchase of works of art of various periods.—*Architecture and Building.*

RESULT OF THE CAIRO MUSEUM COMPETITION.

CONSUL-General Penfield, at Cairo, Egypt, reports to the Department of State that in the recent competition of designs submitted for the new Egypt Museum, in Cairo, none of the American competitiors were adjudged a prize. The prizes, five in number, and aggregating $5,000, were secured by Paris architects. The contest was open to architects of the world, and eighty-eight, representing nearly every European country, as well as the United States, participated in the competition.—*Exchange.*



FIRST FLOOR PLAN



SECOND FLOOR PLAN

LEGAL DECISIONS.

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

INJURIES FROM BRICK FALLING FROM A WALL.—The fact that a contractor failed to erect proper scaffolding guards about a building because they could not be erected without occupying adjacent property, and that he was prohibited from so occupying it, will not relieve him from liability for an injury to a third person through the absence of such guards.

One superintending the construction of a building, as agent of the contractor, is equally liable with his principal for such injury, or from the negligent construction of the wall.

Mayer v. T. H. Building Co., Supreme Ct. Ala., 16 So. Rep. 620

RIGHTS AND LIABILITIES OF CONTRACTORS.—Where a contractor sues for the reasonable value of extra work, without setting out the building contract, the defense that its value has not been submitted to arbitrators, as stipulated by the contract, is waived by pleading to the merits.

Where the specifications require the contractor to rub down all brick work on street sides, he cannot claim pay for cleaning street walls with acid as for extra work.

A modification of a building contract so as to require pressed brick walls, impliedly requires pressed-brick chimneys, which are a part thereof.

A contractor is not liable for failure to keep the walls plumb, as required by the contract, where the defect is due to the addition of an extra story without strengthening the foundations.

The measure of damages for failure to use the grade of plastering required by a building contract is the difference between the class of work contracted for and that which was furnished.

Chamberlin v. Hibbard, Sup. Ct. Oregon, 38 Pacific Rep. 437.

OBSTRUCTION OF LIGHT.—The easement of light and air cannot be acquired, according to the general current and weight of authority in this country, even by prescription, and of course no right to object to the obstruction of one's windows by a wall erected on the land adjoining can be said to exist. Therefore, one who leases rooms in a building is not entitled to damages from an adjoining land owner because the latter builds so as to shut off the lessees' light on the side of the leased premises.

Lindsey v. 1st. Nat. Bank Asheville, 20 S. E. Rep. 621.

DAMAGES FOR BREACH OF BUILDING CONTRACT.—Where a building contract stipulated that the contractor should pay ten dollars per day as liquidated damages for every day's delay after a certain date, and the building was not finished at such date, and there is no evidence by which the actual damages can be ascertained, the amount of the recovery is governed by the stipulation. Where the owner entered and occupied a part of the building before it was finished, the damages are recoverable only from the time it was agreed to be done and the date on which the owner entered it.

If the stipulation greatly exceeded the actual loss, if there be no approximation between them, and this be made to appear by the evidenco, then and then only, should the actual damages, under such a contract, be the measure of recovery.

Collier v. Betterton, Supreme Ct. Tex., 29 S. W. Rep. 467.

MECHANICS' LIEN IN NEW YORK.—Under the laws of New York, 1885, c. 342, sec. 5, providing that mechanics' liens shall be preferred to any conveyance, judgment, or other claim which was not docketed or recorded at the time of filing the notice of lien, a lien filed after the death of the owner for work done before his death does not attach to the interest of the owner's devisees.

The court said: No provision is found in the statute giving the claimant the right to acquire a lien after the death of the owner. Mechanics' liens are created by statute, and while the law should receive a liberal construction, so as to secure the beneficial purpose had in view by the legislature, yet, as it creates a remedy unknown to the common law, it may not be extended to cases not fairly within the general scope and purview of the statute.

Turbrid v. Wright, Court of Appeals, 39 N. E. Rep. 640.

MEASURE OF DAMAGES FOR BREACH OF CONTRACT.—Where a party has contracted to move a building for a stipulated sum of money, and then neglects or refuses to perform, the other, if he has the work done by some one else, is entitled to recover as damages the difference between the contract price and the reasonable cost or expense of performance in accordance with the contract, if there is any difference.

Anderson v. Nordstrom, Supreme Ct. Minn., 61 N. W. Reporter 1132.

BUSINESS MOSAICS.

Revere Rubber Co., 527 Market street, San Francisco, manufacturers "Schenck" Swinging Hose Reel. The company claim the use of this hose will reduce the Insurance rate. It is adapted for mills, factories, hotels, public buildings and general inside fire protection.

Syms—"I don't understand this question of labor and capital." GARNER—"It's very simple. Labor wants capital at the least possible exertion, and capital wants labor at the very smallest outlay."—*The Wasp.*

If you are going to build use Neponset Papers! Why? Because if you use this paper, manufactured solely by F. W. Bird & Son, you will have a paper that is sure to give satisfaction as it makes a handsome and permanent covering for roofs and sides of store houses, factories, poultry houses, farm and other outbuildings. It is very much cheaper than any tar and felt or composite roof, and is a great deal less in cost than shingles. So much for Neponset Red Rope Roofing Fabric, also Neponset Black Building Paper, water, air and vermin proof.

McGilder—"Prize fighters are nothing more than a lot of beggars." O'JONES—"How do you make it out?" MCGILDER—"Because they are always striking somebody for money."—*Brooklyn Eagle.*

On or before May 31st our Principal Office, heretofore located at N. W. corner Pine and Montgomery streets, will be removed to Foot of Third street, below Third and Townsend street R. R. Depot, and on the line of the Kearny and Third street, Electric road; all Market Street Cable and Mission Street Electric cars transfer to this line.

We will maintain an Uptown Order Office at 405 Montgomery street, corner of California street, and will be pleased to see you at either office. Our telephone numbers are:—Principal Office, Foot of Third Street, Main 1047. Uptown Order Office, 405 Montgomery street, Main 1480.

If you have no gas cooking stove in your house, do not delay ordering one at once. Your wife will thank you, your coal bill will decrease enough to pay for the extra gas, and you save a lot of bother in dust and ashes. The San Francisco Gas Light Co., Stove department, 226 Post street, will find exactly what you want.

She—"Do you believe in spirits?" HE (from Kentucky) —"I do when they are good."—*Peck's Son.*

When a man decides upon improving his shop, factory or farm, by the addition of power, he naturally looks for something entirely up to date. He investigates considers, and finally decides to buy an Ajax Coal Oil Gas Engine as meeting his requirements more fully, and being safer, than any other power obtainable. Palmer & Rey, San Francisco, Cal., the manufacturers of this engine, have carried the gratitude of the public by placing within its reach a reliable, economical power, that defies the restrictions of insurance companies. It is the latest and best.

"Does this roof leak always?" AGENT—"Oh, no, ma'am, only when it rains."—*Chicago Inter-Ocean.*

M. S. James, Pacific Coast Representative of the J. L. Mott Iron Works has his office at room 35 Flood Building, San Francisco. The quality of the goods manufactured and supplied to the trade by this firm are too well-known to require a recommendation from us, for like good wine they requires no bush.

Nevertheless, to those about to build, or renovate their premises we would strongly urge the importance of giving Mr. James a call before deciding what class of plumbing materials to order, as anything from the smallest house to the largest hotel, is greatly improved by having first-class materials used for all plumbing required. It is a great satisfaction to deal with a house that you are sure of getting your moneys worth.

"The Old May Flower" Roofing Plates, Re-dipped Old Process, Extra Quality. These plates are guaranteed to be coated with 19 lbs. metal on each box of 14x20 and 38 lbs. metal on 20x28, which is a heavier and better coating than any other works put on Re-dipped Ternes. Made of the softest and best quality of steel, true to size, cut square and free from blisters and other imperfections.

Architects and builders should bear these facts in mind when making specifications where durable and first-class roofs are desirable. Sole importers, W. W. Montague, 309, 311, 313, 315 and 317 Market street, San Francisco, and 122 North Los Angeles street, Los Angeles.

Mrs. Hunter—"I like the flat because it has so many nice closets in it." AGENT—"Great Scott, madame! Those are not closets—they are bedrooms."—*Wasp.*

Ives Patent Sash Locks.—It is important that every house should be made as safe as possible against the attack of sneak thieves, nothing that has been devised in the way of Sash Locks appear to answer the purpose so well as the above mentioned patent sash lock manufactured only by Hobart B. Ives Co., New Haven, Conn. The important features are in securely locking when opened or closed, and simultaneously carrying the Meeting Rail in position, and drawing them closely together. Price list mailed free showing fifty styles in Sash Locks and door bolts. See their advertisement on page xi of this journal.

"So old Squibbs is ill eh?" "Yes; was so bad yesterday that they considered a consultation necessary." "Consultation of doctors?" "No; lawyers."—*Judge.*

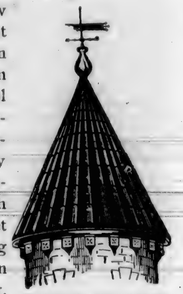
Trade Notice.—Messrs. N. & G. Taylor Co., Tinplate Manufacturers, of Philadelphia, announce that they have given up their old quarters in Water street, New York City, and have moved to the Cable Building, 621 Broadway where they have opened new and commodious offices with a corps of assistants in charge of Mr. George Livingston, a gentlemen who has long been identified with the building and kindred trades of New York and Brooklyn.

The firm also announce that they have secured larger and better warehouse facilities for the quick filling of orders. Consumers wanting their special brand, the celebrated Genuine Taylor "Old Style", extra heavy coated, and also other brands, manufactured by this firm, can secure prompt attention by communicating with the firm's offices, as above stated.

"And I only married to reform you!" "Yesh, but of coursh a man drinksh more if he marries such a fool."—*Life.*

If you want to stop the slamming of that door, all you have to do is to order "The Norton Door Check and Spring" this will render the slamming of doors an impossibility. A simple and durable air cushion check, charging itself when door opens. Not liable to get out of order. Its merits have been proved by being in constant use in this city and elsewhere for the last twelve years. Duplicate parts always on hand. Frank D. Morrell, 593 Mission street near Second street, San Francisco.

There are at the present time few first-class buildings being erected that do not have one or more towers upon them, and no feature of the modern building adds more to its architectural beauty than a graceful and well-proportioned tower. Yet in their construction a difficult problem has invariably arisen as to a suitable covering—especially for conical towers, for which there has been nothing in the market adapted, the only available covering being wood shingles, which split when drawn to the convex form of the tower. Slate will break from the same cause, and metal shingles of forms designed for straight roofing, involves a waste of just fifty per cent of materials in fitting to cones and a greater waste of time in putting on, as after the first course each succeeding one has to be reduced in size and practically made over by the roofer.



GRADUATED TILES

Messrs. Merchant & Co., the well-known Philadelphia tin-plate manufacturers and importers, have recently put upon the market a Graduated Tile, which is a valuable addition to their regular "Spanish" Metal Tile, and which is adapted for covering all conical towers, circular roofs, turrets, domes, etc., being so graduated in size and form as to fit almost any radius. This title is manufactured in copper, steel or tin, the latter being painted in imitation of the red clay tile. As tower roofs are always the most difficult portions of a building to get at to repair or repaint, they should be covered with that which will never require either. Copper, therefore, is the only material that will meet these conditions, being indestructible, and becoming richer in appearance with age. The Merchant & Co's Metal "Spanish" Tile has been specified by leading architects throughout the United States both for private and public buildings. Numerous buildings at the World's Fair were covered with this tile, prominent among which might be mentioned the Colorado, Minnesota and Missouri State Buildings. This tile is also in use on the new City Hall at Tacoma, Wash., the new Union Depot, Denver, Grand Central Station, Portland, Ore., and the Chamber of Commerce Building, Portland, Oregon; also the new Princeton (N. J.) Inn., a beautiful building, the roof of which is almost entirely covered with copper tile, and presents a very rich appearance. Girard Building, Phila.; San Bernardino Court House, Cal.; Baptist Church at Gouveneur, N. Y.; Congregational Church at Gloverville, N. Y.; Bingham Hall, Canandeigua, N. Y.; Crocker Building, Santa Barbara, Cal.; College Arms Hotel, De Land, Fla.; People's Institute, Chicago, Ill.; Winthrop College, Rock Hill, S. C.; Grace Church, Nashville, Tenn.; Church at Fulton, N. Y.; Central School, Guthrie, O.; Library Building, Lawrence, Kan.; Manhattan School, Manhattan, Kan.; City Hall, Wilke Barre, Pa.; Modesta Bank Bldg., Modesta, Cal.; Swain Residence, W. Philada.; First National Bank, Orlando, Col.; Pens. Hospital for Insane, Phila.—*The Engineering Magazine, May, 1895.*

BUSINESS MOSAICS.

Austin near Larkin. Eight circular wood tanks; owner, Olympic Salt Water Co.; architect, H. A. Schulze; contractor, Krogh Mfg. Co.; signed, April 19; filed, May 3; cost $3285.

Bryant near 22d Ave. To build; owner, E. J. Stanley; contractor, A. Olsen; cost $3500.

Bryant Ave. [Preston Place]. To build; owner, T. F. Kiernan; architect, A. J. Barnett; contractors, Quinn & Barrett; signed, April 29; filed, April 30; cost $1608.

Brannan near 4th. Bricklaying for church; owner, Rev. D. Nugent; architect, J. J. Clark; contractor, James Glynn; signed, April 10; filed, April 12; cost $5.25 per M.

Brannan near 4th. Artificial stone work, etc.; owner, Rev. D. Nugent; architect, J. J. Clark; contractor, S. Gilettl; signed, April 20; filed, April 20; cost $4000.

Broderick near Ellis. To build; owner, Mrs. Mary Cochrane; contractor, J. J. Manseau; signed, April 21; filed, April 23; cost $1700.

California near Gough. Cabinet work; owner, J. C. Coleman; architects, Percy & Hamilton; contractor, R. Herring; signed, April 13; filed, April 13; cost $3750.

California near Baker. To build; owner, Mary A. Townsend; contractor, W. W. Rednall; signed, April 18; filed, April 19; cost $1800.

Clay near East. Brick building; owner, J. De La Montanya; architect, Percy & Hamilton; contractors, Thomas A. Day & Sons; signed, April 29; filed, April 30; cost $15,073.

Clay near East. Concrete foundation; owner, J. De La Montanya; architects, Percy & Hamilton; contractors, Cushing-Wetmore Co.; signed, April 15; filed, April 15; cost $3030.

Clay near East. Brick, stone and iron work; owner, J. De La Montanya; architects, Percy & Hamilton; contractors, Peacock & Butcher; signed, April 26; filed, April 30; cost $10,075.

Clayton and Oak. Two two-story flats; owner, J. F. English; contractor, J. V. Hull; cost $8000.

Clement near 5th Ave. To build; owner, Irwin Ingermon; contractor, R. Cook; signed, April 12; filed, April 13; cost $2315.

Clementina near 5th. Additions and alterations; owner, S. Pamery; contractor, J. W. Wyllie; cost $2500.

Clement near 5th Ave. Three two-story frame dwellings; owner, D. F. McGrath; architect, C. F. Robertson; day's work; cost $12,000.

Clement near 5th Ave. Plumbing; owner, D. F. McGrath; architect, C. F. Robertson; contractor, G. C. Sweeny; cost $999.

Davis and Washington. Sewers, plumbing, etc.; owner, Estate of J. Ivancovich; architects, Pisses & Moore; contractor, R. A. Vance; signed, April 26; filed, May 13; cost $1894.

Devisadero near Page. To build; owner, C. J. Kaighen; architect, B. A. Brown; contractor, Pettersen & Person; signed, May 9; filed, May 9; cost $1532.50.

De Haro near 23d. Cottage; owner and builder, D. Pollack; day's work; cost $1500.

Douglass and 24th. To build; owner, James Curtin; architect, A. J. Barnett; contractor, Wm. Plant; signed, April 15; filed, April 22; cost $2700.

Diamond near 22d. Cottage; owner, James Loftus; architect, Chas. Koenig; contractor, A. Petry; signed, April 12; filed, April 13; cost $1530.

Eight near Howard. Alteration and additions; owner, W. Ehrenpfort; days' work; cost $1000.

Eighteenth and Hattie. To build; owner, Agnes Petzold; architects, Martens & Coffey; contractor, J. Bucher; signed, April 18; filed, April 19; cost $3808.

Fair Oaks and 25th. To build; owner, Ed. F. Delger; architects, Kenitzer & Barth; contractors, Anderson Bros.; signed, April 25; filed, April 25; cost $3297.

Fair Oaks near 23d. To build; owner, John Valsangiacomo; architect, A. J. Barnett; contractor, Ed. Mooney; signed, May 10; filed, May 10; cost $3250.

Fella Alley near Powell. To build; owner, August Schiller; contractor, Herman Hansel; signed, April 22; filed, April 24; cost $3060.

Folsom and Rich. Additional story; owner, James Mackin; day's work; $3000.

Folsom street, No. 850. Additions; owner, Mrs. Roach; contractor, F. Schmitz; cost $900.

Folsom near 5th. Alterations and additions; owner, P. E. Duckein; architect, C. M. Rousseau; contractor, Geo. C. Nail; signed, April 18; filed, April 20; cost $1880.

Folsom near 24th. Alterations and additions; owner, H. Mangels; day's work; cost $1000.

Fremont near Frederick. To build; owner, Fred Heine; architect, E. J. Vogel; contractors, Ogle & Smith; signed, April 8; filed, April 11; cost $3505.

Francisco near Dupont. To build; owner, Mrs. Annie Golelli; architect, C. M. Rousseau; contractor, Jos. Kennedy; signed, April 11; filed, April 12; cost $2270.

Franklin and California. Painting; owner, Edward Coleman; architect, W. H. Lillie; contractor, J. P. Fraser; signed, April 18; filed, April 19; cost $366.25.

Fourth Ave. near Clement. To build; owners, J. Levy and Mrs. M. Levy; architect, H. J. Kraetzer; contractor, W. R. Kenny; signed, May 1; filed, May 3; cost $1200.

Fourth Ave. and Point Lobos Ave. To build; owner, R. R. Hind; contractors, Townley Bros.; cost $5000.

Fourteenth near Guerrero. To build; owner, J. M. Griffith; contractors, Hyde & Cox; cost $3500.

Fifth and Brannan. Lumber sheds; owners, Scott & Van Ansdale Lumber Co.; contractor, H. Munster; cost $800.

Fulton near Steiner. To build; owner, J. J. Dowling; architects, Havens & Toepke; contractor, J. H. McKay; signed, April 17; filed, April 19; cost $3595.

Geary near Jones. To build; owner, Thos. Morton; cost $8000.

Grove near Shrader. To build; owner and builder, W. A. Butler; cost $4000.

Guerrero near 22d. To build; owner, Carrie L. Dick; architect, McDougall & Son; contractor, M. M. Cowie; signed, April 7; filed, April 18; cost $4722.

Guerrero near 22d. Plumbing; owner, Carrie L. Dick; architects, McDougall & Son; contractor, W. F. Wilson; signed, April 17; filed, April 18; cost $1010.

Hayes and Devisadero. Additions; owner, Pacific Hebrew Orphan Asylum and Home Society; architects, Wright & Sanders; contractor, Thomas McLachlan; signed, April 23; filed, April 26; cost $17,900.

Hayes and Devisadero. Grading, concrete, etc.; owner, Pacific Hebrew Orphan Asylum and Home Society; architect, Wright & Sanders; contractors, Peacock & Butcher; signed, April 23; filed, April 26; cost $12,500.

Hayes and Devisadero. Plumbing, etc.; owner, Pacific Hebrew Orphan Asylum and Home Society; architects, Wright & Sanders; contractors, McDevitt & Cleary; signed, April 22; filed, April 26; cost $3900.

Hayes near Laguna. To build; owner, John Crowley; architect, T. J. Welsh; contractor, P. Maloney; signed, May 8; filed, May 10; cost $1300.

Hyde and Pine. To build; owner, Charles Schlesinger; architect, E. J. Vogel; contractors, McCullock & Glunz; signed, April 16; filed, April 20; cost $8087.

Hyde near Union. Alterations and additions; owner, W. Sinon; cost $1000.

Hampshire near Solano. To build; owner, John Francis; contractor, Henry Plant; signed, April 22; filed, April 27; cost $1080.

Haight and Baker. To build; owner, John C. Spencer; architect, F. P. Rabin; contractor, Wm. Tegeler; signed, April 20; filed, May 6; cost $6815.

Howard near 22d. Carpenter work; owner, Henry Smith; architect, C. F. Robertson; contractor, C. Larsen; signed, April 24; filed, May 9; cost $4000.

Jackson near Walnut. To build; owner, Henry H. Bull; architect, R. H. White; contractor, John Furness; signed, April 22; filed, April 24; cost $5399.

Jackson near Scott. Carpenter work; owner, Augusta K. Gibbs; architect, Willis Polk; contractors, Knowles & Elam; signed, May 1; filed, May 7; cost $10,296.

Jackson near Scott. Painting, etc., owner, Augusta K. Gibbs; architect, Willis Polk; contractor, John H. Keife; signed, May 2; filed, May 7; cost $1750.

Jackson near Scott. Planing mill work; owner, Augusta K. Gibbs; architect, Willis Polk; contractors, Knowles & Elam; signed, May 1; filed, May 9; cost $4750.

Jackson near Scott. Stone work; owner, Augustus K. Gibbs; architect, Willis Polk; contractor, John D. McGilvray; signed, May 1; filed, May 9; cost $1200.

Jackson near Scott. Stable; owner, Augusta K. Gibbs; architect, Willis Polk; contractors, Knowles & Elam; signed, May 2; filed, May 9; cost $8118.

Kearny and Post. Iron, steel work, etc.; owner, James Stanton; architect, J. E. Krafft; contractors, P. H. Jackson & Co.; signed, May 2; filed, May 3; cost $2013.

King near 4th. To build; owner, Buffalo Brewing Co.; contractor, J. Bucher; cost $5000.

Laguna near Oak. Alterations; owner, Mrs. McBride; contractors, Searle & Co.; cost $1000.

Laurel near Webster. Brick and cement work; owner, Henry Hock; contractor, Weinecht & Franz; signed, May 8; filed, May 9; cost $2130.

Lyon near Haight. To build; owner, Francis Ziberbier; architect, J. F. Kenna; contractor, H. P. Connely; signed, April 18; filed, May 2; cost $4475.

Market near Sixth. Inside finish of billiard room in Spreckles building; owner, C. A. Zinkand; architect, Emil John; contractors, Bader & Finke; signed, April 11; filed, April 22; cost $1725.

Mason near Eddy. Alterations and additions; owner, S. Klavenmeyer; contractors, Williams & Woods; cost $1000.

McAllister near Polk. Raising old building, etc.; owner, T. M. Quackenbush; day's work; cost $2500.

McAllister near Hyde. Grading work; owner, California Bible Society; architect, McDougall & Son; contractor, A. E. Buckman; signed, May 8; filed, May 8; cost $1680.

Mission street No. 737. Alterations; owner, W. C. Shiels; contractor, W. Little; cost $3000.

Minnesota near Sierra. Alterations to school house; owner, City of San Francisco, architect, Thomas J. Welsh; contractor, Alex. L. Campbell; signed, March 26; filed, March 26; cost $3587.

Minnesota near Sierra. Painting school house; owner, City of San Francisco; architect, Thomas J. Welsh; contractor, L. J. Dwyer; signed, March 26; filed, March 26; cost $1779.

Pacific Ave. near Octavia. Carpenter work; owner, Mrs. Elizebeth Blackwood; architects, McDougall & Son; contractors, Peterson & Olsen; signed, May 6; filed, May 9; cost $6750.

Pacific Ave. near Octavia. Excavation, brick work, etc.; owner, Mrs. Elizabeth Blackwood; architects, McDougall & Son; contractors, Fennell & Son; signed, May 6; filed, May 6; cost $1114.

Pacific Ave. near Octavia. Plumbing, etc.; owner, Mrs. Elizabeth Blackwood; architects, McDougall & Son; contractor, J. E. Britt; signed, May 6; filed, May 6; cost $1095.

Point Lobos Ave. and Fifth Ave. Stone sidewalks, etc.; owner, Society Francaise, etc.; architect, E. Depierre; contractors, Gray Bros.; signed, May 9; filed, May 10; cost $1150.

Point Lobos Road near Pacific Ocean. To build; owner, Adolph Sutro; architect, Colley & Lemme; contractors, Campbell & Pettus; signed, April 10; filed, April 13; cost $35,445.

Powell stree, Nos. 1345. Alterations and additions; owners, Chas. A. and Silas Green; architects, Havens & Toepke; contractor, Geo. H. Walker; signed, April 11; filed, April 12; cost $6000.

Presidio. Brick building for barracks; owner, U. S.; contractor, F. L. Hansen; cost $10,090.

Sacramento near Maple. Brick building; owner, T. T. Williams; architect, A. C. Schweinfurth; contractor, W. A. Butler; signed, April 12; filed, April 17; cost $17,000.

Sacramento near Maple. Plumbing; owner, T. T. Williams; architect, A. C. Schweinfurth; contractor, W. F. Wilson; signed, April 12; filed, April 17 cost $1600.

Sacramento near Maple. Electric and gas fixtures; owner, T. T. Williams; architect, A. C. Scheinfurth; contractor, S. F. Novelty and Plating works; signed, April 12; filed, April 17; cost $250.

Sacramento near Maple. Elevator work; owner, T. T. Williams; architect, A. C. Schweinfurth; contractor, John Hammond & Co.; signed, April 12; filed, April 17; cost $800.

Sacramento near Maple. Electric light wiring; contractors, Will & Fink Co.; signed, April 12; filed, April 18; cost $270.

Sacramento near Maple. Heating and ventilation, etc.; owner, T. T. Williams; architect, A. C. Schweinfurth; contractors, W. W. Montague & Co.; signed, April 12; filed, April 17; cost $2000.

Sacramento and Pierce. Alterations and additions; owner, Mrs. Minnie H. Alderson; architect, F. B. Wood; contractor, R. Currie; signed, April 26; filed, April 27; cost $3595.

San Jose Ave. near 25th. To build; owner, Thos. C. Van Bibber; architect, W. H. Wharff; contractor, John A. McDonald; signed, April 12; filed, April 13; cost $4272.

San Jose Ave. near 25th. Plumbing; owner, T. C. Van Bibber; architect, W. H. Wharff; contractors, Levy & Parker; cost $620.

Sanchez and 14th. To build; owner, Fred Hufschmidt; architect, E. J. Vogel; contractor, J. W. Coburn; signed, April 13; filed, April 13; cost $3296.

Shotwell near 24th. To build; owner, Mrs. Ward; contractor, W. A. Lang; cost $3000.

Sixth and Stevenson. Excavations, concrete, cement, brick, etc., for four-story brick; owner, M. Schwerdt; architects, Laist & Schwerdt; contractor, Adam Beck; signed, April 19; filed, May 4; cost $12,575.

Sixth and Stevenson. Carpenter work; owner, M. Schwerdt; architects, Laist & Schwerdt; contractor, S. H. Knut; signed, April 16; filed, May 4; cost $3737.25.

Sixth and Stevenson. Terra cotta work; owner, M. Schwerdt; architects, Laist & Schwerdt; contractors, A. Steiger Sons; signed, April 26; filed, May 4; cost $2785.

Sixth and Stevenson. Plumbing, etc.; owner, M. Schwerdt; architects, Laist & Schwerdt; contractors, Shephard Bros.; signed, April 23; filed, May 4 cost $1961.

Seventh near Folsom. Alterations and additions; owner and builder, C. Mason; cost $4000.

Steiner near O'Farrell. Alterations and additions; owner, Mrs. Schilling; contractors, Patterson & Person; cost $1500.

Steiner near Filbert. To build; owner, Augustus and Eliza La Croix; contractor, J. J. Wilson; signed, April 15; filed, April 16; cost $1325.

Second Ave. near California. Six two-story frame buildings; owner, Stewart Menzies; architect, J. C. Pelton; contractors, Campbell & Pettus; signed, May 8; filed, May 9; cost $10,238.

Sixteenth near Valencia. To build; owners, R. J. Taussig and Adolph Eisenback; architects, Salfield & Kohlberg; contractor, L. B. Schmid; signed, May 2; filed, May 10; cost $9850.

Sixteenth near Valencia. Plumbing and gas-fitting; owners, R. J. Taussig and Adolph Eisenback; architects, Salfield & Kohlberg; contractors, Clark & England; signed, May 4; filed, May 10; cost $1150.

Twenty-second near Noe. To build; owner, L. Schnetzler; contractor, H. R. Schmuckert; signed, April 20; filed May 4; cost $3220.

Twenty-fourth near Sanchez. To build; owner, Moses Mossford; architect, R. Trost; contractor, Joh. Hatfield; signed, May 6; filed May 6; cost $1475.

Twelfth Ave. near Clement. To build; owner, Geo. C. Harrison; contractor, Hans Peterson; signed, April 24; filed April 26; cost $1775.

Twenty-sixth and Church. Cottage; owner, John Todt; architect, W. Schrof; contractor, H. Behrens; cost $2745.

Twenty-sixth near Howard. To build; owner, B. Struven; architect, Emil John; contractor, F. A. Hellmuth; signed, April 27; filed, May 4; cost $3526.

Twenty-ninth near Sanchez. Cottage; owner, W. F. J. Dale; contractor, H. R. Schmuckert; signed, April 17; filed, April 17; cost $1575.

Union near Fillmore. Two-story two tenement buildings; owners, Dr. John and Lizzie J. Hemphill; architects, McDougall & Son; contractor, J. H. McKay; signed, April 16; filed, April 18; cost $5790.

Union and Fillmore. Plumbing, gas-fitting, etc.; owners, Dr. John and Lizzie Hemphill; architects, McDougall & Son; contractor, H. Williamson; signed, April 16; filed, April 18; cost $1280.

Union near Larkin. Additions and alterations; owner, Thomas Scott; architect, W. Mooser, Jr.; contractor, Dwyer, cost $1500.

Union near Larkin. To build; owner, J. W. Lomerlino; day's work; cost $5000.

Vallejo near Van Ness. To build except plumbing; owner, Frank Otis; architect, Seth Babson; contractors, Hickox & Tate; signed, April 11; filed, April 11; cost $2695.

Valencia and 15th. Three-story brick; owner, Rose A. Pickering; architects, Havens & Toepke; contractors, Ackerson & Paterson; signed, April 18; filed, April 22; cost $9643.

Valencia and 15th. Plumbing; owner, Rose A. Pickering; architects, Havens & Toepke; contractor, H. Williamson; signed, April 17; filed, April 22; cost $1764.

Vermont and 24th. Alterations; owner, A. Schuman; contractor, Gus. Williams; cost $1600.

Washington near Laguna. To build; owner, J. D. Tallant; architect, W. H. Lillie; contractor, J. G. Adams; signed, April 27; filed, April 29; cost $4100.

Washington near Devisadero. Two two-story frames; owner, Geo. W. Lippman, architect, J. W. Littlefield; contractor, O. E. White; signed, May 2; filed, May 3; cost $5807.

The California Architect and Building News.

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OFFICE, 408 CALIFORNIA STREET, SAN FRANCISCO, CAL., U. S. A

VOLUME XVI. JUNE 20th, 1895. NUMBER 6.

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

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

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THE general rebellion now going on in the United States against bad management of our municipal governments makes an account of what can be done by a practical economical people *apropos*, such an account is concluded in this number.

In the case of the Civic management of Glasgow we have the most practical application so far made of Socialistic principles to the government of a big city. Glasgow is a city of about 750,000 inhabitants the most populous city in Great Britain next to London, and is therefore the best exhibition of an advanced municipal government that we have on a large scale. Many valuable lessons may be learned from this example.

The care taken to prevent monopolies from getting possession of the peoples' property, is one. In this case the City of Glasgow had taken the precaution to simply lease the roadbed to the Street Car Company, thus keeping control of the streets, so that when the time mentioned in the lease twenty-three years, had expired and the Company refused to accede to reasonable terms for a re-lease, the City was able to resume control of the roadbed and rails and all it had to do was to supply cars and power, which was successfully done. In the United States the people have been far more liberal in giving away and have generally given franchises for fifty years for exclusive use of the streets, thus preventing themselves during their own generation from ever again getting control of these streets except by repudiation or by running elevated electric cars on tracks over the private company's tracks and thus by

competition with them bring them to sell back their franchises to the people.

In the purchase of the Gas and Lighting plants a practical way to do so is indicated by the article—although no doubt there are still better and more economical ways of procedure: the results however show that even by the system of Bonding as carried out by Glasgow, success has been attained; and the city management is a shining example as the price of gas has been lowered from $1.28 per 1000 cu. ft. to 62½ cents—and still it pays a good income to the city.

Thus we see that whenever a proper idea of the purpose for which they exist animates public bodies, they soon find some way to remedy evils. In the words of our author:

"The Corporation recognise three duties as being laid upon them: to fulfil their trust by economical administration of the city's finances: to improve public health, both physical and moral; and to give brightness and the possibility of happiness to civic life." . . . "Beyond that, the Glasgow Corporation hold it their duty to undertake the supply of these necessaries of life—light, fresh air and pure water—*which private enterprise cannot generally be trusted to provide*."

The experience of most of American Cities go to verify the last sentence.

"It has in short been conclusively proved that municipal management of such a business as the supply of water is compatible with a direct saving of money to the consumer and a great improvement in the supply."

"The Corporation also provide lectures upon art and kindred subjects in the museum and galleries, and give a good concert every Saturday during the winter in the City Hall, at prices of 6 cts. and 2 cts.; and they make it pay. They are now building a People's Palace in the East end. There theory is that the way to stop drunkenness is to compete in attractiveness with saloons; and, whether it be true or not, they certainly do their best to carry it out."

It is interesting to see how a Corporation that has done such good work in such a short time is organized. We fine the whole business done by Committees of the Council, and the whole power is in the hands of the Council—who are responsible for all that goes on—this appears to us as it should be, have a proper representative Council elected by proportional system of voting, and make them responsible for *all* the business of the city, and have no outside commissions or appointed independent bodies—in short a public corporation modeled on the same plan that has made private corporations so successful.

Thus we find the cleansing of the streets is under the direct control of the Health Committee, and we find it efficiently done. The same committee has charge of sewage farms owned by the corporation which "indicate a promising field for the labor of the unemployed."

The civic feeling that is extant throughout our country at this time is encouraging—and when such feelings as those mentioned in the articles before us, "It is a sacred charge entrusted to us, and we must be neither swayed by party or party feelings, and by looking only to what is highest and best for the general welfare of the trusts committed to us, and how we may advance through our corporate work the prosperity of the City we love so well," shall have become more common than they are now, may we look forward to a genial revolution of city affairs tending to the general prosperity and well being of the citizens.

A Single year of judicious advertising is often equal to a lifetime of hard work in the building of a business.

GLASGOW—A MODEL MUNICIPALITY.

[Continued from May Number.]

It is worth pointing out that the late Tramway Company only paid a net rent of about £5,000 a year to the Corporation for the use of the streets, so that there is a direct gain in money as well as in efficiency. As an indication of the boon conferred by the introduction of halfpenny fares, I have been allowed to see a table of the average number of travellers in a typical week at the various rates. From this it appears that, in round numbers, 300,000 passengers paid ½d., 600,000 paid 1d., 95,000 paid 1½d., and only 20,000 paid the maximum fare of 2d.

It may be supposed that the next step will be to abolish all fares above the penny, a plan which will simplify book-keeping, and leave the conductor much more leisure to attend to his passengers than he has at present. It seems to an outsider that the sensible plan would be for the Company to use its omnibuses as friendly feeders to the cars in the outlying districts, instead of running them as rivals on parallel lines, at at present. In that case, this step might follow very shortly.

The capital of the Tramway Department is provided for in the usual way, by a sinking fund which, it is calculated, will pay off the debt in thirty-one years. Altogether, I think that this history of the Glasgow tramways may be strongly recommended to the notice of all Town and County Councils whom it may concern.

One may pass next from the locomotive to the stationary, from tramways to dwellings and lodging-houses. And one must admit that a very interesting part of the work of the Glasgow Corporation is that carried out under the name of the City Improvement Trust. This Trust was established in 1866, when the problems of "over-crowding" were clamant for treatment. Its object was "to let air, light, and, if possible, a little sunshine into the dismal closes and courts of the city, where not fewer than seventy-five thousand human beings were crowed together amid surroundings that had become moral and physical 'plague-spots,' a danger and disgrace to civilisation." During the twenty-eight years of its existence the Trust has spent nearly two millions sterling in the purchase of insanitary property and in building. At first it was thought that the citizens themselves would step in and build improved dwelling-houses upon ground cleared by the Trust. That hope was not fulfilled. Those who built went in for a very different style of edifice. In 1870 the Trust itself undertook the building of a small number of tenements of one and two roomed workmen's dwellings, at rents which ranged from £5 14s. to £9 15s. per annum. Further, they built a model lodging-house to provide for some of the lodgers turned out of the vanished slums. Each inmate of this lodging-house was provided with a separate cubicle and a good bed. Dining and sitting halls, with a kitchen and a shop for the use of the men, were placed on the ground floor. The price of a night's lodging was 3½d. or 4½d. The two hundred and ninety beds were so regularly in demand that the Trust went on to build seven such lodging-houses in all, six for men and one for women. The return for the ten years 1881–1891 was at the rate of nearly 5 per cent per annum upon the total outlay. As the Corporation were meantime borrowing

money at 3½ per cent or less, this was clearly a successful experiment in municipal building. But they hold here, as elsewhere, that their business is rather to stimulate private enterprise than to supersede it. One result of the establishment of the model lodging-houses is that the old style of cheap and nasty lodgings is practically extinct in Glasgow. Private enterprise has gone to work on Corporation lines, and the standard of comfort has been raised, by the simple operation of economic law, to that set by the Corporation. It should be added that the committee which manages the lodging-houses has for two years provided a free entertainment every Saturday night in each of them. These entertainments are extremely popular, and help to keep the lodgers out of the public-houses.

The Corporation are at present engaged in the building of a Family Home, which is to do for widows and widowers with children what the lodging-houses have done for single men, in the way of raising the standard of comfort and the possibilities of life. In this building, which will provide one hundred and seventy-six dormitories, it is proposed to charge 8d. a night for a room large enough for a man or woman with not more than three children. The children will be fed and taken entirely in charge during the day, as it is expected, for 1s. 6d. a head per week. This, I believe, is an absolutely new experiment for a British municipality to try. If it pays its way, the example will be fruitful in advantage to a particularly unlucky class of the population.

The provision of workmen's dwellings has hitherto not been attempted on a large scale by the Trust. It has, however, built a few tenements, and is now building new ones to supply accommodations for about three hundred families, at rents from £7 5s. to £11 5s. But all this only provides for the wants of the better class of artisans, who can pay a comparatively high rent. Now plans have been approved for houses of one and two rooms, which conform to sanitary requirements, and can be built and let with profit at a rent of £4 10s. to £5 a year for one room, £7 10s. to £8 for two. When the Corporation working at the city's risk, have shown the possibility of making such a building pay, the further erection of similar tenements will be left to private enterprise, as in the case of lodging-houses. A very important class, that of labourers earning less than 20s. a week, will thus at last be provided with the healthy and cheap houses that all practical philanthropists have so long desiderated.

But a work man's leisure is not to be wholly spent in even the most healthy of homes. He and his family need recreation. The Glasgow Corporation have therefore always taken a keen interest in the brightening of civic life. Stong in "the power of multiplied penny," they have endowed their city with museums, half-a-dozed parks, and a really good art gallery. It is significant of their attitude that one of the reasons put forward for the taking over of the tramways was that additional facilities for getting out to the parks might be put in the way of the poorest citizens. In the same way, I learn that a weir is to be built across the Clyde for the double purpose of preventing the ascent of sewage from the lower reaches and of deepening the river so as to allow of boating above the weir. The Corporation also provide lectures upon art and kindred subjects in the museum and galleries, and give a good concert every Saturday during the winter in the City Hall, at prices of 3d. and 1d.; and they make it pay. They are now building a People's Palace in the east end. Their theory is that the way to stop drunkenness is to compete in attractiveness with the public-house; and whether it be true or not, they certainly do their best to carry it out. More important still, perhaps, is the fact that they are providing playgrounds for children in the congested parts of the city, where gymnastic apparatus and games of all kinds are at the disposal oi every child in the neighbourhood. Without doubt all this provision of means for recreation makes the health of the citizens. Let us see what else is done to that end.

The sanitary system of Glasgow is as justly famous as the name of Dr. J. B. Russell, the veteran Medical Officer, under whose direction it has all practically grown up. Sanitation, it has been said, generally has its root in selfishness. Thus the origin of the Glasgow Sanitary Department in 1863 can be traced to the fear felt by the epidemics of typhus and cholera that ravaged the city from 1848 onwards. The organization which now wages the continual battle against disease is at once simple and efficient, as the deputations that continually come from other towns to investigate it know.

The Medical Officer and his lieutenant, the Sanitary Inspector, are the heads of a little army of inspectors who are always acting as spies in the enemy's country. First come the epidemic inspectors, whose task has been a comparatively light one since the Notification Act was put in force. Every person attacked by infectious disease is treated, at least in theory, as a danger to the community. He is taken off compulsorily to the Corporation hospital, unless he can show that he will be properly isolated at home. There was a time when the sanitary officials were looked upon with doubt, and it was often necessary to get a warrant to remove a patient from the poorer districts. It is still so in some towns where the plan of using the police as sanitary inspectors is adopted. Dr. Russell has steadily set his face against this practice, and the result of his wise rule is that the people now have absolute confidence in "the sanitary men," who are allowed to go freely where neither police nor even missionaries may penetrate. Further, the community have recognised that if they insist on taking a man to a hospital for their own sake rather than for his, it is only fair that his stay there should be made as enjoyable as possible. The consequence is that the average Glasgow labourer now regards hospitals in much the same light as Maggy in *Little Dorrit*, who was occustomed to say, "Such beds there is there! such lemonades! such oranges! such d'licious broth and wine! such chicking! Oh, AIN'T it a delightful place to go and stop at!"

A second staff of inspectors are engaged in detecting nuisances. A third staff, again, look out for cases of overcrowding. Any house not exceeding 2,000 cubic feet in total capacity and suspected of offending in this respect may be "ticketed," as the phrase is; that is, marked outside with the maximum number of persons that may be safely allowed to sleep in it. The inspectors have authority to enter any ticketed house at any time, and so check the overcrowding which is fruitful in disease among the very poor. In very bad cases of insanitary conditions a house can be closed althougher. Here as in regard to epidemics, the motto of the department is "Prevention is better than cure."

The supervision of workshops, dairies, etc., and the administration of the Shop Hours Act are also in the hands of the Sanitary Department. One result of this is that there is no dairy in the city in communication with a sleeping or dwelling-room.

The Department employs six female inspectors, whose

duty is to act as sanitary missionaries. They go about widely among the poorer classes, and hold informal talks on sanitary questions with the women of each neighbourhood. These ladies can gain confidence and advice on delicate matters in which "man, proud man," would find himself quite powerless.

The cleansing of the two hundred miles or so of Glasgow streets has also been placed under the control of the Health Committee, since it was found that cleansing and the prevention of cholera go hand an hand. Much time and friction are thus saved, and the work is efficiently done at a moderate cost. The business of sewage purification is also attached to the Sanitary Department. For many years the four condition of "that navigable river, the Clyde" (as one of their own poets has said), has been a disgrace to Glasgow. Works have recently been brought into operation for dealing with one-fifth of the total sewage of the city. At present their effluent into the Clyde is as clear as Loch Katrine water itself, and has no smell. The process will speedily be extended to the rest of the sewage, and the day may not be far distant when salmon will again be caught at Glasgow Bridge. The solid product of the sewage is in part sold to farmers and in part used on the Corporation's own farms. One farm, which was originally leased as moss-land worth 1s. per annum per acre, is now valued at 30s. per annum. This indicates a promising field for the labour of the "unemployed," for whom the Corporation have been forced to find work in more than one of the severe winters of recent years.

No account of the Sanitary Department of Glasgow would be complete which did not allude to the public baths and wash-houses, though these are nominally under different control. Glasgow believes in soap and water. At present there are five public boths and wash-houses in her thickly populated districts. It is felt that this number is inadequate. Experience shows that the average house-wife, though she is glad to take advantage of a wash-house, will not carry her dirty cloths more than half-a-mile. Thus the five wash-houses now existing are used by only about 3,000 women in a year, each of whom goes once a week, and can do her week's washing for 5d. But there is need of many more wash-houses, and it is hoped that in time there will be one at each corner of every square mile in the city, so that few women will need to go more than half-a-mile to their week's washing. The baths and wash houses have not as yet paid their way. There is a small annual deficit to be met by assessments. It is worthy of note that the Corporation have opened the baths free at certain hours to children attending the board schools of the city. The teaching of swimming has thus been greatly encouraged.

But what one may here ask, does Glasgow pay for all these good things? It is obviously impossible to go into matters of finance, except in the most general manner. The first question is naturally that of rating. The municipal rates, covering all the departments that have been mentioned, and much more that must be taken for granted, are given, as they were in 1874–75 and as they are in the present year, in the following table:—

Year.	Rate per £ on rental of £10 and upwards.	Rate per £ on rental under £10.
1874–75	3s. 0½d.	2s. 3¼d.
1894–95	2s. 8¾d.	2s. 1 9-32d.

(A rate of a penny in the pound now produces about £15,000.

In the same period the price of gas has been lowered from 5s. 3½d. per thousand cubic feet to 2s. 6d. These figures show that in spite of the increase of the population and the doubling of the area of the City of Glasgow between 1874 and to-day, the rates have decreased all around, whilst the service is substantially improved.

A typical instance of the financial methods which have allowed this to be the case is to be found in the erection of the present municipal buildings. Glasgow's stately and even magnificent *Hotel de Ville* cost something over half a million sterling. A penny in the pound had been added to the assessments in 1868 to pay for the old City Chambers. This was not thereafter taken off. It is sufficient, with the rent contributed by the departments, equal to about ½d. in the pound on the rates, to pay the interest on the cost of the new buildings, their maintenance, and the Sinking Fund. This will pay off the entire debt of over half a million in fifty-six years, when the buildings will be the unencumbered property of the city.

If I were asked, indeed, to state the distinctive feature of Glasgow finance, I should suggest the Sinking Fund. That useful invention is now applied to every enterprise of the Second City. On examining the municipal accounts, one finds that all serious debts are on the way to be cleared off by the automatic operation of this device. Thus the Loan Debt of the Police Commission, amounting to nearly £1,300,000, will be paid off in less than fifty years, four-fifths of it being paid within twenty years. The water and gas debts will be paid, the one in sixty-seven years, the other in forty, without any new call upon the ratepayer. The debt on the parks and galleries will be paid off in forty years, and that on the tramways in thirty-one years.

The present financial position of Glasgow seems, to an outsider, extremely satisfactory. Roughly, one may estimate that her liabilities are eight millions sterling and her assets ten and a half millions, with a clear balance of two and a half millions sterling on the right side of the account. It is clear that, with all her Sinking Funds at work, Glasgow is on the high road to riches beyond the dreams of even municipal avarice. Whatever experiments in municipal collectivism her Council may desire to undertake in the future are at least not likely to be hampered for want of funds, or to fail through lack of business capacity.

Before I finish this sketch of some features of municipal Glasgow, I should like to draw attention to one subject of special interest for Londoners at present, upon which Glasgow may throw some light. It is generally felt by the citizens, as well as the Corporation, that the City of Glasgow, covering as it does, since the extension of the boundary in 1891, almost 12,000 acres, with a population of upwards of 700,000, is tending to outgrow its unity. General municipal *esprit de corps* needs to be fostered in the several districts now knit into one city. At the same time it is strongly felt that only a central authority can deal effectively with such questions as those of sanitation, sewage, police, fire, and so on. A re-arrangement of the wards of the city will be called for next year, and it is highly probable that some scheme of Divisional Committees will then be adopted, without any weakening of the central authority. By the courtesy of a member of the Corporation I am enabled to give the gist of such a scheme, which he has drawn up for submission to the Council. It seems almost certain that this scheme, or something very similar, will be ultimately adopted. The Unification Commission might do worse than consider carefully its provisions, which begin as follows:—

"The object of any scheme of divisional administration should be: (1) To keep alive municipal interest in all parts of the city by providing some machinery, other than that of the central body, by which local wants and necessities could be ascertained and supplied; and by which local feeling would find more full and complete expression; (2) To relieve the central administratice machine of certain details by having a first process of selection and preparation of business, which would leave the central body more free to deal with the matured recommendations of the district, and with all questions of principal and general policy.

"Any scheme of divisional administration to be successful must comply with the following conditions:—

"(A) The central control over the various departments must be maintained, so that consistency and uniformity of policy and action may be kept throughout the whole territory.

(B) Income and expenditure and the employment of officers of every degree in all branches of the service must rest with the central body.

"(C) The representatives composing the divisional bodies must all be members of the Central Council.

"(D) The power to regulate, diminish, or increase the powers and duties of the Divisional Boards from time to time, as experience and utility suggest, must rest entirely with the Central Council."

The scheme then goes on to propose that Glasgow should for this purpose be divided into five sections, "so as to give the nearest effect to natural geographical groups that the limits of the wards will permit." A Divisional Board is to be formed in each section, of the members elected by the wards contained in it, with others if necessary; the Lord Provost, and the Conveners and Sub-Conveners of the Committees of Watching and Lighting, Statute Labour and Health, to be *ex-officio* members of each board. The minutes of each board-meeting are to be communicated to the next meeting of the Central Council, and, if not disapproved thereon become resolutions of the Council. Provision is made for holding at the disposal of each board of the services of officers from the chief administrative departments, especially acquainied with the territory of the board. The The remaining provisions are as follows:—

"8th. The work of the Board would be to receive, consider, and deal with remits from the Central Council, or any of the standing or special committees thereof, to receive and consider complaints or suggestions from the ratepayers in the districts relating to the public service, to inquire into these, and discuss or make recommendations, and to discuss and mature any improvements or changes in the service of the various departments for recommendation to the Central Council through their standing committees; to report on the requirements of the district previous to the preparation of the annual estimates, and to take a special oversight of the repair and upkeep of streets and sewers, the cleansing and lighting of streets, the removal of refuse, the placing of fireplugs, etc., and the inspection of nuisances within their districts.

"9th. For the proper regulation of the business of the Divisional Boards, Standing Orders should be drawn up by the City Council, providing *inter alia* for a direct appeal to the Council, on the request of two-thirds of the members of the Board present at any meeting, against any decision or recommendation of any Central Standing Committee affecting any Divisional Board.

"10th. It is suggested that the business of the Local Boards should be carried on at some conveniently accessible point in each district, and that, to give outward and visible embodiment to local municipal life, there should be established a Municipal Bureau or district Office, where all possible municipal business would be concentrated (such as collection of gas and water accounts, municipal assessments, etc.,) and where information, advice, and assistance could be at once obtained in reference to epidemic disease, hospitals, and the sanitary service generally, cleansing roads, drains and sewers, lighting, fire, police, gas, water, and indeed every department of the public service which affects the health, comfort, or convenience of the citizens."

The only comment I shall add is that the combined safety and elasticity of this scheme seem to me to be strongly in contrast to the rigid and risky proposal to which Mr. Chamberlain recently saw fit to give the weight of his great authority.

It is hardly necessary for me to point out, in conclusion, that I have of necessity forborne to deal with much that is important in the municipal life of Glasgow. Upon the work of the police and the fire brigade, the Dean of Guild, who supervises building, the profitable Markets Trust, with its control of the meat market and slaughter-houses, and many other parts of the Corporation's business, I have no space to touch. Otherwise I should like to glance at the principle recognised by the Corporation, to do their own work by direct employment of labour in certain cases, such as in the repair and cleansing of the streets, but to employ contractors in other cases, as in bridge-building and street-making. I should especially like to call attention to the grim irony of circumstance which causes a city, so advanced in other respects, to be about the last in the country to offer its citizens a Free Library, and makes a Council, who play lightly with millions when it is a question of material boons, shrink from asking their constituents for a penny in the pound when it is only books that are needed. Probably they have delayed thus long only in order to acknowledge, by one frailty, that they too are human; but an outsider may assure them that they will provoke no envy of the gods if they can make up their minds to force this crowning benefit upon their citizens.

It is true that the Glasgow Corporation have lately been accused of an over-readiness to "force benefits upon their citizens." But the principal Police Clauses of their Bill now before Parliament, of which facetious members have made their sport, have been the public law of Scotland since 1892, and are now merely being adopted by Glasgow. The facetious gentlemen are, therefore, surely a little late.

But I must turn to consider the lessons that Glasgow has to offer the rest of the country, for I think I have justified my title. That, indeed, is a business that the gentle reader can do best himself, if I have been at all successful in my transcript from life. I wish to offer him only two suggestions.

The first is that Glasgow is an instance of the striking progress which may be achieved in municipal matters by a body of good business men who are more concerned about the welfare of the city than the illustration of a political or social theory. Politics, indeed, are practically unknown at the Glasgow Council Board. Nor is eloquent speech in great demand there. The real work is, all of it, done in committees and small sub-committees, and the discussions at the meetings of council are, I understand, chiefly useful to let outsiders know what is going on. Glasgow, again, is claimed by many as a wonderful example of the success of municipal socialism. That may be so, but the Council certainly had so such idea in their heads when they achieved their successes. The method of the Glasgow Corporation, who have done their work solely on the principal of finding the best thing for the citizens in each matter, may be profitably contrasted with that of bodies which begin by enunciating a political or social theory, and then spend so much energy in arguing over it, that they have none left for applying it. Municipal collectivism may have achieved great things in Glasgow, but her Councillors have been col-

lectivists—as M. Jourdain talked prose—without knowing it, or at least without caring about it:

"Like some tall palm the mystic fabric sprung."

In the second place, it is gratifying to note how completely the Glasgow Corporation has fulfilled the conditions deduced by Mr. Chamberlain from his Birmingham experience.

"The municipality is ever present; it is the active centre of all public life of the town; its members are perpetually striving strenuously to promote the good, the happiness, and welfare of the whole population. . . . The City Council are the directors of a great co-operative undertaking, in which every citizen is a shareholder, and the dividens are payable in the better health, in the increased comfort, in the recreation, and in the happiness of the whole population."

This is surely a higher conception of the duty of a corporation than those have formed who attempt to bolster up a political or social theory by their municipal practice. It agrees with that of the Lord Provost of Glasgow, who says, for himself and those who share his authority:—

"It is a sacred charge entrusted to us, and we must neither be swayed by party nor party feeling, ... looking only to what is highest and best for the general welfare of the trusts committed to us, and how we may advance through our corporate work the prosperity of the city we love so well.

When that is the temper in which our municipal affairs are administered, there is no need to wonder that Glasgow is a model municipality, and has traveled a measurable distance on the road to become "the ideal city, in which a pleasant and healthy home is within the reach of every citizen."—*Garret Fisher in The Fortnightly Review.*

STEEL BUILDINGS.

THE advantages of this method of construction over any other is well exemplified in the case of the Carter building, says the *Boston Commercial Bulletin*. It is stated with authority that the space saved over the old method is worth in rent about $12,000 per annum. Where land is very expensive or where lots are small the steel structure is particularly practical as it permits the saving of considerable interior space is always a matter of great importance.

In the modern steel structures masonry counts for very little, as the weight of the building is borne by columns. Such is the importance of the steel work that goes into these buildings that the greatest care is taken in its manufacture. The best architects and knowing builders see that every piece of steel is carefully tested and if not up to the standard it is thrown aside. The method of testing is a most severe one. The experts are hired and controlled generally by the architect at the cost of those who put up the building; the expert is stationed at the mill. Of such a nature is the work that two concerns in Pittsburgh are making a specialty of furnishing experts to supervise it and are doing the principal work of this character in the country.

It is required of these experts that they thoroughly test each piece of iron and steel made in the mill, or in other words, physical tests are made of each melt. The test specimens should fill the following requirements: Ultimate tensile strength, from 60,000 to 68,000 pounds per square inch; elastic limit, minimum, 35,000 pounds per square inch; elongation in 8 inches, minimum, 25 per cent; reduction in area, minimum, 40 per cent. In the bending test it is necessary that the iron or steel bend 180 degrees flat around a curve whose diameter equals the thickness of the specimens without a sign of a crack on the convex side. These tests alone signify the high standard of the material used, and when one considers how slender the modern steel frames are that hold up our buildings, the reason for this care can be easily understood. An expert also sees to it that properly marked pieces are put into the buildings, and those without proper marks are thrown aside. These experts are paid so much per ton, and make report to architects. Great care is taked that steel does not contain more than 1-10 of one per cent of phosphorus.

In steel frame construction the skeleton of the building is generally erected first, before the masonry is started. Under the old method the iron and masonry were used together in the building of each story. Where bolts were used largely in the last mentioned form, the steel sections are riveted almost wholly in the first. A steel thus riveted can be compared to an inverted bridge, for in fact the modern building is built on the bridge plan, and it is rivited in such a manner as to make it, to all intents and purposes, one piece of steel from top to bottom. Thus any strain which may be put upon the building will be shared by the structure as a whole and not confined to any one spot, as in the ordinary building.

ILLUSTRATIONS:

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.

BUSINESS Building for H. J. Meyer, 931 and 933 Market street. Edw. Kollofrath, Architect.

COTTAGE and plans, Newsom Bros., Architects.

BOYS' Dormitory, Nevada State University, Reno, Nevada, Percy & Hamilton, Architects.

Chase (to dentist)—"I won't pay anything extra for gas. Just yank the tooth out even if it does hurt a little." DENTIST—"I must say you are very plucky. Just let me see the tooth." CHASE—"Oh, I haven't got any toothache; it's Mrs. Chase. She'll be here in a minute."—*Truth.*

Old DE WHISKERS—"I have had my life insured for $50,000 in your favor. Is there anything else I can do to please you?" MRS. DE WHISKERS (his young wife)—"Nothing on earth, dear."—*Leslie's Weekly.*

ROYAL INSTITUTE OF BRITISH ARCHITECTS MDCCCXXXIV

THE · NEVADA · STATE · UNIVERSITY
BOYS · DORMITORY
RENO · NEVADA

PERCY · AND · HAMILTON · ARCHITECTS · SAN · FRANCISCO

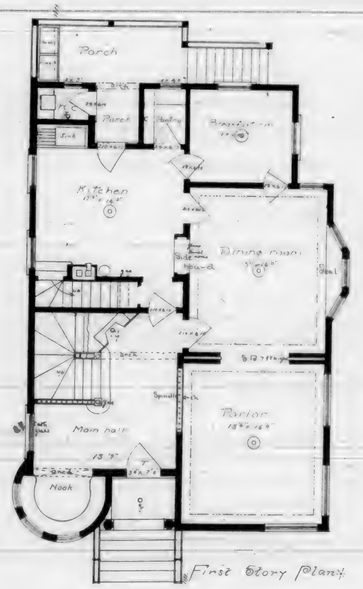
BRITTON & REY PHOTO. LITH.

CALIFORNIA ARCHITECT & BUILDING NEWS
SAN FRANCISCO.

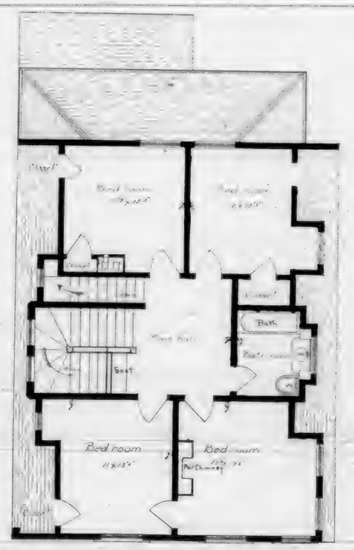
VOL. XVI Nº 6 JUNE 1895

JOHN J. & THOMAS D. NEWSOM
ARCHITECTS.

Section — Front Elevation — Scale 1/4" = 1 inch



First Story Plan



Second Story Plan
Scale 1/4" = 1 inch

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SAN FRANCISCO.

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BUSINESS BUILDING
for
H.J. MEYER, ESQ.
931-933 MARKET ST. S.F.

EDM. KOLLOFRATH,
ARCHITECT.

BRITTON & REY PHOTO LITH.

ROYAL INSTITUTE OF BRITISH ARCHITECTS
MDCCCXXXIV

NOTICE OF MEETINGS.

SAN FRANCISCO CHAPTER, AMERICAN INSTITUTE OF ARCHITECTS, meets second Friday of each month at 408 California street.
SETH BABSON, Pres. GEO. W. PERCY, Vice-Pres.
OLIVER EVERETT, Sec. JOHN M. CURTIS, Treas.

SOUTHERN CALIFORNIA CHAPTER AMERICAN INSTITUTE OF ARCHITECTS, meets first Wednesday of each month at 114 Spring street, Los Angeles, Cal.
OCTAVIUS MORGAN, PRES. A. M. EDELMAN, Vice-Pres.
ARTHUR B. BENTON, Sec't. AUGUST WACKERBARTH, Treas.

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

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

BOOKS AND PERIODICALS.

SAN FRANCISCO BAY AND VICINITY—We are indebted to the Union Photo Engraving Company for a handsome map, published by the above company. We understand this map was modeled in clay, and is certainly a very creditable work that should adorn the walls of every business office in the city.

KIDDER'S ARCHITECTS and BUILDERS POCKET BOOK, published by John Wiley Sons, 53 East 10th street, New York, price $4.00. We know this is considered a valuable book by some one, as it was stolen from our letter box before it reached our desk.

THE FORTNIGHTLY REVIEW for June contains an interesting sketch of "Mr. Chamberlain's Municipal Career." Mr. Chamberlain, at present a member of Parliment from Birmingham, twenty years ago was Mayor of that city, when after much opposition his plan for the requirement of the gas works by the city corporation, as afterwards the water supply of the city, which proved a great benefit; both these projects proving a great success and giving a large revenue to the city, at the same time reducing the cost to the company about one-third in the cost of gas, while double the supply of water was furnished.

THE BROCHURE SERIES OF ARCHITECTURAL ILLUSTRATION. Published by Bates & Guild, 6 Beacon street, Boston, Mass. The Brochure Series in its present form is a continuation of the little occasional circular of the same name already well known to the architects of the country. The favor with which these were reviewed has induced the publishers to establish a regular monthly publication at the low price of fifty cents a year. In regard to the illustrations what the publishers claim is true, viz: "Photographs of the size here given cost from fifteen to fifty cents each . . but in the present form they cost but one-half cent each and for all practical purposes are quite as valuable as the originals."

We take pleasure in presenting our readers an illustration from MODERN OPERA HOUSES AND THEATRES, a work about to be published in London by Edwin O. Sachs, Architect F. S. S. and A. E. Woodrow, Architect A. R. I. B. A., Waterloo Place Pall Mall, S. W. Illustrated by a series of 220 plates from drawings prepared for the work. The design below is the entrance to "D'Oyly Cartes Opera House."

ENTRANCE TO D'OYLY CARTES OPERA HOUSE.

POINTS IN THE INSPECTION OF ELECTRIC PLANTS.

IN a recent paper on points in the inspection of electric plants, read before the Fire Underwriters' Association of the Pacific, Mr. G. P. Low made a number of excellent suggestions. One of his most pertinent remarks was the following: The greatest enemy to safety in wiring is moisture, and the only flexible and durable material having high insulating qualities that will withstand moisture is rubber, or the compounds allied to it. These should be used exclusively for the insulation of all inside wiring, despite their inflammability. Wires should never be permitted to touch anything save their insulating supports: hence it follows that insulating tubes or bushings must be used wherever wires pass through walls, floors or partitions of any description. The hazard of wood base cutouts, switches, etc., is so well understood, that there is no occasion for making further effort to show the necessity for invariably ordering their immediate removal.—*Architects' Electrical Bulletin.*