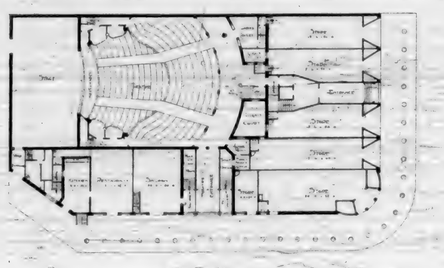
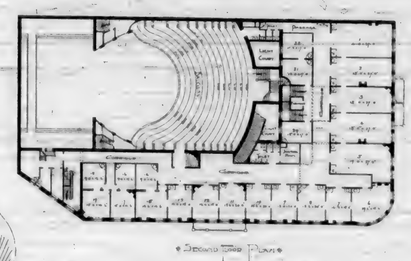
THE · OLYMPIC · CLUB
· SAN · FRANCISCO ·

HENRY · A · SCHULZE · ARCHITECT.





"The MACDONOUGH."

Oakland

Mooser & Cuthbertson - Architects

THE DIFFERENT KINDS OF ASH.

The following inquiry is from the lumber buyer of a large manufacturing concern:

I have a limited knowledge of ash lumber, and in buying it am often unable to classify it with certainty.

1. Is there any way to distinguish absolutely between white, gray, brown and black ash plank? Newhall and Gray have different names, viz., white ash, red ash, green ash, blue ash and black, water or hoop ash.

2. Which of these are synonymous with gray and brown?

3. To which variety does calico ash belong?

4. Does eastern and western black ash differ in appearance or quality of lumber?

There seem to be so many slightly differing shades of color, and degrees of strength and elasticity, as to cause much diversity of opinion among those with whom I meet, and as I have little opportunity to become familiar with standing trees or with logs, I desire definite knowledge to guide in selection of plank.

5. Does selected gray, brown or black equal in strength and suitability for mechanical uses the average of first or forest growth white ash?

6. In what portions of the principal ash producing states can the toughest lumber of the different varieties be obtained?

If these questions can be suitably answered in your columns, kindly print the information at an early date, and greatly oblige

A NEW SUBSCRIBER.

When reduced to lumber there is no method known by which to "distinguish absolutely" between white, gray, brown and black ash. Botanists distinguish by the leaf, bark and fruit, but with these data for determination absent, the judgment is at fault. The white ash, however, is most easily determined from its light color, medium density and elasticity, and some experts even claim to judge almost the locality from which the tree came, by breaking a sliver between the fingers. The ash is a tree which, as a rule, prefers a low, rich, moist, but not wet, soil, with a rather heavy clay loam subsoil. It is quite tolerant of change of conditions, but suffers greatly in quality when growing on dry or limestone soil.

The white ash, as is well known, is the most valuable of the ash family, reaching a height sometimes of 120 feet, and a diameter of five feet. It is found from Canada to Florida, and as far west as the first tier of states west of the Mississippi river, but reaches its greatest and richest development in the Ohio river bottoms, including, in a general way, the southern parts of Ohio, Indiana and Illinois, and the bottom lands of western Tennessee and eastern Missouri and Arkansas. The terms white, red, green, blue, etc., are common designations, rarely accurate, frequently local, given to the different species, but which are often misleading, as the same term is applied to different species in different places. The white ash is so called from the fact that the bulk of the wood is a light yellow or cream color when fresh cut, turning to a pale brown on exposure, and the core or heart is small, often only three or four inches wide in a tree 30 inches in diameter.

The blue ash gets its name from the fact that the inner bark when soaked in water yields a dark blue dye. The wood is darker in color, generally a rich brown, heavier, more solid, and, as a rule, more brittle. It will stand nearly the same transverse strain, but breaks with a less splintered fracture than white. The blue ash is chiefly confined to the territory east of the Alleghanies, and though not as common nor as valuable as white ash, is much used for the same purposes. It is indistinguishable in lumber except by the darker color and greater weight and hardness. The blue ash, a medium sized tree growing on the upland and especially limestone soil, comes next to the white in quality and in extent of territory over which it is found. It is chiefly confined to the states west of New York and north of the Ohio river, but including Iowa and Missouri. It is the heaviest of the ashes, and from the character of the soil it prefers, is naturally quite brittle, but it has a good light yellow color and works well with a high polish in manufacture. The green ash is also a widely spread species, of equal value with the blue, and more elastic. It is supposed to take its name from the pale green color of the leaves, as it prefers a low, almost swampy, soil. It shrinks badly in drying, and is not a very durable wood, except when kept dry as in interior work.

The only other botanical species which has a well recognized name is the black or hoop ash, so called from the dark color of the heart wood. This term, however, is not distinguishing, as the blue and green species when exceptionally dark receive the same name. The wood of the black ash is readily split into thin layers, which are used for barrel hoops, and it is softer and lighter than the white. The color of the sap wood is so light that it is quite undistinguishable from the white ash. The tree is a small one, preferring low wet bottom lands and swamps.

Other kinds of wood called ash are the wafer ash, or hop tree, a small tree of little economic value, and the yellow ash, or yellow wood, gopher wood or shittim wood, a beautiful tree, but very scarce, found in Tennessee and the mountains of North Carolina and Kentucky. Its firm, strong-grained, yellow wood takes a beautiful polish and is very durable, but unfortunately it is so rare as to be almost impossible to procure. In fact, it is said that there are not a thousand trees in all the Alleghany and Blue Ridge ranges. The bark is smooth and light gray, and the leaves in shape resemble the beech, but are arranged on a leaf stalk like the ash. It grows as far north as Massachusetts, and a number of handsome specimens can be seen in and around Boston and Cambridge.

As has been said before, any grading based on color is misleading, is not based on any necessary differences in quality, and varies with different localities. The term gray or brown may be applied to a dark colored white ash growing on the upland, or to a specimen of the blue, green or black ash. Calico ash is a similar name used to designate those specimens of the white ash whose heart wood is variegated and of unusual size. Such specimens are often seen in the delta of the Mississippi or the bottom lands between Cairo and Vicksburg.

As a general rule when elasticity is the prime requisite, the selected white ash of medium weight and rather coarse quality is demanded, such as for light wagons or where the material must be reduced to the smallest size consisent with safety. For purposes where strength is required or initial resistance to flexion or indentation, the brown or black varieties are to be preferred, and where there is a generous margin of safety allowed between size of the finished article and the strain that will be put on it. The brown lumber also will, as a rule, resist weather the best, though the real cause is not to be found in the color but in the character of the wood depending almost entirely on the soil in which it grew. The "toughest" lumber, using that term to denote the most elastic, is found where the white ash reaches its most favorable development.

The relative value of northern and southern ash for various purposes has not yet been carefully investigated, and much remains to be done. In fact, little has yet been accomplished in this line in the investigation of any of the woods of this country, though it is a question of great importance to the manufacturing interests. Each kind of wood has its own special value, and both producer and consumer can work together to better advantage, when the qualities of the various species are known and recognized. The government is doing something from year to year under the able direction of Mr. Fernow, chief of the division of forestry. Many firms, however, and a number of the larger corporations, especially railroads, have been compelled to take up this work in their departments of tests, and consignments of lumber are sometimes rejected for causes which appear to the lumbermen quite insufficient. A year or two ago a large quantity of heavy timbers to be used in the Auditorium were rejected because they were short leaf yellow pine. Of course if the specifications called for long leaf and nothing else, the rejection was right, but scientific investigation shows that the practical difference between the two kinds is often very small, and in the instance under consideration the one would have been precisely as good as the other. The prejudice against the short leaf, however, was such that it had to go. In structures of wood, investigations will soon be possible as a result of the numerous experiments now being made, and the effect will be to make manufacturers more careful, and to give greater security to human life.—*Henry L. Tolman in the Northwestern Lumberman, December 26, 1891.*

The Illinois Board of World's Fair Commissioners has ordered specifications for the architectural reproduction in drawings of all the Illinois state institutions and public buildings, sixteen in number.

ARCHITECTURE—A WOMAN'S STUDY.

We take the following article from the "Architectural Review" published in 1870—by Samuel Sloan of Philadelphia.

We have ever been of opinion that the refined taste inherent in woman's very nature, most especially fits her for the æsthetic requirements of architectic study, and we will confess to some surprise that while the gentle sex is in quest of mental occupation, the charms which surround this art of ours should fail to attract them to inquire into its claims to attention, as a something worthy their application.

With such an impression we awaited the, to our mind, certain development of woman's evident destiny, and were not a little pleased to meet in the *Woman's Journal* with the following:

"Why do not some of our bright girls who graduate from High, and Norman Schools, and who are looking for a vocation, study Architecture? It is a profession that pays well, after it is thoroughly learned, and one in which women of a certain kind of talent might excel." * * *

There are many professional men who would no doubt give females an opportunity of making themselves proficient in drafting, and that they would answer their expectations, we feel that we can judge from what we have seen some accomplish. There is, in fact, no good reason why the delicate nicety of woman's hand, and the preceptive taste so peculiarly her own, should not be productive of admirable drawings and acceptable designs. In literature she has acquired a position which rivals that of man himself. In painting and in sculpture, she commands respect. In music she stands pre-eminent. In all the sciences which are said to complete a polite education, she is ever forward and not infrequently first. Then why should she not add Architecture, with all its lore of history, and its elegant accuracy of science, to her accomplishments? The day is already dawning which shall see woman greatly elevated above her too long existent inequality of mental position; and now that the other professions are gallantly opening ranks to receive her, it is not too soon for architects also to acknowledge her claims, and invite her to a trial of her ability in culling the choicest flowers of beauty to adorn the classic elegancies of design.

We do not propose, or even suppose that the gentler sex will ever assume the ruder and more masculine (so to speak) out-o'-door operations, connected with the practical department of our profession—not at all; but, we do think that in the arrangement of plans, in Domestic Architecture for instance, that woman is the best judge of the convenience and economy of dwellings, for she it is who is the most interested party, and even in the external appearance of our homes who so anxious for the picturesque and the pleasing as she who presides there.

A literary woman is never so intently particular in her work, as when with heartfelt affection she depicts the detailed beauties of the humblest cottage home. Does not this characteristic show that taste, the most natural and refined reigns in her bosom and sways her very imagination. What more is asked than the cultivation of this genuine art-love to make woman devoted to Architecture, with all its graces and attractions so winning, because so kindred to her mind?

By all means, then, let us offer her a liberal welcome, and we shall reap the grateful benefit in the expansion of that patronage we look for so ardently for our profession, and without which, with all its claims to the widest recognition, it will but live on slowly, patronized by the comparatively few, but scarcely recognized by the great majority.

Bellamy—"If the theories of socialism were adopted, sir, men would live as happily as children do now." Smith—"Yes; each one watching greedily to see that nobody else got a bigger apple."

"How's this, Dauber? You've painted Father Time with a mowing machine instead of a scythe." "That's all right. We artists of the modern school keep up with inventive progress."

Electricity Simplified—The Practice and Theory of Electricity, by T. O'Conor Sloane, E.M., Ph. D. Illustrated—Published by Norman W. Henley & Co., New York.

The work on Electricity is the plainest of any that has come under our knowledge. Every student of electricity should have one.

The book is to be had from Messrs. Osborn & Alexander, 401 Market street, San Francisco. We may present some chapters from this work in future numbers of our paper.

Practical Centring by Owen B. Maginnis, with illustrations—published by W. T. Comstock, New York, and for sale by Messrs. Osborn & Alexander, 401 Market street, San Francisco.

This is a book that should be in the hands of every builder and every workman in the trade.

The book treats of centring for all classes of stone, brick or wood work, and for scaffolding, and the cutting of rough or finished lumber for work of this description.

The work is so fully illustrated that we cannot well make extracts from its pages.

The Cosmopolitan with its usual complement of good things comes to us for January, 1892. Price $3.00 per year.

The Fortnightly Review, monthly, by the Leonard Scott Publication Co., 231 Broadway, New York. Price $4.50 per year.

This review is one of the essential periodicals of the present day. Twice every month the reader is supplied with the freshest thoughts of the world's great writers and thinkers.

Lippincott's Magazine comes to us for January, 1892. This popular magazine has been before the public for twenty-five years and has advanced with the requirements of the cultivated taste in literature to a first position. The stories represent the actual conditions of life, the authors being prominent in their special lines. The stories are complete in each number. J. B. Lippincott Co., Philadelphia. Price $3.00 per year.

The Timber Trades Journal, an English periodical devoted to the timber interests of the world, has opened a branch office at 136 Liberty street, New York. Our dealers in Pacific Coast woods may find it to their interest to communicate with said journal.

The Phrenological Journal for January, 1892, comes to us full of useful knowledge about the science of health and human nature. Price $1.50 per year. Fowler & Wells Co. publishers, 775 Broadway, New York.

We have received the first number of the *Pacific Builder*, a new monthly periodical devoted to the building interests of the Pacific Coast. It is published by May S. Purtelle, at Portland, Oregon. Price $1.00 per year. It starts out with a good healthy look, and we wish it success.

The Mexican Financier, published in New York, and simultaneously in the City of Mexico, by the Seeger & Guernsey Company, is a very useful paper to the trading public who may have business with the people of Mexico.

NOTICE OF MEETINGS.

SAN FRANCISCO CHAPTER, AMERICAN INSTITUTE ARCHITECTS, meets second Friday of each month at Academy of Sciences Building.

GEO. H. SANDERS, Pres. OLIVER EVERETT, Vice-Pres.
H. T. BESTOR, Sec. JOHN M. CURTIS, Tres.

TECHNICAL SOCIETY OF THE PACIFIC COAST, meets first Friday of each month at Academy of Sciences Building.

JOHN RICHARDS, Pres. L. WAGONER, Vice-Pres.
OTTO VON GELDERN, Sec. GEO. F. SCHILD, Treas.

CALIFORNIA ELECTRICAL SOCIETY, meets the first and third Monday evening of each month at the Academy of Sciences Building.

W. C. QUIMBY, Pres. O. BROOKS, Vice-Pres.
W. C. CROSETT, Sec. W. C. CROSETT, Treas.

MASTERS PAINTERS' ASSOCIATION OF THE PACIFIC COAST
E. M. GALLAGHER, Pres. H. G. JARMAN, Sec.

THE annual meeting of the Technical Society of the Pacific Coast, was held at the rooms in the Academy of Sciences Building, 819 Market street, on Friday, January 15th, for the purpose of electing the officers and directors for the ensuing year.

Reports of the officers were submitted, showing the transactions of the past year, and the President in his annual address reviewed the work of the Society.

The following officers were elected for the year 1892:—President—John Richards, Mech. Eng.; Vice-President—Luther Wagoner, Min. Eng.; Treasurer—Geo. F. Schild, Naval Arch.; Secretary—Otto Von Geldern, Civil Eng. Directors—H. C. Behr, Geo. W. Dickie, W. R. Eckart, C. E. Grunsky, and A. Schierholz.

THE regular meeting of the San Francisco Chapter of the American Institute of Architects, was held the 15th inst. at 408 California street. The President, Geo. H. Sanders presiding.

The vacant position of Secretary was filled by the election of H. T. Bestor.

A report on the Chapter Classes was received from Mr. Sanders, and free hand crayon drawings, in "black and white," were received and placed on the wall.

For the January competition, three "pen and ink" drawings were received.

A committee, consisting of Messrs. Sanders, Pissis, Everett, Gash and Cuthbertson, was appointed on Competitions of the Students Classes.

The drawings of these competitions will remain on exhibition at the head-quarters of the Chapter, 408 California street, and all Architects or persons interested in this work, are invited to inspect the same.

President Sanders read a paper on the Post Office Site as an Architectural problem, which was ordered printed in the California Architect, and copies forwarded to the daily press of San Francisco. This paper will be found in full in another column.

AT the expiration of each subscription the bill for the succeeding year is mailed, and we shall be pleased to renew the name on our subscription books. The price is three dollars per year, in advance.

From various sources for a long while past have come demands for a revision of the building laws of New York city, and an organized movement has now been begun to secure the passage of an amended law by the next legislature. In order to accomplish this a Board of Revision has been formed, composed of gentlemen named by the American Institute of Architects, the Architectural Iron Works Association, a carpenter and mason from the Mechanics' and Traders' Exchange, a representative of the Real Estate Owners' Association and of the Board of Fire Underwriters, the Superintendent of the Bureau of Buildings and the Counsel of the Fire Department. This board will meet twice a week, to hear the views of architects, builders, real estate owners and others interested in the subject, and will then endeavor to frame a law which shall meet all objections against the present one.—*Fire and Water.*

LEGAL DECISIONS.

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

ATTORNEY'S FEES OF OWNER IN LIEN CASE.—Where the owner of a building has been compelled to enforce liens, to which both he and the contractor were parties, he is entitled to set off against the contract price, not only the amount of the judgments recovered, but all that he had been compelled to pay to relieve his property from the liens, including his attorney's fees and costs.

Cavell v. Washburn, Supreme Court of California, 27 Pac. Rep. 859, (68C).

LIABILITY OF WIFE FOR CONTRACT OF HUSBAND.—Where a husband contracts for the erection of a house on his wife's separate property, the fact that the wife examined the plans for the building, watched the progress of the work, and personally and by letters urged the material-men to push on the work, are sufficient to sustain the verdict that the wife is liable to the mechanic's lien of the material-men. In such case it was proper to charge "that a husband cannot, by making a contract like this, charge his wife's property, unless it appears that the materials were furnished with her knowledge and consent." If she assented to the contract made by her husband in this respect, * * * if she knowingly received the goods, assented to the application of the goods to her property, she is bound by the contract.

Boney v. Thackara, Supreme Court of Pennsylvania, 22 At. Rep. 754, (123C).

PENALTY CLAUSE IN BUILDING CONTRACT.—A person named Kemper and one named Candon entered into a written contract whereby Candon agreed to build a wall, etc., or else at his election, to remove a certain house three feet, and put it in as good condition as it was before; and in such contracts the parties further stipulated as follows: "It is mutually agreed between said parties that a failure on the part of said Candon to perform these obligations shall entitle said Kemper to recover from him the sum of five hundred dollars as liquidated and ascertained damages for the breach of this contract." Candon elected not to build the wall, etc., and afterwards failed to remove the house. The cost of removing the house, and putting it in as good condition as it was before, would not have exceeded $100. When the parties made the contract, and stipulated for damages in case of breach, fixing the amount at $500, they could not have had in contemplation actual compensatory damages; and therefore the sum of $500 mentioned in such contract as liquidated and ascertained damages must be treated as a penalty, and not as liquidated damages, and therefore it cannot be enforced, and only actual damages can be recovered.

Candon v. Kemper, Supreme Court of Kansas, 27 Pac. Rep. 829, (200C).

SERVICE OF LIEN NOTICE ON WIFE.—A wife, who, in addition to her dower and homestead rights, has been awarded exclusive possession of a homestead pending a suit for divorce and alimony instituted by her, is a proper party to an action to enforce a mechanic's lien thereon, and where judgment by default has been obtained in such action against the husband alone by collusion between him and plaintiff, she may become a party, and contest the alleged lien.

Weston v. Weston, Supreme Court of Wisconsin, 49 N. 834, (867C).

LIEN FOR LUMBER FURNISHED TO RAILROAD CONTRACTOR.—Lumber sold to a subcontractor of a railway, for the erection of shanties for its employees and suitable stables for his teams, is not within the statute granting a lien for labor performed on material furnished in the construction, repair, and equipment of the railroad, and gives no right of action against the railway company.

Stewart Chute Lumber Co. v. Missouri Pac. Ry. Co., Supreme Court of Nebraska, 49 N. W. Rep. 769, (75).

BUSINESS MOSAICS.

The San Francisco Mineral Paint Co., the manufacturers of Royal Metallic Paint, an artificial stone coloring and mortar stain, have resumed operations with new machinery and are grinding their material to the finest possible limit that the latest improved machinery will permit. From people who have used it, and are judges of such material, it is pronounced to be the best in the market.

The following letter was received from N. & G. Taylor Co., importers and dealers in Tin Plate, Metals, Sheet Iron, Wire, etc.:

Philadelphia, January 6, 1892.

Editor of "CALIFORNIA ARCHITECT AND BUILDING NEWS."—We are very glad indeed to say that the Block Tin received by us from the Temescal mines we found equal to any tin we ever used. We used some of it in the manufacture of Solder, but the major portion was used in the manufacture of Bright Tin-plate.

It affords us great pleasure to say that we made Bright Tin-plate from Steel sheets made in Pennsylvania, Block Tin from the Temescal mines in California, and the work was done by men born, bred and raised in Philadelphia. If this is not American Tin-plate from a to z and will not satisfy those doubters who are endeavoring to create such an impression against the industry, we really don't believe they would be satisfied if they did all the work themselves.

To us the manufacture of Tin-plate is nothing new nor mysterious; we feel that we have understood the business for many years and that our position is quite different from most importers, in place of being bound to the sale of certain makers' brands and subject to their whims and wishes, we have had brands that we own, which we sold under the most positive guarantees offering absolute protection to the buyer, and we consider it good sound business judgment to prefer to make such plates here under our own supervision in place of having them made three thousand miles away according to our instructions.

In addition to making Bright Tin-plate we are making Taylor's Guaranteed Roofing Plates, which are known the country over, they are:—Taylor "Old Style", "The Taylor Roofing Tin," "Taylor's Columbia." All of the finest quality, the value regulated by the quantity and quality of the coating.

"He who would bring back the wealth of the Indies, must take with him the wealth of the Indies." Which means that you can't have the value without the cost. You get just what you pay for. The only question is what grade you will buy. Of somethings the cheapest is the best; but of important things, the best is the cheapest.

Removal—John A. Roebling's Sons Co., manufacturers of Wire, Wire Rope, Sash Cord, Fire Proof Wire Lathing, Bare and Insulated Electric Wires for all purposes, have removed from their old quarters, No. 8 California and No. 14 Drumm streets, to their new and commodious building No. 25 and 27 Fremont street, in the middle of the block between Market and Mission streets.

This firm has lately furnished for the new Crocker building, corner of Market and Post streets, quite a quantity of the celebrated Roebling Fire Proof Stiffened Wire Lathing.

The Jos. Dixon Crucible Co., Jersey City, N. J., makes a specialty of Graphite Compositions. In looking over the list of preparations where graphite can be used with success, one can see many uses where this material is superior to anything heretofore brought forward. Being of itself practically indestructible it forms the resisting qualities of a paint where heat is present, also as a resistant to friction in lubricants for heavy machinery.

For Crucibles it has long been known. The lead pencils made by this company have won by their superior excellence, the first position for business or artists use.

We call special attention to Suplement and advertisement of the Colton Marble Co., showing the grand staircase in the Academy of Sciences Building in this city. Mr. John C. Pelton, Jr., Manager, Office, Flood Building, Room 42.

Young Husband—"Well, my dear, did you succeed in finding a stove to suit you?" Young wife—"Indeed, I did. Such good luck! I got a stove that will never cost us a cent for coal. The dealer said it was a self-feeder."

The well known firm of Smith and Trowbridge, "West Coast Wire Works," have dissolved partnership, Mr. James Trowbridge purchasing the interest of Mr. Smith.

The souvenir from Messrs. Merchant & Co., for the year 1892, is received. The illustrations are unique as is usual with this firm. The first illustration shows the earth with Chicago as the central point; long lines of passenger steamships from all parts of the world are centering towards Chicago to inspect the manufactures of Merchant & Co. Plate No. 2 shows the World's Fair grounds with the metal tower of this firm. This tower is to be 4,000 feet high and topped out as a "Star Ventilator", and is proposed to be used to ventilate the building at the World's Fair. The different nations are seen concentrating in all manner of conveyances towards this grand exhibit.

Plate No. 4 shows the method of inspecting the roofing plates.

Plate No. 7 shows the top of the "Star Ventilator" over the 4,000 foot tower, where people of all nations are viewing the wonderful city, and country around.

Plate No. 8 shows a grotto cooled to an agreeable temperature by the celebrated "Star Ventilator".

Plate No. 9 shows a close room where most of the inmates have fainted, and where a Brownie is about to place in the ceiling a "Star Ventilator".

Plate No. 10 shows the same room with the contented and pleased look of the inmates after the ventilator is placed in position.

Plate No. 12 shows a large sheet metal retort which is being viewed with consternation by the Russian, it being so superior to anything heretofore manufactured, that the Russian sheet metal is likely to be superseded in the market.

Plate No. 20 shows Miss Columbia placing the crown of honor upon the head of Messrs. Merchant & Co's. Brownie.

Write your advertisements clearly and truthfully, using sufficient space to show what you are prepared to furnish, have them printed continuously, then if you have anything that anybody wants, your returns will be satisfactory.

The Marshall Improved Window Furniture Company last week completed their contract for three hundred windows and sixty wash-stand doors on the Fair building, cor. Pacific and Front streets.

F. Sims, one of the firm of Sims & Morris, Western Iron Works of this city, dipped 40,000 shingles in 77 gallons of Carbolineum Avenarius. These shingles were dipped for two minutes without breaking bundles and when taken out were found to have been thoroughly penetrated and fully saturated with the preparation of Carbolineum.

The J. L. Mott Iron Works are continually adding to their already large number of articles for plumbers use. This firm has always been the manufacturer of the most perfect appliances characterized by beauty and strength, and the sanitary needs of the day in such articles are present in a marked degree. The arrangements for attachment are so perfect and gas tight, that no sewer emanations find their way into the house by this means.

Bath rooms, lavatory sinks and toilet rooms, when fitted with their appliances can be thoroughly cleansed all around the same, leaving no place where refuse or dirt can find a lodgement, as all such places are by their method unmasked.

The Mott Company has for years followed the plan of making all their articles in such a manner as to bear out their superiority over others in the market. By this means they have a standard value that at once recommends them to the favor of any person who has a knowledge of their quality. The latest productions from this firm are fully up to all the advanced sanitary questions of the times.

TENDERS TO BE RECEIVED.

Sealed proposals will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 29th day of January, 1892, for furnishing and delivering at Freight Depot in city where required, Safes for the U. S. Government Building at the following cities:

Burlington, Vt.; Evansville, Ind.; Grand Rapids, Mich.; Macon, Ga.; New Orleans, La.; New York, N. Y.; Oswego, N. Y.; Philadelphia, Pa.; Sandusky, Ohio; Wheeling, W. Va. and Winona, Minn., in accordance with the specification, copies of which may be had at this office.

Bids for one or more of the safes must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the bid.

The Department will reject all bids received after the time fixed for opening the same; also bids which do not comply strictly with all the requirements of this invitation.

Proposals must be enclosed in envelopes, sealed and marked, "Proposals for safes for U. S. Government Buildings" and addressed to

W. J. EDBROOKE,
December 31, 1891. Supervising Architect.

Sealed proposals will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M., on the 5th day of February 1892, for all the labor and materials required for the trench excavation, concrete and stone foundations, stone masonry, cut stone brick work of the basement and area walls, first floor and basement beams and girders, basement columns, etc., for the U. S. Court House, Custom House and Post Office at Omaha, Nebraska, in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent.

Each bid must be accompanied by a certified check for a sum not less than two per cent of the amount of the proposal.

The Department will reject all bids received after the time herein stated for opening the same; also bids which do not comply strictly with all the requirements of this invitation.

Proposals must be enclosed in envelopes, sealed and marked, "Proposal for Trench Excavations, Basement and Area Walls, Iron Beams, Columns, etc., for the U. S. Court House, Custom House and Post Office at Omaha, Nebraska," and addressed to,

W. J. EDBROOKE,
January 8, 1892. Supervising Architect.

CITY BUILDING NEWS.

Battery near Pacific. All cast iron work; owner, Jas. G. Fair; architect, H. A. Schulze; contractors, O'Connell & Lewis; cost, $2,563; signed, Nov. 17; filed, Dec. 9; payments, 1st day of each month 75 per cent. of work done; balance 35 days.

Battery near Pacific. Carpenter and stair work; owner, Jas. G. Fair; architect, H. A. Schulze; contractors, Smilie Bros.; cost, $20,837; signed, Nov. 17; filed, Dec. 9; payments, 1st day of each month 75 per cent. of work done; balance 35 days.

Battery near Pacific. Excavating, brickwork, etc.; owner, Jas. G. Fair; architect, H. A. Schulze; contractor, John McCarthy; cost, $22,150; signed, Nov. 17; filed, Dec. 9; payments, 1st day of each month 75 per cent. of work done; balance 35 days.

Battery near Pacific. Painting, graining, etc.; owner, Jas. G. Fair; architect, H. A. Schulze; contractor, J. M. Sindlinger; cost, $1,595; signed, Nov. 21; filed, Dec. 9; payments, 1st day of each month 75 per cent of work done; balance 35 days.

Battery near Pacific. Sandstone, pier, caps, etc.; owner, Jas. G. Fair; architect, H. A. Schulze; contractor, J. P. M. Phillips; cost, $2,205; signed, Nov. 21; filed, Dec. 9; payments, 1st day of each month 75 per cent. of work done; balance 35 days.

Battery near Pacific. Tinsmith work, etc.; owner, Jas. G. Fair; architect, H. A. Schulze; contractor, J. C. Roberts; cost, $2,686; signed, Nov. 17; filed, Dec. 9; payments, 1st day of each month 75 per cent. of work done; balance 35 days;

Battery near Pacific. Wood and iron, lathing; owner, Jas. G. Fair; architect, H. A. Schulze; contractor, Thos. Mannix; cost, $2,345; signed, Nov. 21; filed, Dec. 9; payments, 1st day of each month 75 per cent. of work done; balance 35 days.

Battery near Pacific. Wrought iron work; owner, Jas. G. Fair; architect, H. A. Schulze; contractors, Biglow & Little; cost, $5,432; signed, Nov. 17; filed Dec. 9; payments, 1st day of each month 75 per cent. of work done; balance 35 days.

Broderick near Ridley. To build; owner, J. Caley; architect, W. H. Lillie; contractors, Harrington & Johnson; bond, $2,500; cost, $4,670; signed, Dec. 17; filed, Dec. 18; payments, $700, frame up; $700, enclosed; $700, brown coated; $700, standing finish on; $702.50, completed; $1,167.50; 35 days.

Castro near 23rd. To build; owner, Joseph Harris; architect, M. J. Welsh; contractor, F. C. Kleebauer; bond, $883.75; cost, $3,335; signed, Dec. 11; filed, Dec. 11; payments, $883,75, frame up; $883.75, brown coated; $883.75, completed, $883.75, 35 days.

De Long near Frederick. To build; owner, C. Lehnhardt; architects, John & Balczynski; contractor, E. L. Hansen; cost, $2,940; signed, Dec. 28; filed, Dec. 31; payments, $700, frame up; $800, brown coated; $700, completed; $740, 35 days.

Dolores near Cumberland. To build; owner, Geo. Walcom; architect, R. H. White; contractor, Rob't Currie; bond, $965; cost, $3,485; signed, Dec. 22; filed, Dec. 28; payments, $720, frame up; $720, ready for brown coat; $720, standing finish on; $720, completed; $965, 35 days.

Elgin Park near Ridley. Alterations and additions; owner, Carlo Oliva; architect, A. J. Barnett; contractor, B. Antonelli; bond, $900; cost, $1,495; signed, Dec. 5; filed, Dec. 5; payments, $500, when house mayers appliances are all removed; $620, completed; $375, 35 days.

Elizabeth near Castro. To build; owner, C. B. Van De Mark; architect, Edward Burns; contractor, Jas. Campbell; cost, $2,850; signed, Dec. 1; filed, Dec. 5; payments, $712.50; frame up; $712.50, brown coated; $712.50, completed; $712.50, 35 days.

Ellis near Buchanan. To build; owner, Winnie Lafferty; contractor, S. T. Crawford; cost, $6,000; signed, Dec. 23; filed, Dec. 28; payments, $1,200, frame up and roof boards on; $1,800, brown coated and enclosed; $1,950, completed; $1,050, 35 days.

Filbert and Dupont. Plastering and lathing; owner, Rev. R. De Carolis; architect; Chas. J. Devlin; contractor, Martin Carrick; cost, $1,100; signed, Dec. 3; filed, Dec. 5; payments, $400, brown coated; $425, completed; $275, 35 days.

Filbert bet. Fillmore and Steiner. To build; owner, J. E. Habergarten; contractor, L. B. Schmid; cost, $2,000; signed, Dec. 22; filed, Dec. 26; payments, $1,000, brown coated; $500, completed; $500, 35 days.

Franklin near Clay. To build; owner, A. P. Hotaling, Jr.; architects, Kenitzer & Kollofrath; contractor, Adam Miller; cost, $15,105; signed, Dec. 14; filed, Dec. 24; payments, $2,000, frame up; $2,500, enclosed and roof completed; $2,000, brown coated; $3,350, woodwork completed and ready to paint; $1,500, completed; $3,750, 35 days.

Geary Street; No. 623. Plumbing and gas-fitting; owner, R. N. Vance; contractor, Jas. Broad; cost, $1,500; signed, Dec. 28; filed, Dec. 28; payments, 75 per cent. of the value of work done on 1st day of each month; balance 35 days.

Geary near Buchanan. To build; owner, C. C. Butter; architects, Shea & Shea; contractors, E. C. Worden & Son; cost, $12,365; signed, Dec. 9; filed, Dec. 16; payments, $1,545, rough frame up; $1,545, rustic on; $1,545, partitions set and outside finish on; $1,546, brown coated; $1,546, white coated; $1,546, completed; $3,092, 35 days.

Geary and Leavenworth. To build; owners, Michalitschke Bros.; architects, John & Balczynski; contractors, Richardson & Gale; cost, $12,000; signed, Dec. 12; filed, Dec. 12; payments, 75 per cent. as work progresses; balance 35 days.

Geary and Polk. Painting, graining and natural woodwork; owner, David T. Pierce; architects, R. H. & R. White; contractors, Smith & Duryea; cost, $1,900; signed, Dec. 10; filed, Dec. 11; payments, 1st day of each month 75 per cent. of value of work done; balance 35 days.

Gough and Broadway. Carpenter work; owner, D. F. Walker, Agent of Althea Walker; architects, Smith & Freeman; contractor, A. Jackson; cost, $27,146; signed, Dec. 2; filed, Dec. 7; payments, $2,000, foundations in; $3,000, frame up; $4,000, ready for plaster; $4,000, plastered; $4,000, ready for painter; $3,358, completed; $6,787, 35 days.

Gough and Broadway. Painting; owner, D. F. Walker, Agent of Althea Walker; architects, Smith & Freeman; contractor, Gus. V. Daniels; cost, $1,794; signed, Dec. 1; filed, Dec. 7; payments, $300, house primed; $500, inside and outside has two coats; $515, completed; $449, 35 days.

Gough and Broadway. Plumbing; owner, D. F. Walker, Agent of Althea Walker; architects, Smith and Freeman; contractors, Dudley Bros.; cost, $1,297; signed, Dec. 2; filed, Dec. 7; payments, $1,000, rough work done; $850, completed; $847, 35 days.

Grove and Baker. To build; owners, J. Arguello and wife; architects, Martens & Coffey; contractor, W. W. Ackerson; bond, $2,500; cost, $13,865; signed, Dec. 22; filed, Dec. 28; payments, $2,000, frame up; $2,000, enclosed and roofed; $2,000, brown coated; $2,000, white coated; $2,395, completed; $3,470, 35 days.

Haight Street, Nos. 436 and 438. Alterations and additions; owner, A. Sandell; contractors, Mullins and McGowan; bond, $775; cost, $3,100; signed, Dec. 14; filed, Dec. 22; payments, $388, house raised and brickwork done; $387, framed; $775, rough plastered; $775, completed; $775, 35 days.

Jackson near Baker. Carpenter work; owner, E. T. Howes; architects, Smith & Freeman; contractor, John G. Adams; cost, $5,600; signed, Dec. 23; filed, Dec. 28; payments, $1,050, frame up; $1,050, ready for plastering; $1,050, brown coated; $1,050, completed; $1,400, 35 days.

Jackson and Laguna. Cabinet work; owner, A. Schwabacher; architects, Percy and Hamilton; contractor, F. W. Kreling; cost, $8,890; signed, Dec. 15; filed, Dec. 21; payments, 1st Saturday of each month, 75 per cent. of work done; balance 35 days.

Jackson and Laguna. Carpenter and mill work; owner, A. Schwabacher; architects, Percy and Hamilton; contractors, Farrell & Bell; cost, $14,588; signed, Dec. 15; filed, Dec. 21; payments, 1st Saturday of each month, 75 per cent. of value of work done; balance 35 days.

Jackson and Laguna. Concrete work; owner, A. Schwabacher; architects, Percy & Hamilton; contractors, Ransome & Cushing; cost, $8,200; signed, Dec. 15; filed, Dec. 21; payments, 1st Saturday of each month, 75 per cent. of work done; balance 35 days.

Jackson and Laguna. Plumbing and gas-fitting; owner, A. Schwabacher; architects, Percy & Hamilton; contractors, Duffey Bros.; cost, $3,925; signed, Dec. 15; filed, Dec. 21; payments, 1st Saturday of each month, 75 per cent. of work done; balance 35 days.

Jackson and Laguna. Ornamental and plain plastering; owner, A. Schwabacher; architects, Percy and Hamilton; contractor, Henry Fisher; cost, $2,235; signed, Dec. 15; filed, Dec. 21; payments, 1st Saturday of each month, 75 per cent. of work done; balance 35 days.

Jackson and Laguna. Painting, varnishing, etc.; owner, A. Schwabacher; architects, Percy & Hamilton; contractors, M. J. & J. J. Donovan; cost, $1,425; signed, Dec. 15; filed, Dec. 21; payments, 1st Saturday of each month, 75 per cent. of work done; balance 35 days.

Langton Street, No. 125. To build; owner, Rob't J. Young; contractor, A. G. Martin; bond, $500; cost, $2,400; signed, Dec. 3; filed, Dec. 8; payments, 75 per cent. at end of every two weeks as work progresses; balance 35 days.

Leavenworth near Sacramento. To build; owner, G. D. Mayle; architects, John & Balczynski; contractor, Wm. Plum; cost, $6,490; signed, Dec. 9; filed, Dec. 10; payments, $1,200, frame up; $1,200, partitions set; $1,300, white coated; $1,300, completed; $1,390, 35 days.

Market St.—Palace Hotel. Furniture for writing and reading room; owners, Sharon Estate; architect, A. P. Brown; contractors, West Coast Furniture Co.; cost, $1,552; signed, Dec. 3; filed, Dec. 12; payments, $1,552, completed and accepted.

Market St.—Palace Hotel. Ventilating shafts in courts; owners, Sharon Estate; architect, A. Page Brown; contractors, W. W. Montague & Co.; cost, $1,725; signed, Dec. 23; filed, Dec. 24; payments, 75 per cent. completed; 25 per cent. 35 days.

Market, Post and Montgomery. Show and counter cases; owners, Geo. C. Shreve & Co.; architect, A. P. Brown; contractors, W. B. & B. Smith; cost, $18,500; signed, Dec. 4; filed, Dec. 12; payments, 40 per cent. upon shipment of goods from N. Y., 60 per cent. upon acceptance.

Market, Post and Montgomery. Cartan, pierre and plaster ornaments, owners, Geo. C. Shreve & Co.; architect, A. P. Brown; contractor, Henri L. Bouche; cost, $3,250; signed, Nov. 20; filed, Dec. 12; payments, 60 per cent. when shipments are delivered from N. Y., 40 per cent. upon acceptance.

McAllister and Jones. Decorative painting; owners; Hibernia S. & L. Society; architects, Pissis & Moore; contractors, Moretti & Trezzini; cost, $3,920; signed, Dec. 1; filed, Dec. 17; payments, 1st and 15th day of each month 75 per cent. of value of work done; balance 35 days.

McAllister and Jones. Mosaic marble floors; owners, Hibernia S. & L. Society; architects, Pissis & Moore; contractors, Chatain & Ghetti; cost, $1,455; signed, Dec. 1; filed, Dec. 17; payments, 1st and 15th day of each month 75 per cent. of value of work done; balance 35 days.

McAllister and Jones. Mantels and panelled ceilings; owners, Hibernia S. & L. Society; architects, Pissis and Moore; contractors, Fink & Schindler; cost, $6,388; signed, Dec. 1; filed, Dec. 5; payments, 75 per cent. as work progresses on 1st and 15th day of each month; balance 35 days.

Sacramento and Montgomery. Painting, Glazing, etc.; Pacific Life Ins. Co.; architects, Wright & Sanders; contractors, Geo. J. Smith & Sons; cost, $5,546; signed, Dec. 8; filed Dec. 11; payments, 75 per cent. as work progresses; balance 35 days.

Steiner and Ellis. To build; owners, T. F. Misgill and wife; contractors, Petterson & Person; bond, $400; cost, $5,236; signed, Dec. 8; filed, Dec. 10; payments, $1,000, frame up; $1,400, brown coated; $1,300, completed; $1,336, 35 days.

Tehama Street, Nos. 353 to 357. Carpenter work; owner, J. Spaulding; architects, Shea & Shea; contractor, A. C. Hussey; cost, $1,500; signed, Dec. 16; filed, Dec. 18; payments, 75 per cent. as work progresses; balance 35 days.

Twelfth Ave. near "M". To build; owner, Chas. H. Knus; contractors, Parker & Bane; cost $1,400; signed, Nov. 30; filed, Dec. 7; payments, $300, enclosed; $450, brown coated; $400, completed; $250, 35 days.

Twenty-fifth and Capp. To build; owner, Michael Curran; architect, W. H. Bayless; contractors, Doyle & Son; bond, $6,000; cost, $12,000; signed, Dec. 4; filed, Dec. 5; payments, 75 per cent. as work progresses on 5th day of each month; balance 35 days.

Vallejo near Buchanan. To build; owner, Bertha Cellarius; architects, Townsend & Wynken; contractor, J. W. Wissinger; cost, $7,875; signed, Dec. 18; filed, Dec. 22; payments, $905, 1st floor beams are on; $1,000, rough floors laid; $1,500, brown coated; $1,000, white coated; $1,500, completed; $1,970, 35 days.

Waller near Masonic Ave. To build; owner, Mary J. Nachtigall; architect, N. A. Comstock; contractor, Chas. Kinsman; bond, $2,500; cost, $5,500; signed, Dec. 2; filed, Dec. 10; payments, $1,375, frame up; $1,375, brown coated; $1,375, completed; $1,375, 35 days.

Washington near Walnut. To build; owner, W. O. Ludovici; architect, Wm. Curlett; contractor, Wm. Linden; cost, $7,400; signed, Dec. 7; filed, Dec. 8; payments, $3,000, roof on; $1,512.50, brown coated; $1,000, inside finish on and doors hung; $1,887.50, 35 days.

ALAMEDA COUNTY.

Bella Vista near 11th Ave., Oakland. To build; owner, E. S. Chapman; contractors, A. W. Pattiani & Co.; cost, $5,000; signed, Dec. 16; filed, Dec. 17; payments, $1,350, rustic and roof shingles on and chimneys built; $1,250, window frames set, brown mortar on and exterior primed; $1,150, completed; $1,250, 35 days.

Blake Street near Shattuck Ave. Berkeley; To build; owner, C. A. Briggs; contractors, Cheney & Baum; cost, $1,750; signed, Dec. 12; filed, Dec. 12; payments, ¼, enclosed; ¼, brown mortar on; ¼, completed; ¼, 30 days.

Broadway and 14th Streets, Oakland. Concrete arches; owner, Jos. Macdonough; architects, Mooser & Cuthbertson; contractors, Gray Bros.; cost, $3,700; signed, Dec. 14; filed, Dec. 23; payments, 75 per cent. of the value of work done; balance, 25 per cent., 35 days.

Broadway and 14th Streets, Oakland. Gas work; owner, Jos. Macdonough; architects, Mooser & Cuthbertson; contractor, T. H. Andrews; cost, $8,000; signed, Dec. 5; filed, Dec. 23; payments, 75 per cent. of the value of work done; balance, 25 per cent., 35 days.

Broadway and 14th Streets, Oakland. Sandstone; owner, Jos. Macdonough; architects, Mooser & Cuthbertson; contractor, David O'Neil; cost, $1,500; signed, Nov. 30; filed, Dec. 23; payments, 75 per cent. of the value of work done; balance 35 days.

Carrison Tract. To build; owner, A. H. Yeazell; contractor, H. J. Goetzman; cost, $2,050; signed, Oct. 30; filed, Dec. 14; payments, one sorrel horse on date of said contract at agreed price of $300; balance of said $2,050, to be paid as follows: $25, completed, and $25, 30 days, and so on, $20 in each 30 days, until entire sum of $2,050, has been paid.

Central Ave. near Lafayette, Alameda. To build; owner, E. A. Fischer; architect, Chas. S. Shaner; contractors, J. E. Henderlong Bros.; cost, $4,430; signed, Dec. 24; filed, Dec. 29; payments, $832.50, rough frame up and rafters on; $830, enclosed, rustic on and window frames in; $830, brown mortar on; $830 plastering and all woodwork done; $1,107, 36 days.

Channing Way Dana, Berkeley. To build; owners, D. W. & M. Parkhurst; contractors, A. W. Pattiani & Co.; cost, $7,750; signed, Nov. 30; filed, Dec. 5; payments, $2,500, rustic and roof shingles on and chimney built; $1,750, window frames set, brown mortar on and exterior primed; $1,500, completed; $2,000, 35 days.

Delaware Street near Shattuck. To build; owner, Mary Holden; contractor, Chas. H. Thrane; cost, $1,630; signed, Dec. 12; filed, Dec. 14; payments, $543.33, frame up, enclosed and roof on; $543.33, brown mortar on; $543.33, 35 days.

Felton and Herzog Streets, Gd. Gt. To build; owners, John A. Carson and wife; contractor, H. F. H. Brown; cost, $1,630; signed, Dec. 23; filed, Dec. 24; payments, $543.25, roof on and outside completed; $543.25, completed; $543.25, 35 days.

Grand Street near San Jose Ave., Alameda. To build; owners, Nettie R. & E. B. De Golia; contractors, A. W. Pattiani & Co.; cost, $4,356; signed, Dec. 4; filed, Dec. 7; payments, $1,158, rustic and roof shingles on and chimney built; $1,158, window frames set, brown mortar on, etc.; $840, completed; $1,100, 35 days.

Linda Vista Terrace, Oakland. To build; owner, E. D. Ormsby; architect, J. Conati; contractor, Jacob Steinborgh; cost, $8,460; signed, Dec. 17; filed, Dec. 19; payments, ¼, frame up and rustic on; ¼, first coat of plaster is on; ¼, ready for last coat of paint; ¼, 35 days.

Lot 19, block 726. To build; owner, Colombo Raffo; contractor, Frank C. Bignami, cost, $2,906; signed, Nov. 5; filed, Dec. 8; payments, $960, frame up; $975, one coat plaster on; $971, 35 days.

Myrtle near 12th St., Oakland. To build; owner, F. H. Reuning; architects, Percy & Hamilton; contractors, Cornelius & Reed; cost, $2,800; signed, Dec. 26; filed, Dec. 27; payments, ¼, frame up and rustic on; ¼, first coat plaster on; ¼, ready for first coat paint; ¼, 35 days.

Park Ave. near San Jose. Alameda. Alterations; owner, O. E. Derby; architect, A. R. Denke, contractor, Geo. Kueppler; cost, $925; signed, Dec. 15; filed, Dec. 15; payment, $300, building is covered in; $300, completed; $325, 30 days.

San Pablo Ave. near 16th St., Oakland. Brickwood in extension building; owner, W. Hall; architects, J. J. & T. D. Newsom; contractors, Remillard Brick Co.; cost, $1,555; signed, Dec. 17; filed, Dec. 18; payments, 75 per cent. of the value of work done and materials furnished to be paid on 2nd and 16th of each month, and the remaining 25 per cent., 35 days.

San Pablo Ave. near 16th St., Oakland. All plate and glass work in store fronts; owner, Winslow Hall; architects, J. J. & T. D. Newson; contractors, L. & H. Cobbledick; cost, $2,300; signed, Dec. 10; filed, Dec. 11; payments, 75 per cent. of work done and materials furnished on 1st and 15th of each month; balance 25 per cent., 35 days.

San Pablo Ave. near 16th St., Oakland. Plumbing, etc., owners; J. C. & E. Coleman; architects, J. J. & T. D. Newson; contractors, Wm. S. Snook & Son; cost, $1,450; signed, Dec. 9; filed, Dec. 10; payments, 1st and 15th day of each month 75 per cent. as work progresses; balance 25 per cent., 35 days.

San Pablo Ave. near 16th St., Oakland. Painting; owners, J. C. & E. Coleman; architects, J. J. & T. D. Newsom; contractors, Doody & Hooley; cost, $1,967; signed, Dec. 9; filed, Dec. 10; payments, 1st and 15th day of each month 75 per cent. as work progresses; balance, 25 per cent., 35 days.

San Pablo Ave. near 16th St., Oakland. Brick, carpenter, plastering, etc.; owners, J. C. & E. Coleman; architects, J. J. & T. D. Newsom; contractor, Winslow Hall; cost, $12,175; signed, Dec. 9; filed, Dec. 10; payments, 1st and 15th day of each month 75 per cent. as work progresses; balance, 25 per cent., 35 days.

Suburban Tract —— lot 14, block A. To build; owner, Rob't. A. Barker; contractor, J. J. Rose; cost, $1,650; signed, Dec. 5; filed Dec. 7; payments, first payment, house up and enclosed; second, house completed; third, 35 days.

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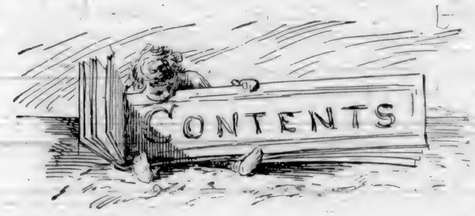


THE Competative designs for the California State Building at the World's Fair, have been submitted and placed on exhibition

What struck us most in viewing the wealth of creative ability, brains and time exhibited at the rooms of the California World's Fair Commission was the prodigal waste of time, money and vital force therein shown.

Twenty-nine different designs are here shown for a $75,000 building, at least half of which show a creditable amount of ability and worth.

Nearly all have elaborately wrought and colored perspectives and some of very large size, involving an incommensurate expenditure of time and money leaving out the before mentioned vital force.

An unwritten law of the profession should be that members going into competition would not take advantage of their superior wealth in money or even of their superior wealth of time to get an unfair advantage over those who are lacking in these, but leave the decision to a companion under uniform conditions—which conditions would be a sketch only sufficient to elucidate the points of the plan but no meretricious accessories to mistake the facts and lead the judges to be carried away beyond the actual facts or to be influenced by sympathy that one of the competitors, poor fellow, has gone to a tremendous expense and therefore we ought to do something for him.

By the evidences of fierce competition exemplified in this contest, we are surely on a no higher plane than the lawyer whose business it is to bias a judge or jury by anything no matter how dishonest or improper.

We would like to see in the future, owners of honesty, who desire competition, set their face against this unnecessary waste which really instead of helping them to a decision, confuses them with a multitudinous and elaborate exposition of detail and prettiness.

The moral method seems to be to present only a slight sketch—with as little expenditure of life as possible, sufficient to give an idea to the owner of the possibilities of the design.

WORLD'S FAIR NOTES.

A Proposed Palace of Pure Silver.

The *San Francisco Chronicle* says:—A resident of West Fourteenth street, New York, has made the most novel and original suggestion on record for an interesting exhibit at the World's Fair. In a letter to Secretary Foster to-day he says: "I wish to point out to you that you have in your power, with the consent of Congress, to construct the most beautiful and magnificent, as well as the most valuable, exhibit the world ever saw. I allude to building a palace of silver, constructed of the silver now in bullion and coin in the Government's vaults at the various depositories. If the Government could get permission from Congress to recast 15,000 tons of it into slabs of say 600 pounds and one inch thick. This would give 600,000 superficial feet, out of which could be built the most beautiful structure the world has ever seen. It would build a structure 400 feet by 300, with a tower 300 feet high, on which could be placed an American eagle with wings of 100 feet spread. A silver palace worth $100,000,000 would be an attraction that would draw millions of people who always want to see something new and grand. Not over $1,000,000 need be expended in the construction of such a palace, which could be guarded by the army."

SAWING HICKORY AND ASH FOR CARRIAGE WORK.

By Fitz.

THE scarcity of good timber and the well-know fact that for carriage work the situation of the grain layers has a marked influence upon the durability of the finished vehicle, makes it of the utmost importance that the plank be cut in a manner that will prove the most profitable. Until within a comparatively few years, the expense of sawing, except in the old method of cutting through and through, cutting plank as shown by the quarter section, Fig. 1, was so great as to make it unprofitable to cut up in any other way. By

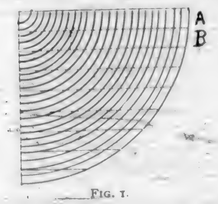


FIG. 1.

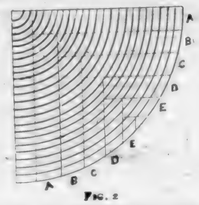


FIG. 2.

this method the center planks, *A* and *B*, were the only ones in which the grains run in the general direction desired, but even these were defective, particularly plank *B*, the center, the toughest part of the wood, was unfit for side or spring bars, unless the thickness was such that they could be cut edgewise instead of on the flat of the plank. Each succeeding plank after *B* grew less and less valuable, compelling the use of bars with the grain in the wrong direction, or causing great waste in timber and in time in cutting the various pieces; then, too, there is much greater loss from warping and springing than there would be if the grains run in a different direction. The various faults combined caused, in the aggregate, a loss of at least 50 per cent. in the quantity of suitable plank for first-class carriage work.

The improvement in saw mill machinery has made it possible to perform work which could not have been done with the old-style gate saw, not only as to the sawing itself, but also in the handling.

Logs are now quarter-sawed as cheaply as they were planked before the day of improved machinery. This quarter-sawing first came into demand to meet the requirements of architects and furniture manufacturers, for oak to be worked in a manner that would place the grain in a most desirable position for showing its beauty. Since then other timbers have been quarter-sawed for other purposes where increased strength was required. The machinery, therefore, for quarter-sawing is very complete, and there is nothing to prevent carriage makers having quarter-sawed timber. This is important, particularly for ash and hickory, not only for the best results as to the location of grain, but also as a check to the waste.

There are various methods of quarter-sawing, and it matters little which is adopted so far as cost is concerned; it

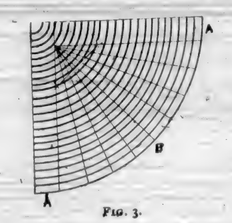


FIG. 3.

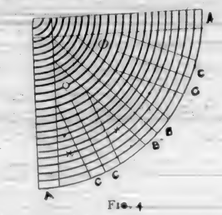


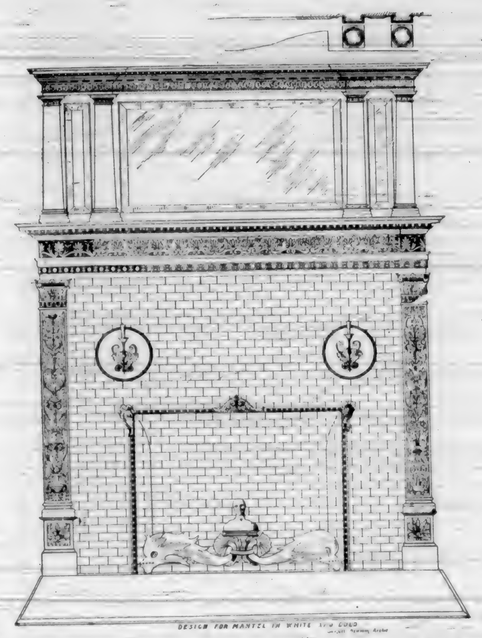
FIG. 4.

follows, therefore, that the method which will give the best result as to position of grains, and reduce the loss to the lowest figure, is one that should be adopted. Fig. 2 shows a very common method. One which is something of an improvement on the old plan as shown by Fig. 1, but it does not give as good a result, as too great a part of log is improperly cut. The planks *A A* are the only ones that are perfect. *B B* answers fairly well, while in *C C* the angle of the grain impairs the stiffness of the cut strips, making them of doubtful value. The trouble increases with *D D*, while *E E* and the triangle between them are unsuited to carriage work. In fact, about one-fifth of the entire log is wasted, or rather is unsuited to the principal uses for carriages, such as shafts, side bars, and spring bars. It can be used for axle beds, perches, head-blocks, etc., but is no better for these uses than if cut in proper form.

Fig. 3 illustrates another method. The first cut planks, *A A*, are in all respects the same as the first cuts of Fig. 2. The balance is cut into triangular pieces, the saw kerf radiating from a common center. By this method planks are secured with the grains in proper position to work to the best advantage. The waste at the center may be avoided by cutting off the point on the line *X X*, or by first splitting on line and then removing the triangles. The uneven thickness may be urged as an objection to this method of sawing, but it is much less than it appears, as bars of all kinds are required of different thicknesses. If care is taken in marking out, the loss will be very light. The main objection is the loss that results of a portion of the finest timber in the log, at the triangle, after the first planks are cut.

The plan of sawing as shown by Fig. 4 is without doubt the most desirable, giving as it does so many planks of uniform thickness, and having the grain in the proper position. In this the first cut planks, *A A*, are similar to those of Figs. 1 and 2. These being removed, the triangles between *A* and *B* are cut away and planks *B B* sawed. These have the grain precisely in the same position of that in *A A*, the planks, however, being narrower. A little waste occurs in cutting these at the beveled edges, but a careful workman can reduce it to the merest trifle. These being cut, the triangles *O O* are cut away and the balance is cut to give planks *C C*. These, though narrow, have the grain in the correct position. The only pieces that are wasteful are the four marked *X* and the two marked *O*, but none of these are all waste. The two marked *O* are large enough to get a good full bar out of each, with the grain in proper position. Those marked *X* will give one, if not two each, leaving very little waste. If the log cut this way is small there will be but one plank instead of the two indicated by *C*, but even in this case the loss is slight, and every plank is in shape to cut to the best advantage and give the best results.

In some sections, the old saw mill, fed by the little stream in the spring of the year, with its gate and mulay saw, is the most accessible, and because of that very much valuable timber is cut to waste. It would be far more profitable to sell the timber in the log than to saw it into unmarketable plank. Care in this respect and in sawing would go far towards removing the apprehension of a scarcity of hickory and ash timber, beside making that in the market far more valuable to the users.—"*We take the foregoing from the "Wood Worker" and which originally appeared in the "Blacksmith and Wheelwright".*


DESIGN FOR MANTEL IN WHITE ENAMELED BRICK AND GOLD

The Mantel here shown is built of white enameled brick—and the ornaments worked up in gold. Designed by Samnel Newsom, architect.

ELECTRICITY SIMPLIFIED.

THE ETHER—ELECTRICITY.

A recent work from which we reprint the first Chapter.

"There are in nature certain mysteries, if such a name does not appear too poetical, which have never been solved and may remain so for all future generations. The conservative scientist is apt to include among such things gravitation, electricity, and perhaps light. To explain the phenomena of light, an almost inconceivable entity termed the luminiferous ether has had to be invented. By assuming such a thing to exist and to be endowed with almost inconceivable properties, light is explained and its phenomena are brought into the domain of mathematics. But no direct proof of the existence of the ether has yet been found, and we hardly can venture to hope for one.

The modern treatment of electricity deals with it as representing and including special phenomena of this ether. Some go so far as provisionally to define it as being the ether itself, and to treat static excitement, magnetism, current electricity, etc., as due entirely to different states of the ether.

The luminiferous ether is by calculation deduced as being of the following general properties. It is supposed to be a medium most resembling a gas in constitution, yet possessing rigidity like a solid, as well as elasticity like that of a gas. Its density is equal to 936 one-thousand-millionths (936-1,000,000,000) that of water, or equal to that of air at 210 miles above the earth. Its rigidity is one one-thousand millionth (1-1,000,000,000) that of steel. It is sometimes compared to an all-pervading jelly, through which waves of light and other radiant energy and of electromagnetism are constantly throbbing. Particles of ordinary matter move through it without resistance. It interpenetrates the molecules of matter, and hence an air pump is entirely without effect upon it. There is no such thing as an ether vacuum (Daniel). It cannot be excluded from empty space.

Such is the hypothetical luminiferous ether, an ultra-gaseous body possessing the properties of both a solid and of a gas. It should be looked upon as an expedient for the present, as something most useful in formulating theories, but unproved. A theory is often little more than a symmetrical skeleton to sustain our laboriously acquired collection of facts. The test of the utility or perfection of a theory is its ability to foretell what will happen under given conditions. It may be able to do this and yet be wholly fictitious.

Light is radiated from one body to another across enormous intervals of space. The mind cannot conceive of one body acting upon another without some connecting medium. The same applies to gravitation and electricity. The ether originally invented to account for the transmission of light through distances, of unknown degrees of immensity in the case of the heavenly bodies, has been found a useful factor in formulating a theory of electricity.

If any object is excited electrically, every object within its range of action, that is to say, which is not screened from its effects, is also affected. This involves the same kind of action across a space as obtains in the case of light. It is termed radiant action and is a manifestation of radiant energy. Again, an electric current or the poles of a magnet produce magnetic effects in their vicinity upon objects not in contact with them. This involves action at a distance also.

These are among the reasons which have induced scientists to invoke the luminiferous ether to aid in explaining and accounting for electrical phenomena. As employed in the present work it will be found useful in enabling the mind to better formulate a theory of the science. Extraordinary as the idea of the ether may appear, it is evident that the modern achievements of electricity are just as strange. They are of such nature as to be entitled to an extraordinary line of explanation.

The sun is at such a distance from the earth that it takes light over eight minutes to travel from its surface hither. The nearest of the fixed stars are so remote that in many cases days and years are consumed in the passage of light from them to us. If one of these bodies were suddenly annihilated we should see its light after it ceased to exist. The sun would seem to continue to shine for eight minutes and twenty seconds after its extinction. We may even now seem to see stars which long ago ceased to be luminous, and distant suns may now be radiating light into space, which light will not reach us to show us a new star, for years to come.

All this is so strange and deals with such infinite relations of quantities as regards distances and time that the luminiferous ether, viewed from such a standpoint, seems not too extravagant a conception to account for the high velocity and intensity of radiant energy.

Pulses or waves of electric energy are found to act like light, to be capable of transmission through some bodies, of reflection from others, and of refraction and interference. The relations between electrostatic and electromagnetic units indicates a ratio corresponding to the velocity of light. These considerations give direct ground for utilizing the theoretical ether as a medium for the propagation of electrical disturbances.

The term radiant energy is continually acquiring new scope in physics. Many phases of electrical disturbance fall under this heading. Others may be attributed to radiant force.

The passion for unification at one time tended to obliterate the old distinction between static and dynamic electricity. Now a true basis for such division must be recognized and may to a certain extent be determined by the consideration of force and energy. True static phenomena are phenomena

of ether stress or of force; electromagnetic wave and current phenomena are related to ether waves or energy.

FORCE, ENERGY, MASS AND WEIGHT.

Physical concepts, such as force, mass, energy and other elementary things, have received within recent years much accuracy and definition of description and attributes. Only a few years ago great confusion existed, notably in the distinction between force and energy. The enunciation of the absurd doctrine of the conservation of force, and its support in many essays and papers by those who were assumed to be the leading thinkers of the day, is an illustration, now but a few years old, of this fact.

This accuracy has led, and is leading, to more and more subdivisions, which brings about a multiplication of units, and increase in nomenclature especially in electricity, which has already been felt to be a misfortune, although it is not easy to see how it is to be avoided.

For the purposes of this work it is quite unnecessary to enter into all of these subdivisions. There are a few elementary mechanical ideas which may be enunciated before the electrical part is entered on. These involve subjects which are often sources of error and misunderstanding.

As physics and mechanics are based upon measurement, units of different kinds have been established. They are based upon length, time and weight. The relations of these factors to the compound units are termed the dimensions of the unit. The centimetre, gram, and second are the bases of measurement, and the fundamental units constructed or built up upon them are termed the centimetre-gram-second or C. G. S. units.

FORCE is that which, acting on a quantity of matter or mass, can change its rate of motion or can impart motion to it. It can be called into existence or annihilated under adequate conditions; in other words, there is no conservation of force. Its unit is that force which can in one second impart to one gram of matter a velocity of one centimetre per second. This unit is termed the *dyne*. The weight of one gram is equal to about 981 dynes. A dyne is equal to about 63½ grains.

The exertion of force along a path in space, which condition necessarily implies motion against resistance, is termed WORK. Its unit is a dyne exerted through a path one centimetre long. The most convenient way to express force is to refer it to gravitation. Hence the unit of work is generally defined as the raising of 1-981 gram to a height of one centimeter against gravitation. The name of the unit is the *erg*.

The power of doing work is termed ENERGY. A weight of 1-981 gram by frictionless machinery could, in descending one centimeter, raise another body of the same weight the same distance. Hence it would be said to possess energy of position, a form of potential energy, equal to one erg. The sum of energy in the universe is invariable; energy can be neither created nor annihilated by natural causes. This is the doctrine of the conservation of energy, which has replaced the discarded one of the conservation of force.

If a bullet is fired from a gun, the energy of the combustion of the powder is in part expended in driving the bullet forward; in part in driving the gun backward, producing recoil; in part in heating the gun and bullet, and in various other ways. None of its energy is destroyed. The bullet strikes a target and is brought to rest. Its energy is not destroyed, it is only transformed. Some appears as heat energy—indeed most of it directly or indirectly takes this form; none disappears.

If this doctrine is true, perpetual motion against resistance, as generally understood, is impossible. There is very little doubt of this doctrine's truth.

It follows from the above that energy cannot, properly speaking, be expended, and that work is not done at the expense of energy. Work simply denotes the reciprocal of a given form of energy, and is produced by the disappearance of that particular form of energy, and is the result of its conversion into some other form. A weight raised by the combustion of coal is the reciprocal of the heat energy, and no more represents work than it does the product or the result of the conversion of heat energy into mechanical potential energy. In other words, work and energy may be treated as identical. To do work, energy is required, and is absorbed in the process by being converted into some other form or forms. The other forms, either one or more of them, are in many cases some irreclaimable form or forms, which can never again be utilized. This is so often the case that the available energy of the universe is undoubtedly tending to zero. This zero will be attained when all objects have the same temperature.

A body placed at a height above a plane possesses what is termed potential energy, referred to the plane. Its advantageous position indicates a power of doing work. Another example of potential energy would be a strained spring, possessing the energy of stress.

A body in motion, by virtue of its inertia or resistance to reduction of velocity, can do work, and is said to possess kinetic energy. A body at rest in a certain sense may be said to possess the same with reference to moving bodies, because all rest and motion are relative.

An example of the transformation of energy can be taken from the above. A one-pound weight raised one hundred feet has expended upon it one hundred foot-pounds of energy, and possesses that amount of potential energy. If now it is allowed to fall through the same distance, it parts with its potential and assumes kinetic energy. When it has fallen one hundred feet, if in a vacuum, it will at the one-hundred foot mark possess none of its original potential energy, but in its place will have one hundred foot-pounds of kinetic energy. As it strikes the ground and comes to rest, this energy will change into heat energy and other forms, but it will remain the same in amount—one hundred foot-pounds.

MASS is the quantity of any portion of matter. Owing to centrifugal force a body weighs less at the equator than at the North Pole; upon the surface of the moon it would weigh far less. Yet its mass would be the same although its weight might vary. Were transportation cheap enough, and were the other conditions favorable, a merchant could make money by selling by weight, in northern or southern latitudes, goods which he had purchased by weight in equatorial latitudes, provided he weighed with a spring-balance. He would buy and sell the same weight, but would buy a greater mass than he sold.

WEIGHT is mass acted on by gravity. As gravity varies, weight will vary, even though the mass remains the same: all which has been just illustrated.

In electricity we have force and energy. Heat energy in driving an engine that drives a dynamo becomes ultimately converted into electric energy. An electric machine or a battery on open circuit maintains its terminals at a varying potential, or in such state as to exercise electromotive force. This force, producing a current through a resistance, does work. As for electric mass and weight, as yet they are not recognizable, and probably do not exist.

MYTHOLOGY.

LUNA, (*the moon*) was the daughter of Hyperion and Terra, and was the same, according to some mythologists, as Diana. She was worshipped by the ancient inhabitants of the earth with many superstitious forms and ceremonies. It was supposed that magicians and enchanters, particularly those of Thessaly, had an uncontrolable power over the moon, and that they could draw her down from heaven at pleasure by the mere force of their incantations. Her eclipses, according to their opinion, proceeded from thence; and on that account it was usual to beat drums and cymbals to ease her labors, and to render the power of magic less effectual. The Arcadians believed that they were older than the moon.——A maritime town of Etruria, famous for the white marble which it produced, and called also *Lunensis portus*. It contained a fine capacious harbour, and abounded in wine, cheese, etc. The inhabitants were naturally given to augury, and the observation of uncommon phænomena.

RURAL NOTES.

WHEREVER fences are used to inclose fields, some practical method must be devised for the passage of persons from one field to another.

Where gates either hung on hinges or sliding, are used, there is a liability that they may be left open by some forgetful or careless person. Turn stiles are objectionable for several reasons. Any opening for passage through the fence is liable to attract the attention of animals to such an extent that when a breakage is made in the line it will in most cases be near such passages.

The methods here shown may be used for fences formed of either boarding, rails, pickets or barbed wire.

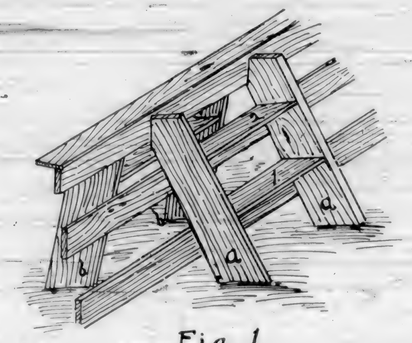


Fig. 1.

Fig. **1,** shows the common step-ladder, having side pieces a–a and b–b, and steps 1–2—or more on one side—with corresponding steps on the opposite side. For permanency the steps should be let into the sides before nailing together.

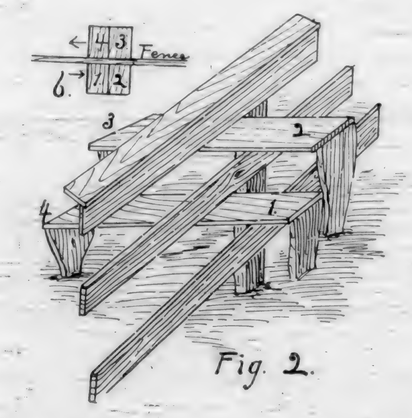


Fig. 2.

Fig. **2,** shows an arrangement that is quite common in some sections. The steps extend to equal distance on each side of the fence, 1–2 or more steps up at one side and the same down at the other side—at b, is shown the line of fence and steps. The ends of the steps are supported in various ways, the cheapest being a board sharpened at the lower end and driven into the ground.

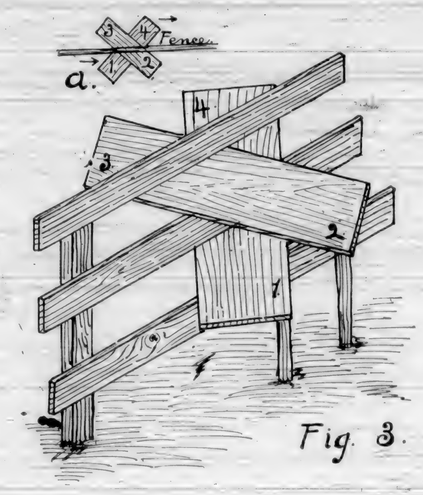


Fig. 3.

Fig. **3,** shows another arrangement where the steps are set at an angle as shown at—a. The ends of steps being supported by stakes same as in Fig 2. In this case as in the others the number of steps can be regulated according to the height.

In Fig **1,** the person passes up on one side at right angles to the line of fence and then down at the other side. In Fig. 2, the person passes up in the direction of the arrow, shown at b—turning about at top and decending as shown by the arrow at the opposite side of the fence. In Fig. 3, the person passes up in the direction of the arrow at a, stepping over and decending at the other side in the same direction.

There is an objection to all these methods as described, for the reason that animals confined within an inclosure usually pass along the fence lines and any projecting parts, such as steps, etc., may be wrecked or the animals injured by these projections.

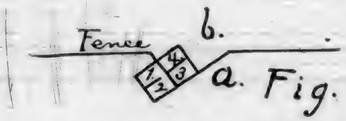


Fig. 4.

This defect may be reduced to a minimum by the arrangement shown in Fig. 4, where the fence is formed with a recessed angle at b, so that the steps shall not project beyond the general line of fence. The protected portion being placed at the side most liable to injury

BRICK AS A BUILDING MATERIAL AND THE TRUE ART OF LAYING THEM.

By J. W. Crary, Sr.

BRICKLAYING is a peculiar art. The *trowel*, is one of the very oldest of mechanical tools, and is by all odds, the most difficult to handle with perfect expertness. Not one bricklayer in six can use a trowel with perfect skill. In order to be a first-class bricklayer, the use of the trowel must be commenced in boyhood. The boy must have a natural mechanical talent, and a particular liking for the trowel, so that to handle and play in mortar with a trowel, as a matter of diversion, as well as art, is a choice pleasure.

There is a peculiar dexterity in taking mortar up from the mortar-board, and then spreading it skillfully on the wall, so as to make a perfect, regular "bed" for the brick. To do this cleanly and nice, without wasting mortar, is a rare art. The mortar should be so spread that the brick, when down to the "*line*," will have a perfect, even bearing, without "*flushing*" much mortar out, back, or front. Mortar should not be spread for more than six to seven brick at a time, then the brick should be wet and laid with a peculiar *shake* and pressure of the left hand, so that they will come down very near the *line*, and only a tap of the trowel is needed to adjust them right to the line after they are laid. I need not say, that brick should be laid plumb and level, though some good front workmen will "*hack*" the joints a little above the first story front, that is, to incline the front of the brick a little over, so that presents more "*face*" when seen from it below. Some contend that a front brick should be laid a little out at the bottom where the wall is seen below the eye, and a little out at top, when viewed above the eye. The old technical name for these differences is "*liping*" and "*hacking*": the top of the brick is cut over, and the bottom under, which give the joint a lip-like appearance. The object is to prevent the show of defects in perpendicular lines, under different views of light and shade. It is a matter of no great importance; it is simply a small draft and principle in favor of beauty, for no scientific builder will say that a brick is laid wrong when its front is plumb, and its bed joint level. The objection to a "lip" joint is that it catches rain, dirt and dust. The smoother the front of a wall, the longer it will retain its freshness and beauty.

There are five other tools than the trowel, that belong to the brick layer, viz., the "Scutch," the "Hammer," the "Chisel," the "Plumb" and the "Level." These, with the trowel, constitute the bricklayer's "kit" of tools, and, although few and simple, the man that has mastered a perfect knowledge and use of them is a first class mechanic.

TO GET AND START A GOOD FOUNDATION FOR A WALL.

If it were not for the fact, that brick, when properly laid form the strongest wall known to builders, the careless, and generally ignorant attention given to foundations, would cause most all walls to crack vertically. Foundations are the main essential in building, and if the principle art is not well understood and strictly applied in all cases, the whole superstructure is impeffect and unreliable. I have seen large and costly buildings made comparatively worthless by negligence or ignorance in preparing the foundation. When walls crack or settle, it is necessary for the architect or engineer to invent an excuse, and the fault will often be laid on the brick, or bricklayer. I could name some prominent public buildings in different places of the country, where this was the case.

There are four general kinds of surfaces to build on, viz., sand or gravel, clay, stone and mud or alluvial soil, such as found in New Orleans. In building on sandy land, if it be level, the trenches for foundation should be deep enough to be below the frost, and all loose, unpacked earth or vegetable matter; then, before brick are laid, the foundation should be thoroughly rammed, so that all inequalities in the looseness of the sand will be equalized; then, the surface being leveled, the best hard brick should be laid and first course well settled. It should never be forgotten by the bricklayer that it is the first bottom course of brick that he must depend on for a good foundation, and that one good heavy stroke in setting the brick as he lays them in the first course, is of more importance than all the nice care he can take in his wall above the bottom course. If the surface of the ground is unlevel or a hillside then the trenches for foundations should be dug out the same depth from the inclined surface. This leaves *steps* or offsets at the bottom at proper intervals, according to the incline plane of the surface. It is not infrequently the case where buildings are put up on a hillside to see one part of the foundation started near the surface and other parts at considerable depth below. This shows a want of ability or honesty in the builder or architect. Still a great deal of this kind of botchery is done everywhere, by common builders.

What I have said of sandy foundations will apply to clay, and to rock, where the entire surface is rock, but if one part be rock and other parts be of other kinds of material, then, after proper excavation, a heavy body of concrete well rammed, or else piling, if in a wet place, is necessary in order to equalize resistance to pressure. It does not follow that the foundation anywhere shall be solid as the rocky part of it, but it must be known that the weakest part of the foundation will much more than resist any pressure that the superstructure or needed weight would amount to. Any skillful builder can make this test. It is simply to find what a given surface of the foundation will resist and how much would ever be put on it.

HOW TO BUILD A FOUNDATION OF ALLUVIAL SOIL OR MUD.

New Orleans is the principal place in the United States where buildings must be on soft alluvial soil, and as it is not generally known how foundations are laid there, and as I have had much personal experience in doing brick work there, I will give a short description of such work. A trench is made of suitable width and deep enough to find water, then plank is put down lengthwise, with foundation, then crosswise, making two courses of plank, the water will cover the plank. Brick work, with cement mortar, is then started on the plank and the work proceeds to completion. As the building progresses, and for two or three years after it is done, it settles until it comes to a bearing equal to the resistance of the mud and soil surrounding the plank foundation. The City Hall of New Orleans had settled, up to 1856, about sixteen inches. I saw that the use of plank as a foundation was a mistake, and instead I used concrete made of brick-bats, stone and coarse sand and cement, which was rammed down thoroughly, then starting the brick work with a broad base, at least three times the thickness of the wall proper, all settling of the walls was permanently prevented. The object in ramming a foundation is to adjust all inequalities. Some places will be soft, loose and spongy. All should be rammed until it ceases to settle.

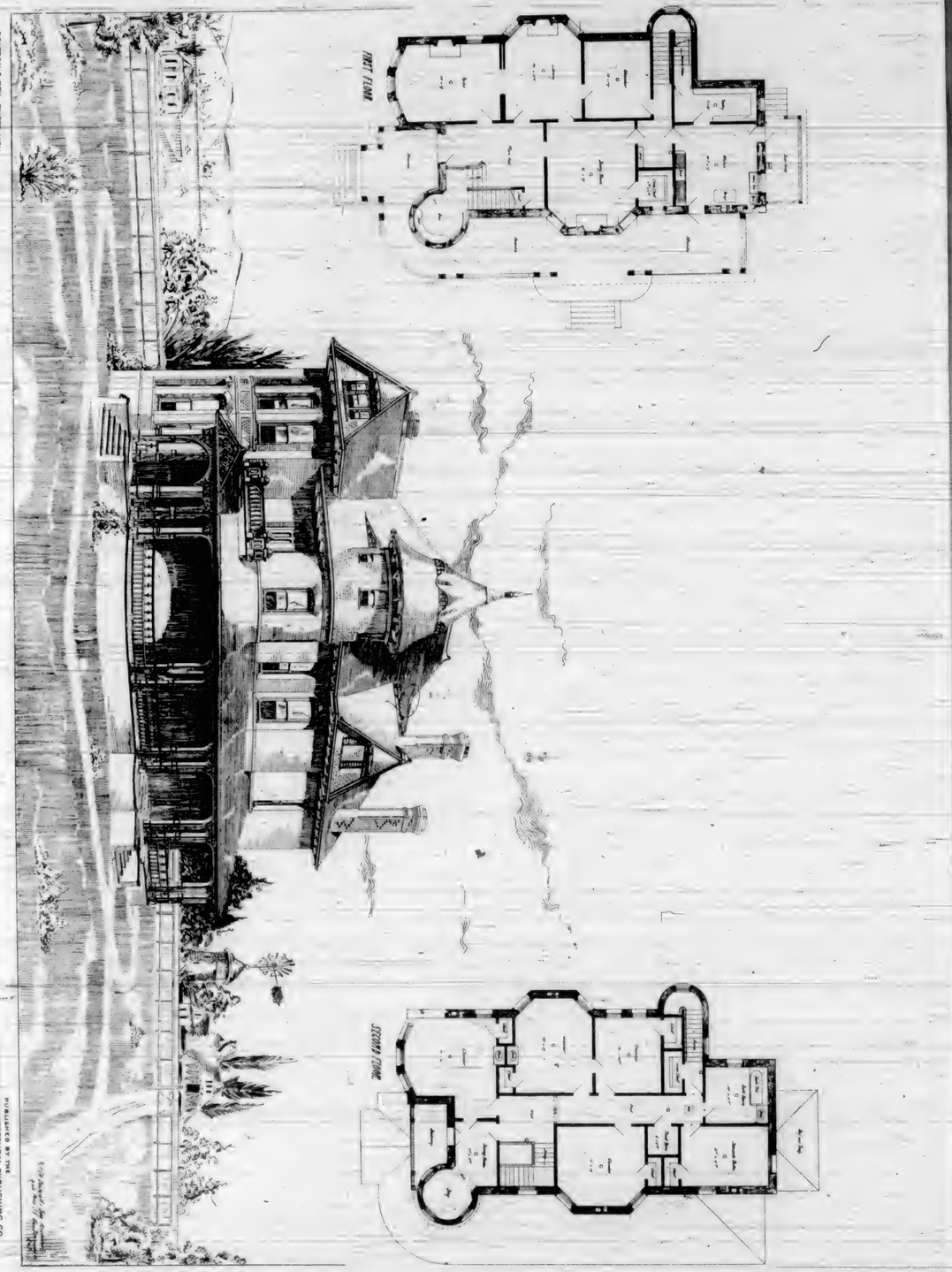
In my preceding article on this subject I have treated mainly on the importance of good brick, good mortar, good foundations and good skill in building walls. I will now try to give some good hints about the best way to build brick walls strong, serviceable and economical.

There is seldom an account of a great fire, that does not show fatal accidents from the falling of brick walls, and the injury and displacement of such as do not fall, so as to leave them useless. In most cases, this is the result of faulty planning by the architect, and bad workmanship, though the bricklayer is not in fact responsible, as he is, at least, supposed to be, under the orders of the architect.

PARTY WALLS OR DIVISION WALLS THE MOST IMPORTANT.

If a wall dividing a pair of buildings, or dividing buildings in a row, or dividing two distinct properties be built on true principles, and with proper care and skill, in nine cases out of ten it will stand firm, and in good condition to be used as at first. In all cities the law requires that party walls shall be built a certain thickness, according to the height of the building the length of the wall or its fire-proof character, is not considered, and the consequence is, when a hot fire burns out—on one side of such wall, that side must expand and curve and crack, and if there be nothing to support it on the opposite side, the vertical curve will cause the wall to over-hang, so that it will lose its balance and fall.

Now if a party wall be built on a good foundation, and on true principles, the outside four inches of the wall on both sides, will be set off from the inside, three-quarters of an



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SECOND FLOOR

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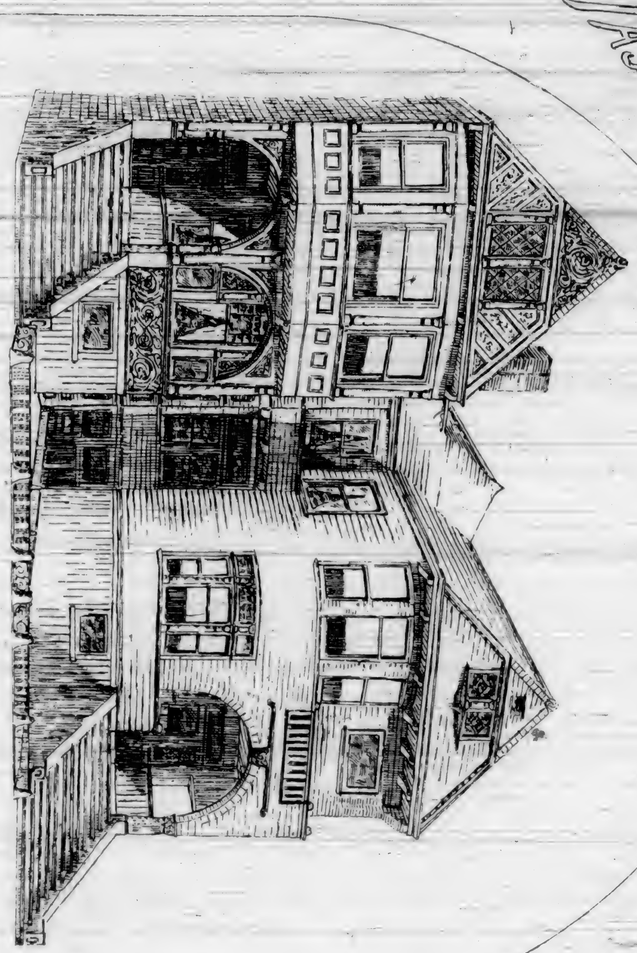

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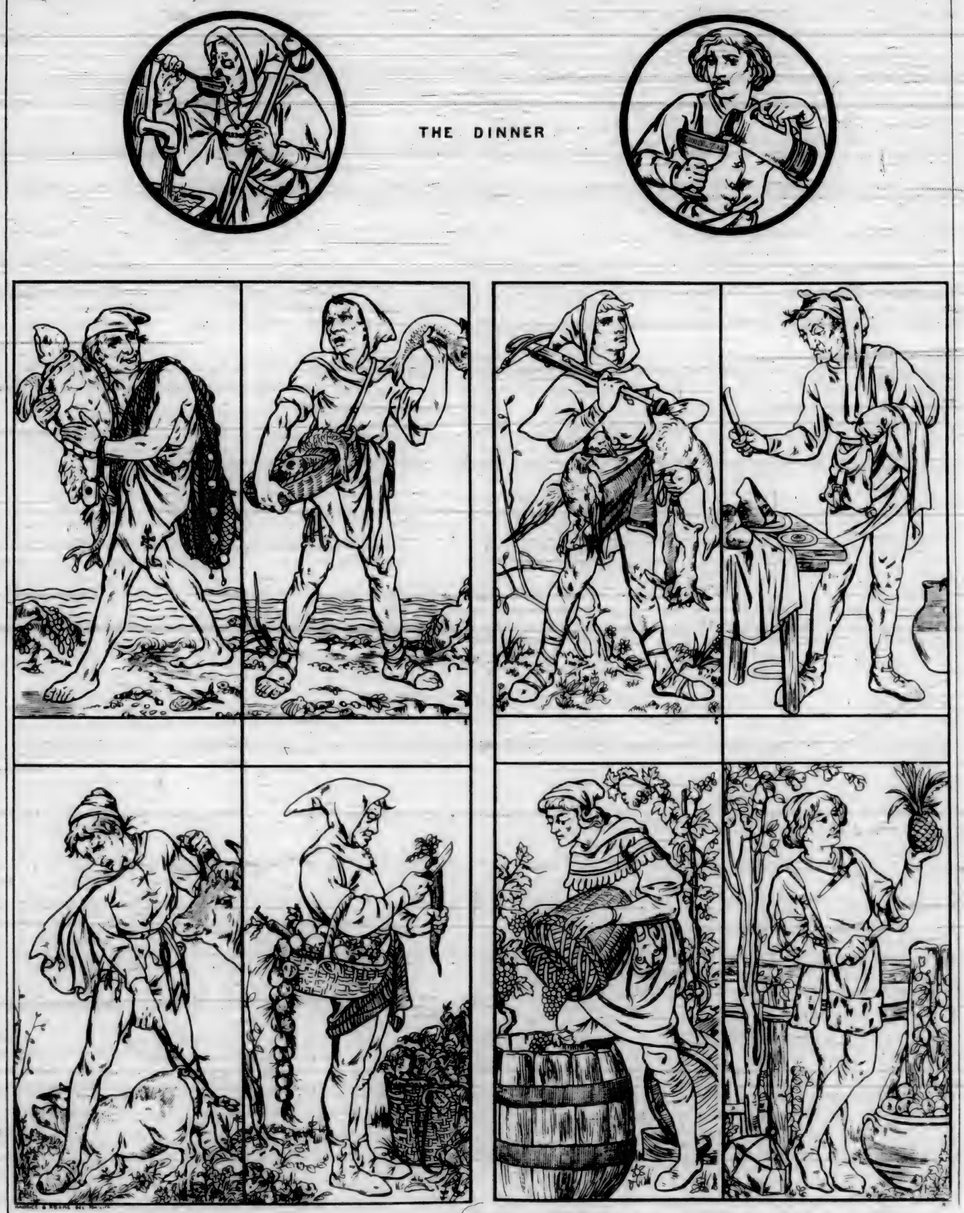
THE CALIFORNIA ARCHITECT AND BUILDING NEWS.



PAINTED GLASS DECORATIONS THE DINING ROOM MILNER FIELD YORKSHIRE
THE RESIDENCE OF TITUS SALT ESQ^RE
THOMAS HARRIS ARCHITECT

BRITTON & REY, PHOTO. LITH.

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THE OTIS BUILDING S.F.

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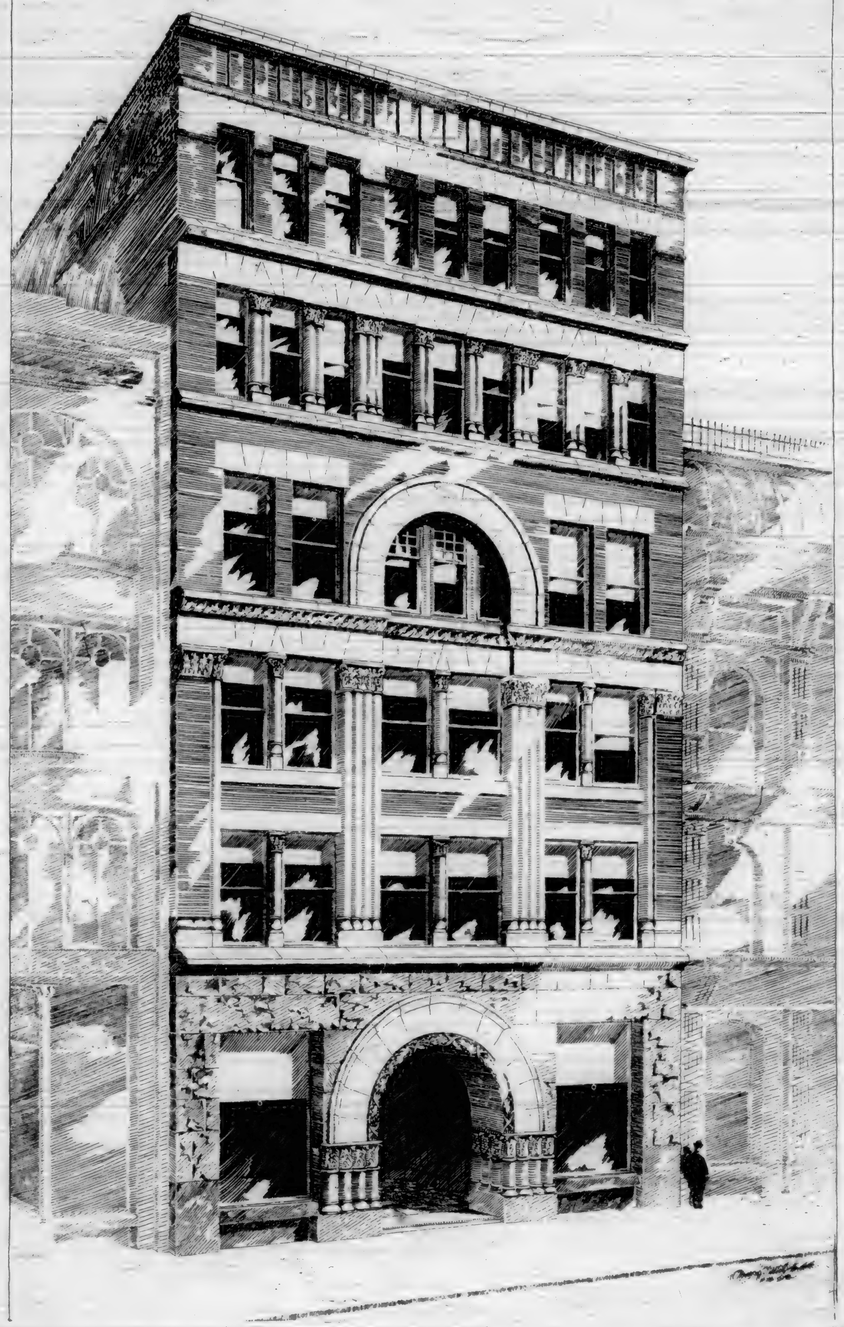
412 SANSOME STREET, SAN FRANCISCO.



BRITTON & REY, PHOTO. LITH.

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inch, so as to leave an air space from bottom to top of the wall, which will act as a non-conductor of heat, and thus prevent to a great, and sufficient extent, the expansion of the wall, so as to seriously injure it. All party walls should be *braced* by *pilasters*, or projections, of at least four inches, not over fifteen feet apart. The face of the pilaster should be equal to the thickness of the wall, and then it should be solid and unbroken from bottom to top of the wall.

STRENGTH IS MAINTAINED AND TWENTY PER CENT. ECONOMY.

By pilasters in a party wall the thickness may safely be reduced. If we are required to build a party wall, say 18 inches thick, we can reduce it to 13 inches, by carrying up on each side a 4-inch pilaster, 12 inches on the face. These pilasters give the wall more lateral strength, than if it were 18 inches thick, and saves at least twenty per cent. of material.

If it be said that pilasters are in the way, I answer that the space gained between them more than compensates for the room they take, and, further, that they are both ornamental and useful in many ways.

BUILDING WOODEN STRIPS IN WALLS FATAL.

It has long been the habit of architects and builders to lay wooden strips in walls, so that "*furring*" for lath could be fastened. At best, "*furring*" and lathing a brick wall is a violation of true art in building, and is entirely unnecessary, as I will show, but, if it has to be done, the plan of cutting out mortar joints and *wedging* is best. A wooden strip laid in place of a joint of mortar is *botchery*. 1st. It is liable to decay and shrink, or swell and get loose, and, of course, weakens the lateral strength of the wall. 2d. If a fire burns out the building, the lath or strip in the joints of the wall, will burn out, and the wall is weakened so that it will easily sway and fall. This is one of the main causes of the falling of walls, during and after a fire.

HOLLOW WALLS ARE DRY AND NEED NO "FURRING."

Any brick wall can be built with an aperture of three-quarters of an inch between courses of brick, without impairing the strength of it. If a thirteen inch thich wall be built with the inside course of brick set three-quarters of an inch from the outer part of the wall, the "bond headers" will have all necessary bearing on the inside of the "front header." If only one brick, or, what is termed a nine-inch wall is to be built, the inside stretches can be set three-quarters of an inch from outside "stretchers," or, what is better, for dwelling houses, the inside course of brick can be set on edge, and three courses high will be equal to five courses on the "*flat*," which makes every sixth course a "header" or "bond course." This plan gives ample air space to prevent heat, cold, or dampness, coming in from the outside and the wall is just as strong as if it were solid. In building nine-inch walls for houses, the "jambs" of the doors and windows should be a brick and a half or 13 inches thich, and if doors and windows are placed so as to admit of it, the "jambs" should be started as "pilasters" and carried up from bottom to top of the walls; this gives great additional lateral strength to the walls, takes but a trifle more work, and material, and gives ornateness to the finish of the rooms. A three-story dwelling can be safely built in this way, with a saving of 16 per cent. of brick and mortar.

OBJECTIONS TO "FURRING" AND "LATHING."

First, the cost; *second*, liability to decay; *third*, it makes a harbor for rats, mice and bugs; *fourth*, it takes up room; *fifth*, it impairs the strength of the wall, for the reason that it is not plastered, which when done, on the brick, gives strength and permanency to the building.

CONSTRUCTION OF SMOKE FLUES.

One of the greatest evils in brick work, is the careless, imperfect building of smoke flues. There should be no sharp angles or turns in a smoke flue. It should be uniformly and smoothly "*pargeted*," and no offsets should be left where mortar can lodge and *choke* the flue, and all smoke flues should be at least six inches from any wood work.

Now that terra cotta is cheap and easy to get, it should be used for smoke flues, whenever and wherever practicable.

SETTING JOISTS AND SIMILAR BEARINGS ON A WALL.

It is a common error to "set and anchor" joists in a wall, so that when a building happens to burn, the hoists fall, and pull a part or all of the walls down. Joists should be so set and fastened to the wall that if they burn out and fall, no damage is done to the brick work. There are so many simple ways of doing this that will suggest themselves to the builder. In fact, there is very little added to the strength of brick work, by fastening wood work to it. If brick work be well done, on true principles, it needs no bracing up with anything, and nothing should be fastened to a brick wall that would endanger it in case of fire, or overloading the floors.

I have finished this series of articles, and trust that I have given some hints and facts that will benefit those interested. My sole object in writing these articles, was to help and encourage economical, good brick building. I do not claim to know all that can be known about brick, though I have been *in brick* over sixty years, the field for thought widens, and I am yet a student. A perfect brickmaker would be a sight indeed.—*Clay Worker.*

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 BLOCK.

The business block illustrated is in course of erection on Sansome near Pine street, in this city. Messrs. Smith & Freeman, architects.

RESIDENCE AT ROSS STATION.

The design for the residence at Ross Station and in course of erection, is by Mr. M. G. Bugbee, Architect.

RESIDENCE AT BAKERSFIELD.

The residence with plans was designed for Mr. H. C. Pacts to be built at Bakersfield, California. The building is of brick with the exception of the verandas and cornices which are of wood. The location has been carefully considered in the arrangement of the plan and method of construction. Bakersfield being within the warm section of the southern part of the state, the brick walls are built hollow so as to allow a free passage of air. The projecting cornices, and wide verandas with thorough ventilation contribute to the comfort of the inmates. The general arrangement is shown on the plans. B. McDougall & Son are the architects.

THE DINNER.

The "Dinner" is designed to be executed in stained glass, and speaks fully its own story—We are indebted to the London *Building News* for this illustration.

Electricity Simplified.

By T. O'CONOR SLOANE, E. M., Ph. D. Published by NORMAN W. HENLEY & Co., New York, and for sale by OSBORN & ALEXANDER, 401 Market St., San Francisco. Price $1.00. In another column we reprint the first chapter. The work is very practical, and is so fully illustrated that any person wishing to become informed on the subject should obtain a copy of the book.

The Clay Worker

Is a monthly journal devoted to BRICK, TILE, and TERRA-COTTA interests. T. A. RANDALL & Co., publishers, Indianapolis, Ind.

On another page will be found an article from the *Clay Worker* on "Brick as a Building Material," etc., by J. W. CRARY, SR. Mr. Crary is the author of a valuable work on Brick and Tile Making, called "Sixty Years of Brick Making and Burning," and published by the same publishers.

Theory and Practice in the Designing of Modern Framed Structures

The title of a new work on timber and metallic structures, written by PROF. J. B. JOHNSON, MR. C. W. BRYAN and F. E. TURNEAURE, is now in press, and will soon be issued by JOHN WILEY & SONS, Publishers, New York.

Practical Centring.

By OWEN B. MAGINNIS. Illustrated—Published by W. T. COMSTOCK, New York. This is a new work treating of the PRACTICE OF CENTRING ARCHES in building construction as carried on in the United States at the present time, also giving other useful information of value to the trade.

The work embraces each subject in detail and in language that practical men can understand, and is especially commended to students attending trade, technical and architectural schools.

The Architect's and Builder's Pocket Book.

By FRANK EUGENE KIDDER, C.E. Pp. 900. 500 illustrations. New York, 1892, published by JOHN WILEY & SONS. Full leather, gilt Price $4.

The original aim of the author was to produce a reference pocket book which should be to the architect and builder what Trautwine is to the engineer or Haswell to the mechanic. The author has succeeded admirably, and it would be a difficult matter to find as much useful information in the same compass. The work has been rearranged and many of the chapters rewritten and one hundred pages of new matter has been added. The work treats of mensuration, geometry, trigonometry, the strength and stability of foundations, walls, buttresses, arches, beams, floors, roofs, etc... The present or ninth edition will doubtless be well received by the profession, owing to the great development of the use of steel and concrete in building construction. Great attention is given to the strength of steel and the methods of using it. A glossary of technical terms, ancient and modern, adds greatly to the usefulness of the work. The arrangement of the book is admirable and the great number of illustrations serve to make the book an indispensable companion for the architect. The book is to be had from MESSRS. OSBORN & ALEXANDER, 401 Market St., San Francisco.

Lippincott's

For February, comes with its usual variety of finished stories. The principal one is *Roy the Royalist*, by William Westall.

COMMERCIAL LAW.

I—The Law and the People.

Blackstone, in his commentaries on law, which comprise to-day, as they did a century ago, the basic principles of all law, says that every man should be versed to a greater or less degree in the law of the land in which he lives. The reason for this is obvious. No man can transact business without constantly engaging himself in operations which are governed and controlled by law. It is neither necessary nor expedient that every man, or any man, should be "his own lawyer," for there is a great deal of truth in the old "saw" that he who acts as his own lawyer is very apt to have a fool for a client. It is not a wise man who acts as his own physician when illness overtakes him, but it is an extremely foolish man who does not possess himself of sufficient information regarding physiology and hygine to protect himself from such ailments and diseases as may be prevented and avoided by a proper degree of care. When prevention has failed and disease comes, a wise man relies upon the physician.

And so it is with the law. A wise man who is constantly engaged in the buying and selling of goods should have a fund of general information concerning those principles which underlie all contracts of purchase and sale. A man who is to a considerable extent engaged in the giving and taking of notes, should understand at least the fundamental principles of the law of bills and notes. The employer of labor should know what his rights and responsibilities are. And so through the various relations of life, there are fundamental legal principles applicable alike to all of their class, which should be known of all men who are interested in them. His knowledge of these things should be for his own protection. When litigation does come, the lawyer should always be called in.

That this is becoming more and more recognized is evidenced by the fact that the technical press, which is always alert to the needs of its constituents, has within the past year or two, to a very considerable extent, incorporated among its departments the reports of legal decisions of interest to its readers. This had been followed from time to time, by the publication of articles elaborating special points of interest, until the business man, if he be a subscriber of a progressive paper of his trade or profession, has an opportunity of gathering together a fund of practical information concerning the law of his business.

It is probable that a more general understanding of the history of law itself, and the methods by which it is arrived at and applied, would not only render this information of more value but would enable a much more intelligent use of it by a law reader. It is therefore proposed in a series of two or three articles to give a brief *resume* of the growth of law and the methods employed by the courts in applying it.

There is probably no nation in which the mass of the people are as interested in law and its administration as are the people of the United States. This is due, in a measure, to the fact that we are closer to the government than any other people—for here the people are the government. The people also participate to a larger degree than in any other country in the administration of the law—from the mass of the people is drawn the jury whose determination of the facts, if properly made, is final and subject to no appeal. The courts are opened with more freedom to spectators and every facility is offered for familiarity of the people with the law and its administration. Why then should not the people possess themselves of a wider information of the law which governs them, which controls their acts and their commercial transactions, which they are expected to follow and obey; which they judicially determine to have contracted with reference to, whether they are informed upon it or not, and which they are called upon from time to time to aid in administering. The purpose of this article and similar matter which is published from time to time is not to inform its readers upon those technical lines along which the lawyer must work, but rather to place within reach of the people information upon those branches of the law which they and not lawyers have to deal.

(Copyrighted, Law News Bureau, 1892.)

NOTICE OF MEETINGS.

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

GEO. H. SANDERS, Pres. — OLIVER EVERETT, Vice-Pres.
H. T. BESTOR, Sec. — JOHN M. CURTIS, Tres.

TECHNICAL SOCIETY OF THE PACIFIC COAST, meets first Friday of each month at Academy of Sciences Building.

JOHN RICHARDS, Pres. — L. WAGONER, Vice-Pres.
OTTO VON GELDERN, Sec. — GEO. F. SCHILD, Treas.

CALIFORNIA ELECTRICAL SOCIETY, meets the first and third Monday evening of each month at the Academy of Sciences Building.

GEO. P. LOW, Pres. — C. O. POOLE, Vice-Pres.
W. I. CROSETT, Sec. — O. BROOKS, Treas.

MASTERS PAINTERS' ASSOCIATION OF THE PACIFIC COAST.

E. M. GALLAGHER, Pres. — H. G. JARMAN, Sec.

THE annual meeting of the California Electrical Society was held at the rooms of the society, at the Academy of Sciences Building, 819 Market St., for the purpose of electing the officers for the year 1892.

The following officers were elected:—

President, Geo. P. Low; Vice-President, C. O. Poole; Secretary, W. I. Crossett; Treasurer, Orion Brooks. Executive Committee—E. A. Roe, C. T. Ryland, Jr., and R. B. Elder.

LEGAL DECISIONS.

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

CONTRACT AGAINST LIENS.—A building contract in Pennsylvania provided that the owner should not "in any manner" be answerable for any of the materials used in finishing and completing the building, and that there should not be any lawful claims against the contractor in any manner, from any source whatever, for work or materials furnished on said building. The contract provided against the filing of mechanics' liens, and was binding on subcontractors.

Dersheimer v. Maloney, Supreme Court of Pennsylvania, 22 At. Rep. 813, (64C).

MECHANIC'S LIEN ON PARTNERSHIP PROPERTY.—A partnership composed of three persons, erected a building upon a lot owned by two of the partners. The partners, holding the legal title of the lot, contracted in the name of the firm for material used in the construction of the building. In an action by the material-man to foreclose his lien, it was held that the lien attached to the lot and building thereon. A mechanic's lien under the Nebraska law, is not lost or waived by the taking of the note of the debtor for the balance due on their account, not in such case by giving to the latter a receipt as in full for the demand. The acceptance by a material-man of a note and chattel mortgage as collateral security for materials previously furnished for the erection of a building under a contract with the owner is not a waiver of the lien, unless such was the intention of the parties.

Hooglund v. Lusk, Supreme Court of Nebraska, 50 N. W. Rep. 162, (147).

BREACH OF PARTY-WALL CONTRACT.—The owner of a lot erected a building, under a verbal agreement with the owner of a lot adjoining that the wall on that side should be built partly upon both lots, and that when he should use it he should pay his proportionate share of the cost. Afterwards he sold to one who knew that the wall was partly over on his lot, but who refused to assume the obligation of the contract. Having made compliance with the contract impossible, the seller was liable for the damage thereby sustained by the other owner.

Nalle v. Pagi, Supreme Court of Texas, 17 S. W. Rep. 371, (94C).

ACCEPTANCE OF CONTRACTOR'S ORDER BY OWNER.—Where the owner of a building has accepted an order drawn by the contractor on him in favor of one to whom the contractor was indebted, he cannot thereafter refuse to pay it upon the ground that a defect has developed in the roof for which the contractor is liable, unless he can show that the unpaid balance remaining in the hands is not sufficient to repair the defect, as the payee of the order is, at all events, entitled to the remaining balance after the repair is made.

Layton v. Davidson, Supreme Court of Pennsylvania, 22 At. Rep. 909, (82C).

RULE OF ASSUMPTION BY RISK BY EMPLOYE.—The rule of law with reference to the assumption by an employe of the risks incident to his occupation is, that he assumes such risks arising out of an unsafe place in which to work, or unsafe appliances with which to perform his labor, as are manifest to the senses, or may be ascertained by the prudent use of them.

Quick v. Minnesota Iron Co., Supreme Court of Minnesota, 50 N. W. Rep. 244, (55C).

LEGAL STATUS OF PARTY WALL CONTRACT.—An agreement between adjoining owners in relation to a party-wall erected on the division lines of their lots is binding on the parties, and those who purchase subject to such agreement, and creates an equitable charge upon the lots.

Stehr v. Roben, Supreme Court of Nebraska, 50 N. W. Rep. 327, (48C).

INFRINGEMENT OF PATENT BY CONTRACTOR.—Where one has contracted to erect a building, lets a portion of the work to a subcontractor, and in the prosecution of their respective parts each infringes patent-rights of another, both are liable as joint infringers. Letters patent No. 263,412, granted August 29, 1882, to Peter H. Jackson, for "improvements in the method of illuminating basements;" No. 269,863, granted January 2, 1883, to the same, for "iron and illuminating stairs;" No. 302,338, granted July 22, 1884, to the same, for "improvements in the construction of buildings."

Jackson v. Nagle, United States Circuit Court, California, 47 Fed. Rep. 703, (87C).

Some men are always trying to begin at the top, unmindful of the fact that it is all folly to shingle the house till after the cellar is dug and the foundation laid.—*Ex.*

BUSINESS MOSAICS.

Line Drawings made in pen and ink suitable for reproduction by any of the processes in use, can be ordered through this Journal. Architects and Engineers are oftentimes too busy or too isolated to obtain the time or talent for the ornamental drawings. These drawings can be made from the plain drawings, and we will cheerfully furnish information regarding such work.

The Folding Iron Gate is far superior to the old style of iron gate. When closed they are similar in appearance, but when open they occupy about one-eighth of the space that the ordinary iron gates do. The gate is riveted together in such a way that when opened the main perpendicular bars close side by side, while the joinings or bands between the bars fold up.

Architects, builders or owners about to erect new buildings, when anything in the shape of a Guard for windows, doors, etc., is required, would be wise to call on the company at 129 New Montgomery street, and inspect models.

Public Buildings are not complete unless some system of heating is provided for. Geo. H. Tay & Co., 614 to 618 Battery street, San Francisco, furnish a heating apparatus which has always given perfect satisfaction to the parties who purchased them. He guarantees perfect heating, as well as unequaled economy of fuel.

The Hill Sliding Blind is one of those articles which every architect and owner should inspect. It has many advantages over the folding blind. It is entirely inside of the window casing, thus avoiding the tearing of curtains, etc. The sunlight can be excluded from any part of the window, and at the same time all the light necessary can be admitted into the room. If desired they can be easily removed from the window and put back without any trouble. Mr. Edw. B. Hindes & Co., will be pleased to have you call and examine the blinds at the office, 411 Mission cor. Fremont St., San Francisco.

Persons requiring a fire-proof and smoke-proof lath will find that the "Telescope Sheet Iron Lath" will give perfect satisfaction. It is for sale by M. J. Donovan. See advertisement on page xvii.

A Complete porcelain kitchen sink, which for practical convenience and artistic design is shown on page viii. It is at once apparent that apparatus of this class is from the J. L. Mott Iron Works.

Patent Chimneys are a necessity where buildings are of wood frame-work, and more especially when built on yielding ground. In former years some of these chimneys have been found wanting in important particulars, and one of the chimneys that has withstood the test of time and use is that of Wm. E. Stevens, cor. Larkin and Market streets.

The Ives Co. patented hardware specialties are well known to be of a practical kind, and artistic. The Ives Sash Locks and Door Bolts give great security and are made to last.

P. H. Jackson & Co., 228 and 230 First street, have lately made some improvements in vault lights and artificial stone frames, sidewalks, etc.

For Architects' materials such as instruments, papers, etc., call upon or write to the old and well known firm of Edward Denny & Co., 418 Montgomery street.

The Byrkit-Hall Sheathing Lath is formed of narrow boards one inch thick, and from three to five inches wide, tongued and grooved together. Each board has on its face side dovetailed grooves to firmly hold and key the plastering. To prevent warping or other displacement, the back of the board is cut out behind each projection. The sheathing lath is put on the walls and portions to be plastered, and securely nailed to the studding or frame work, the plastering is spread over the surface the same as for other lath. This lath presents some especial advantages, the wall being made stronger than by common laths, and where great stiffness is desired the laths may be put on diagonally. Where nails are likely to be driven into the walls, or for a backing for blackboards the advantage of this form of lath is at once apparent.

To obtain the anticipated satisfaction by the use of gas stoves for heating and cooking, the persons having them in charge should make themselves familiar with the exactness in the regulation of the quantity of fuel and heat, together with their wide range and effectiveness when used intelligently, which will at once place them at the head of the list of articles that cannot be dispensed with.

No climate however balmy, no skies however bright, no circumstances however adventitious, can avail for man's benefit, unless he himself be sufficiently vigorous and intelligent to take advantage of them for his own purposes. This necessary vigor and intelligence can be gained only through continued effort and energetic action.—*Ex.*

When you are in need of a good house-smith call on A. J. Dunbar & Co., 220 Fremont St., San Francisco, and he will attend to your work promptly. He makes a specialty of fire-escapes and artistic iron-work.

The building season is approaching and people will be on the look-out for the best and most economical mantels to be had. They should call on the well known firm of W. W. Montague & Co., and inspect their goods.

They carry in stock all classes of mantels from the plain and substantial to the more artistic ones. They also have on hand ranges of all descriptions; plain, ornamental and art tiles; heating apparatus for warming dwellings, churches, halls, etc., and numerous other articles of use in that line.

Schenck's fire hose reel should be examined by architects and others interested in building, its efficiency being beyond question. Every building of any importance should be so planned and constructed with reference to placing the apparatus in the proper place for simple and practical use.

Weatherly, Jardine & Co., 132 Market street, are the agents for a number of building specialties. A BLOUNT door check and spring, for which this firm is agent, placed on our office door some two years ago is still in perfect order, and from present appearances is likely to remain so for some time to come.

TENDERS TO BE RECEIVED.

Sealed proposals will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M., on the 8th day of March, 1892, and opened immediately thereafter, for all the labor and materials required for the Interior Finish of the U. S. Court House and Post Office Building at Birmingham, Ala., including furring, lathing, plastering, iron stairs, marble work, joinery work, tower clock, etc., in accordance with the drawings and specification, copies of which may be had on application at this office, or the office of the Superintendent at Birmingham, Ala.

Each bid must be accompanied by a certified check for a sum not less than two per cent of the amount of the proposal.

The right is reserved to reject any or all bids and to waive any defect or informality in any bid. All proposals received after the time stated, will be returned to the bidder.

Proposals must be enclosed in envelopes, sealed and marked, "Proposal for the Interior Finish of the U. S. Court House and Post Office at Birmingham, Ala.," and addressed to,

W. J. EDBROOKE,
Supervising Architect.

February 5, 1892.

Sealed proposals will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 9th day of March, 1892, and opened immediately thereafter, for furnishing and erecting complete the hydraulic passenger elevator, including pump, tanks, piping, car, etc., required for the U. S. Post Office, Court House, etc., at Wichita, Kansas, in accordance with drawings and specification, copies of which may be had on application at this office, or the office of the Custodian at Wichita, Kansas.

Each proposal must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal.

The right is reserved to reject any or all bids and to waive any defect or informality in any bid. All proposals received after the time stated, will be returned to the bidder.

Proposals must be enclosed in envelopes, sealed and marked, "Proposal for a Hydraulic Passenger Elevator for the U. S. Post Office, Court House, etc., Building at Wichita, Kansas," and addressed to,

W. J. EDBROOKE,
Supervising Architect.

February 8, 1892.

CITY BUILDING NEWS.

Alabama near 25th. To build; owner, Mary Sullivan; architect, W. C. Dickerson; contractors, McLeod & McLean; cost, $3,057; signed, Feb. 2; filed, Feb. 3; payments, $750, frame up; $750, brown coated; $750, completed; $807, 35 days.

Block 28, Sunnyside. To build; owners, Installment Home Association; contractors, Home Building Co.; cost, $1,563; signed, Jan. 6; filed Jan. 9; payments, $400, frame up; $400, brown coat of motar on; $362, completed; $400, 35 days.

Block 44, Sunnyside. Brickwork of a smoke-stack; owners, S. S. Construction Co.; architect, Fred Wiler; contractor, D. J. Brennan; cost, $3,140; signed, Dec. 30; filed, Dec. 31; payments, 75 per cent. as work progresses; balance, 35 days.

Broadway near Taylor. To build; owner, Frank Nash; contractors, Doss & Morgan; cost, $1,750; signed, Jan. 22; filed, Jan. 23; payments, $500, frame up; $625, brown coated; $625, 30 days.

Butte and Mississippi. To build; owner, Thos. H. Roberts; contractor, R. O. Davis; cost, $2,709; signed, Jan. 28; filed, Jan. 29; payments, $900, frame up; $900, ready for brown mortar; $900, brown coated; $525, completed; $675, 35 days.

California near Sansome. Steel and iron work; owners, Mutual Life Ins. Co.; architect, Clinton Day; contractors, J. K. Firth & Co.; cost, $55,835; signed, Jan. 14; filed, Jan. 14; payments, $5,280, 1st floor beams, sidewalk beams and basement columns set; $5,040, 1st and 2d story tiers of beams and columns set; $4,128, 2d and 3rd story tiers of beams and columns set; $4,128, 3rd and 4th story tier of beams are set; $4,128, 4th story column and 5th story tier set; $4,128, 5th story columns and 6th tiers; $4,128, 6th story column and 7th tier; $4,704, 7th column and 8th tier; $6,212.25, completed; $15,958.75, 35 days.

Castro and 24th. Additions; owner Fannie S. Downing; contractor, A. Klahn; cost, $1,210; signed, Jan. 9; filed, Jan. 11; payments, full amount 35 days after completion.

Clara Ave. near 18th. Carpenter and mill work; owner, Fred Wagner; contractor, Geo. Reichley; cost, $2,050; signed, Jan. 2; filed, Jan. 6; payments, $500, frame up; $825, brown coat and porches up; $825, completed; $500, 35 days.

Clementina near 6th. To build; owner, A. Rothschild; architect, A. J. Barnett; contractor, W. H. Mead; bond, $2,000; cost, $6,800; signed, Jan. 5; filed, Jan. 15; payments, $1,275, frame up; $1,275, brown coated; $1,275, white coated; $1,275, completed; $1,700, 35 days.

Dupont near Lombard. To build; owner, Chas. Sahrbacher; contractor, A. Christensen; cost, $4,000; signed, Jan. 26; filed, Jan. 26; payments, $1,000, frame up; $1,000, brown coated; $1,000, completed; $1,000, 35 days.

Folsom near 15th. To build; owner, Henry R. Baldwin; contractor, James McConahey; cost, $2,000; signed, Feb. 1; filed, Feb. 1; payments, $500, framed; $500, brown mortar on; $500, completed; $500, 35 days.

Franklin near O'Farrell. To build; owner, S. Foorman; architect, M. J. Lyon; contractor, A. Jackson; bond, $3,000; cost, $12,850; signed, Jan. 20; filed, Jan. 25; payments, $2,000, frames up; $2,000, rough plumbing and sewers in; $3,000, white coated and window frames set; $2,677.50, completed; $3,212.50, 35 days.

Front and Union. Brickwork and plastering; owner, Henry Cowell; architects, Mooser & Cuthbertson; contractor, Ed. Fladung; bond, $1,700; cost, $6,400; signed, Nov. 16; filed, Jan. 9; payments, 75 per cent. as work progresses; balance, 35 days.

Geary and Leavenworth. Carpenter work, mill, etc., owner, J. A. Michalitschke; architects, John & Balczynski; contractor, S. H. Kent; cost, $30,904; signed, Jan. 22; filed, Jan. 23; payments, $3,000, third tier of joists are laid; $3,000, frame up; $5,000, ready for inside plaster; $6,000, white coated; $6,178, completed; $7,726, 35 days.

Geary and Leavenworth. Iron work; owners, J. and A. Michalitschke; architects, John & Balczynski; contractors, Bigelow & Little; cost, $8,094; signed, Jan. 22; filed, Jan. 23; payments, 75 per cent. as work progresses; balance 35 days.

Geary and Leavenworth. Lathing and plastering; owners, J. & A. Michalitschke; architects, John & Balczynski; contractor, A. O'Brien; cost, $5,674; signed, Jan. 22; filed, Jan. 23; payments, $1,700, brown coated; $2,000, white; $555.50, accepted, $1,418.50, 35 days.

Geary and Leavenworth. Painting and polishing; owners, J. & A. Michalitschke; architects, John & Balczynski; contractor, Fred Schaefer; cost, $1,970; signed, Jan. 22; filed, Jan. 23; payments, $400, first coat on outside and inside; $400, ready for graining; $677.50, completed; $492.50, 35 days.

Geary and Leavenworth. Plumbing; owners, J. & A. Michalitschke; architects, John & Balczynski; contractors, Duffey Bros.; cost, $6,250; signed, Feb. 2; filed, Feb. 4; payments, $2,250, rough plumbing done; $2,437.50, completed; $1,562.50, 35 days.

Geary and Polk. Concrete work; owner, Cora A. Wallace; architects, R. H. & R. White; contractors, Gray Bros., A. S. P. Co.; cost, $1,000; signed, Jan. 25; filed, Feb. 1; payments, $750, completed; $250, 35 days.

Gold near Sansome; To build; owner, L. H. Butcher; architect, T. J. Welsh; contractor, J. J. Dunn; bond, $1,700; cost, $6,906; signed, Jan. 6; filed, Jan. 7; payments, 1st and 15th day of each month 75 per cent. of value of work done; balance 35 days.

Green near Powell. Grading, brick and carpenter work; owner, Jos. Calegaris; architect, T. J. Welsh; contractor, J. W. Smith; bond, $1,487; cost, $3,945; signed, Jan. 29; filed Jan. 30; payments, $1,114.50; frame up; $1,114.50, brown coated; $1,114.50, white coated; $1,114.50, completed; $1,487. 35 days.

Grove and Baker. Mill work; owner, W. W. Ackerson; architects, Martens & Coffey; contractor, A. Kendall; cost, $3,050; signed, Jan. 15; filed, Jan. 21; payments, $570, contractors 2d payment is due; $570, when 3rd is due; $570, when 4th; $577, when 5th; $763, when 6th is due.

Grove and Baker. Painting; owners, Julius Arguello and wife; architects, Martens & Coffey; contractor, L. J. Dwyer; cost, $985; signed, Jan. 14; filed, Jan. 21; payments, $300, outside 2d coated and inside ready to grain; $324, completed; $345, 35 days.

Grove and Baker. Plumbing, gasfitting, sewers; owner, Julius Arguello; architects, Martens & Coffey; contractors, W. S. Snook & Son; bond, guaranteed; cost, $1,300; signed, Jan. 11; filed, Jan. 13; payments, $400, rough gas and water pipes are in, also sewers; $575, completed and accepted; $825, 35 days.

Harrison bet. 23d and 24th. To build; owner, E. H. Hardy; architect, Oliver Everett; contractor, R. B. Hicks; cost, $2,600; signed, Jan. 28; filed, Feb. 3; payments, $700, frame up and rustic on; $750, ready for plaster; $850, completed; $500, 35 days.

Hayes near Steiner. To build; owner, Mrs. A. C. Joice; architect, A. C. Lutgens; contractor, John Sath; bond, $2,000; cost, $3,838; signed, Feb. 3; filed, Feb. 4; payments, $700, frame up and roof shingled; $700, 1st coat of plaster on; $700, 2d coat of plaster on; $778.50, completed; $959.50, 35 days.

Locust near Washington. To build; owner, L. S. Boruck; contractor, W. W. Redmall; bond, $700; cost, $3,100; signed, Jan. 2; filed, Jan. 5; payments, $3,100, on completion of building.

Market, Post and Montgomery. Interior finish and window sashes; owners, Crocker Estate Co.; architect, A. Page Brown; contractors, L. & E. Emmanuel; cost, $94,490; signed, Oct. 17; filed, Jan. 20; payments, 1st day of each month 75 per cent. of work done; balance 35 days.

Market Street No. 928. Store fixtures and alterations; owners, Summerfield & Roman; architect, M. J. Lyon, contractor, J. S. W. Saunders; cost, $2,050; signed, Jan. 9; filed, Jan. 25; payments, 75 per cent. completed; $512.50, 35 days.

McAllister near Broderick. Plumbing and gasfitting; owners, Board of Education; architect, C. I. Havens; contractor, H. Williamson; cost, $1,784; signed, Jan. 12; filed, Jan. 16; payments, 1st day of each month 75 per cent. of work done; balance 35 days.

McAllister near Broderick. To build; owners, Board of Education; architect, C. I. Havens; contractor, H. Jacks; cost, $19,650; signed, Jan. 13; filed, Jan. 16; payments, 75 per cent. on 1st day of each month as work progresses; balance 35 days.

McAllister and Jones. Painting and polishing; owners, Hibernia S. & L. Society; architects, Pissis & Moore; contractor, M. J. Donovan; cost, $2,675; signed, Jan. 7; filed, Jan. 19; payments, 1st and 15th day of each month 75 per cent. of work done; balance 35 days.

McAllister and Jones. Marble floor of Rotunda; owners, Hibernia S. & L. Society; architects, Pissis & Moore; contractors, Chatain & Giletti; cost, $1,950; signed, Jan. 8; filed, Jan. 19; payments, 1st and 15th day of each month 75 per cent. of work done; 25 per cent. 35 days.

Mission Pier; No. 2. To build; owners, Jno. Rosenfeld's Sons; architect, Harbor Engineer; contractors, S. F. Bridge Co.; cost, $8,500; signed, Jan. 16; filed, Jan. 25; payments, 75 per cent. as work progresses; $26 per 1000 ft. b. m. for such additions and alterations as may be ordered.

Morton and Kearny. Alterations and repairs; owners, Geo. and Julius Raphael; architects, C. R. and J. M. Wilson; contractors, Field & Lack; cost, $2,683; signed, Jan. 20; filed, Jan. 23; payments, $1,000, columns are placed in position in 3rd story; $1,000, 2d story floors down, 2d and 1st story ceiling lathed and plastered; $683, 35 days.

Morton and Kearny. Store fixtures; owners, Raphael Bros.; architects, C. R. & J. M. Wilson; contractors, Field & Lack; cost, $1,350; signed, Jan. 30; filed, Jan. 30; payments, $900, completed and accepted; $350, 35 days.

Natoma and 7th. To build; owner, M. B. Levy; architect, Jno. Gash; contractor; W. R. Dunning; cost, $2,185; signed, Jan. 28; filed, Jan. 30; payments, $200, tinned; $100, brown coated; $100, white coated; $200, doors and windows hung; $1,050, completed; $335, 35 days.

Page near Webster. Carpenter work; owner, Hannah Kerns; architect, J. H. Littlefield; contractor, Adam Miller; bond, guaranteed; cost, $7,963.; signed, Jan. 15; filed, Jan. 21; payments, 75 per cent. of work done on 1st, 10th and 20th of each month; balance 35 days.

Page near Webster. Excavating and brickwork; owner, Hannah Kern; architect, J. H. Littlefield; contractor, D. T. Pierce; bond, guaranteed; cost, $975; signed, Jan. 15; filed, Jan. 22; payments, 1st and 15th day of each month 75 per cent. of work done; balance 35 days.

Page near Webster. Painting; owner, Hannah Kern; architect, J. H. Littlefield; contractor, J. M. Sindlinger; bond, guaranteed; cost, $840; signed, Jan. 15; filed, Jan. 21; payments, 1st, 10th and 20th of each month 75 per cent. of work done; balance 35 days.

Page near Webster. Plumbing and gas-fitting; owner, Hannah Kern; architect, J. H. Littlefield; contractors, Samuel Ickelheimer & Bro.; bond, guaranteed; cost, $1,040; signed, Jan. 15; filed, Jan. 21; payments, 1st and 15th day of each month 75 per cent. of work done; balance 35 days.

Pine near Sansome. Elevator; owner, Daniel Meyer; architects, Salfield & Kohlberg; contractors, Cahill & Hall; cost, $3,700; signed, Jan. 2; filed, Jan. 5; payments, $1,000, elevator set and well ready to receive cage; $1,700, completed; $1,000, 35 days.

Pine near Sansome. Hot water heating; owner, Daniel Meyer; architects Salfield & Kohlberg; contractor, Wm. Cronan; cost, $3,900; signed, Jan. 16; filed, Jan. 22; payments, 50 per cent, as work progresses; balance after acceptance.

Post near Octavio. To build; owner, Eugene Moffat; architect, Julius E. Krafft; contractor, W. W. Ackerson; cost, $9,200; signed, Feb. 1; filed, Feb. 2; payments, $1,700, roof shingled and chimneys built; $2,300, brown coated; $3,000, completed; $2,300, 35 days.

Potrero Gas Works. To bore wells; owners, S. F. Gas Light Co. and Union Iron Works; architect, Engineer of Gas Co.; contractors, Smith & Cook; bond, guaranteed; cost, $7 per foot; signed, Dec. 23; filed, Jan. 4; payments, $350, as every 100 feet of well is completed; $1.75, per foot on completion; $1.75, per foot, 35 days.

Powell St. Theater. Repairs; owner, E. A. Denicke; architects, Wood & Lovell; contractor, W. W. Ackerson; cost, $6,800; signed, Jan. 20; filed, Jan. 20; payments, 1st and 15th day of each month 75 per cent of work done; balance 35 days.

Sacramento near Powell. To build; owner, E. A. Denicke; architects, Kenitzer & Kollofrath; contractor, J. F. Logan; bond, $14,000; cost, $43,397; signed, Jan. 18; filed, Jan. 19; payments, $5,000, rear frames are up; $5,000, front up; $5,000, buildings enclosed and window frames set; $5,000, brown coated; $5,000, plastering completed; $5,000, ready to paint; $2,397, completed; $11,000, 35 days.

Sacramento near Powell. Painting and graining; owner, E. A. Denicke; architects, Kenitzer & Kollofrath; contractor, J. S. Thomson; bond, guaranteed; cost, $1,880; signed, Jan. 20; filed, Jan. 22; payments, $1,100, buildings second coated outside; $1,000, ready for graining; $1,200, completed; $1,180, 35 days.

Sacramento near Powell. Plumbing and gas-fitting; owner, E. A. Denicke; architects, Kenitzer & Kollofrath; contractor, Wm. F. Wilson; bond guaranteed; cost, $5,350; signed, Jan. 20; filed, Jan. 22; payments, $1,000, gas, water and waste pipes in rear building; $1,000, gas, water and waste pipes in front; $2,500, completed; $1,450, 35 days.

San Jose Ave. and Sagamore. To build; owners, H. Vandre and wife; contractors, Buck Bros.; cost, $1063; signed, Jan. 12; filed, Jan. 22; payments, $300, building enclosed; $300, ready for plaster and outside finished; $241.50, accepted; $241.50, 35 days.

Scott near Pine. Alterations and additions; owner, Hettie Morse; architect, J. H. Littlefield; contractors, Fulton and Ogle; bond guaranteed; cost, $1,025; signed, Jan. 11; filed, Jan. 12; payments, 75 per cent. of work done on 1st, 10th and 20th of each month as work progresses; 25 per cent., 35 days.

Seventeenth near Douglass. To build; owner, C. Ruhland; contractor, C. Zwierlein cost, $5,580; signed, Jan. 27; filed, Jan. 27; payments, $1,046, frame up; $1,046, brown coated; $1,046, white coated; $1,047, completed; $1,395, 35 days.

Sunnyside Ave. near Baden street. To build; owner, John Kaiser; contractors; Peterson & Peterson; bond. $500; cost, $1,085, signed, Jan. 14; filed, Jan. 21; payments, $277, frame up; $276, brown mortar on; $266, completed; $266, 35 days.

Sutter near Hyde. Brick, cement, carpenter work, etc.; owner, Chas. A. Zinkand; architect, R. Zimmerman; contractor, F. W. Kern; bond, $2,572; cost, $10,200; signed, Jan. 18; filed, Jan. 18; payments, $1,925, frame up; $1,925, partitions set and building enclosed; $1,925, white coated; $1,940, accepted; $2,575, 35 days.

Sutter near Hyde. Plastering; owner, Chas. A. Zinkand; architect, R. Zimmerman; contractor, Arthur O'Brien; cost, $1,124; signed, Jan. 18; filed, Jan. 18; payments, $450, brown coated; $450, white coated; $224, 35 days.

Sutter near Hyde. Plumbing, etc.; owner, Chas. A. Zinkand; architect, R. Zimmerman; contractor, H. Williamson; cost, $1,094; signed, Jan. 18; filed, Jan. 18; payments, $350, rough work done; $500, completed; $244 accepted.

Sutter near Hyde. Alterations and additions; owner; H. Zacharias; architect, Chas. I. Havens; contractor, F. Klatt; cost, $7,500; signed, Jan. 30; filed, Jan. 30; payments, $1,000, frame up and building enclosed; $1,000, brown coated and principal part of outside finish on; $1,000, hard finished; $1,000, completed; $3,500, 30 days.

Sutter near Hyde. Plumbing and gas-fitting; owner, H. Zacharias; architect, Chas. I. Hivens; contractor, H. Williamson; cost, $1,100; signed, Jan. 30; filed, Jan. 30; payments, $400, rough gas, water pipes and sewers in; $425, completed; $275, 35 days.

Sutter near Taylor. Brickwork; owner, M. L. Smith; architects, C. R. & J. M. Wilson; contractors, Hock & Hock; cost, $4,000; signed, Jan. 2; filed, Jan. 5; payments, $2,000, when original contractor receives 1st payment from owner; $1,000, when he receives 2d payment; $1,000, 35 days

Sutter near Taylor. Mill work; owners, California Mills; architects, C. R. and J. M. Wilson; original contractor, Wm. Knowles; sub-contractor, California Mills, N. Parrish & Co.; cost, $5,000; signed, Jan. 25; filed, Jan. 25; payments, $1,250, brown coated; $1,250; inside finish on; $1,250, completed; $1,250, 35 days.

Taylor near Bush. Concrete walls, plumbing, etc.; owners, Board of Education; architect, C. I. Havens; contractor, F. A. Williams; cost, $1,315; signed, Jan. 12; filed, Jan. 16; payments, 1st day of each month 75 per cent. as work progresses; balance 35 days.

Turk near Larkin. Brick, plumbing, plastering, etc.; owner, Jno. G. Clark; architect, Jno. G. Clark; contractor, Jno. G. Adams; bond, guaranteed; cost, $3,400; signed, Jan. 25; filed, Jan. 30; payments, $850, frame up; $850, brown coated; $850, inside finish completed; $850, 35 days.

Twenty-fourth and Castro. To build; owner, Fannie S. Downing; contractor, A. Klahn; cost, $4,973; signed, Feb. 3; filed, Feb. 3; payments, $973, frame up; balance, $4,000, 35 days.

Twelfth near Howard. Brickwork and smoke-stack; owners, E. P. White & Co.; architect, J. E. Krafft; contractor, J. O'Sullivan; cost, $7,300; signed, Jan. 20; filed, Jan; 21; payments, 1st and 15th day of each month 75 per cent of work done; balance 35 days.

Union near Scott. Moving and alterating old buildings; owner, Henry Wadsworth; architects, Mooser & Cuthbertson; contractor, J. R. Whalen; bond, $550; cost, $2,200; signed, Jan. 19; filed, Jan. 26; payments, 75 per cent. as work progresses; balance 35 days.

Western Addition, block 548. Grading; owner, Mathias Meyer; contractor, C. A. Warren; cost, $15,500; signed, Jan. 7; filed, Jan. 8; payments, 75 per cent. of work done each month on said contract shall be payable on the 5th of the following month at 20 cents per cub. yd.

Willow Ave. near Buchanan; To build; owner, John Torre; contractor, S. T. Crawford; cost, $1,450; signed, Jan 22; filed, Jan. 22; payments, $500, house enclosed; $588, completed; $362, 35 days.

ALAMEDA COUNTY.

Adeline St. near 12th, Oakland. To build; owner, W. H. Morrison; contractors, A. W. Pattiani & Co.; cost, $3,300; signed, Dec. 7; filed, Jan. 12; payments, $1,275, window frames set and lathed, ready for plastering and exterior primed; $1,200, completed; $825, 35 day.

Bay St. near R. R. Ave. Alameda. To build; owner, A. Sinnett; architect, Howard Burns; contractors, Pierce & Ruch; cost, $2,858; signed, Jan. 16; filed, Jan. 18; payments, $714, frame up and completed; $714, plastering in all on; $714, completed; $716, 35 days.

Bella Vista Park, Oakland. To build; owner, J. H. Kirk; architect, Bert L. Smith; contractor, F. A. Brown; cost, $8,076; signed, Jan. 16; filed, Jan. 16; payments, $769, frame up and sheathing on; $769, plumbing done and first coat plaster on; $769, completed; $769, 35 days.

Block B, Eureka Hd., Berkeley. To build; owner, Mrs. E. Stevens; contractors, Esty & Jewett; cost, $2,333; signed, Jan. 9; filed, Jan. 12; payments, $366.62½, ⅓ of entire amount when first house is enclosed; $366.62½, ⅓ of amount when brown mortar is on 1st house; $366.62½, ⅓ when first house is completed; $366.62½, ⅓, 35 days after completion of first house; $366.62½, ⅓ when 2d house is enclosed; $366.62½, ⅓ when brown mortar is on; $366.62½, ⅓ when completed; $366.62½, 35 days.

Block 536, Oakland. To build; owner, Chas. Helmke; architect, Chas. Mau; contractors, Leiter & Prugh; cost, $2,767; signed, Feb. 2; filed, Feb. 4; payments, $520, ½ materials furnished and ¼ completed; $520, ½ furnished, ¼ completed; $520, ¾ furnished, ¾ completed; $515.25, completed; $691.75, 35 days.

Broadway bet. 17th and Durant, Oakland. Excavations, brick, granite and iron work; owner, Mrs. Catherine Collins; architect, Chas. Mau; contractors, Remillard Brick Co.; cost, $2,300; signed, Jan. 18; filed, Jan. 28; payments, $800, ½ materials furnished and one-half work completed; $825, completed; $575, 35 days.

Broadway bet. 17th and Durant. To build; owner, Mrs. Catherine Collins; architect, Chas. Mau; contractor, H. E. Jones; cost, $4,800; signed, Jan. 28; filed, Jan. 28; payments, $1,215, one-third materials furnished and one-third work completed; $1,215, two-thirds furnished and two-thirds completed; $1,215, completed; $1,215, 35 days.

Broadway and 14th Sts. Oakland. Carpenter work, etc.; owner, J. Macdonough; architects, Mooser & Cuthbertson; contractors, Smilie Bros.; cost, $68,900; signed, Jan. 13; filed, Jan. 15; payments, payments to be made on 1st of each month and at rate of 75 per cent. of value of the work done, 25 per cent., 35 days after completion and acceptance of said work.

Dana Street near Bancroft Way, Berkeley; Stone, brick and frame building; owners, Stiles Hall Association; architect, Clinton Day; contractor, Rob't McKillican; cost, $21,842; signed, Jan. 25; filed, Jan. 28; payments, $1,500, first floor beams set on wall plates, etc.; $4,000, walls finished to line of second floor and beams set; $4393, slate roofing completed, brown coat mortar on etc.; $4,489, completed; $5,460, 35 days.

Durant Ave. and Audubon, Berkeley. To build; owner, Elizabeth Taylor architect, J. C. Newsom; contractors, Weeks & Son; cost, $2,410; signed, Jan. 28; filed, Jan. 30; payments, $602.50, frame up; $602.50, brown mortar on; $602.50, completed; $602.50, 35 days.

Dwight Way and Audubon, Berkeley. To build; owners, G. W. Fletcher and wife; architects, Pissis & Moore; contractor, John Spencer; cost, $4,295; signed, Jan. 21; filed, Jan. 29; payments, $750, frame up; $750, 1st coat plaster on; $750, plastering completed; $750, ready for painting; $220, completed; $1,075, 35 days after.

Eleventh near Franklin, Oakland. Storage building; owner, W. L. Orchard; contractor, V. L. Fortin; cost, $1,197; signed, Feb. 4; filed, Feb. 4; payments, $598.50, brick work done to 2d floor joists; $598.50, entire brick work complete.

Henry St. near 7th, Oakland. To build; owner, John H. Bruning; contractor, J. C. S. Whalin; cost, $2,560; signed, Jan. 6; filed, Jan. 20; payments, $850, building enclosed and roof on; $850, first coat plaster on; $860, completed.

Hobart and Grove. Brick church structure; owner, Rev. Thos. McSweeney; architect, Chas. J. I. Devlin; contractors, Forderer Cornice Works; cost, $7,186; signed, Jan. 22; filed, Jan. 23; payments, 75 per cent. as work progresses; balance 35 days.

Klinknerville Tract, Oakland. To build; owner, C. A. Klinkner; architects, J. J. & T. D. Newsom; contractors, A. D. & H. S. Sellers; cost, $1,025; signed, Feb. 3; filed, Feb. 4; payments, $250, frame up; $250, rustic on roof, etc.; $268.75, completed; $256.25, 35 days.

Livermore Station. Depot; owners, Southern Pac. Co.; contractors, Smilie Bros.; cost, $5,945; signed, Jan. 29; filed, Feb. 1; payments, $2,229.25, ¼ completed; $2,229.50, completed; $1,486.25, 35 days.

Lot 9 block A, Percy Tract, Berkeley. To build; owner, N. L. Freese; contractor, F. A. Armstrong; cost, $2,150; signed, Jan. 8; filed, Jan. 9; payments, $500, building up and enclosed; $500, brown mortar on; $600, completed; $550, 35 days.

Lot 11, block 669, Oakland. To build; owner, J. O. Besse; contractor, F. C. Bignami; cost, $1,400; signed, Jan. 25; filed, Jan. 28; payments, $465, frame up; $465, first coat plaster on; $470, completed.

Mountain View Cemetery, Oakland. Vault; owner, G. L. W. Strel; contractors, Amador Marble Co.; cost, $1,200; signed, Jan. 21; filed, Jan. 26; payments, $400, excavation, brickwork and iron work in proper place and plastering done; $400, completed; $400, 35 days.

Park and Santa Clara Ave., Alameda. Alterations and additions; owner, Minnie E. Tucker; architect, Geo. A. Bordwell; contractor, J. J. Boyle; cost, $2,750; signed, Jan. 21; filed, Jan 29; payments, $600, brown coat mortar on; $700, plastering done and fronts finished; $750, completed; $700, 35 days.

Peralta Ave. and Palm St., Fruitvale. To build, owner, Mary F. Johnson; contractor, T. R. Goth; cost, $1,400; signed, Dec. 23; filed, Jan. 28; payments, $600, rustic and shingles on and building ready for lathing; $500, plastering completed; $400, completed.

Santa Clara Ave. near Union. To build; owner, Geo. E. Colwell; contractors, A. W. Pattiani & Co.; cost, $2,586; signed, Dec. 29; filed, Dec. 31; payments, $700, rustic and roof shingles on and chimney built; $636, brown mortar on and exterior primed; $600, completed; $650, 35 days.

Trenton near Haste, Berkeley. To build; owner, M. C. Hamlin; contractor, Geo. A. Embury; cost, $2,100; signed, Feb. 1; filed, Feb. 1; payments, $600, frame up; $600, enclosed and brown mortar on; $500, completed; $600, 35 days.

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THE situation at the beginning of the year was one of encouragement, while at the present time, with the grateful warmth of spring, confidence seems to expand with the growth of the vine and leaf; even the thermometer shows a growing tendency. Almost everywhere the polished armor of the plows is evidence of their activity. A greater area has been turned and seeded than ever before, which, aided by the warm rains, present indications that this will be the greatest productive year known on this Coast. The products are becoming more diversified, the marketing has assumed a more business aspect, and the manufacturing and storing of wine has become systemitized. The freight rates are being looked after by the mercantile community, and it is to be hoped that some fair agreement between the parties concerned, will be arrived at, thereby increasing the trade of this Coast.

With good crops comes a general prosperity and real comfort which is a powerful incentive to work. From our exchanges we learn that the country is going forward and developing its resources in all lines of industries. Improvements of various kinds are being undertaken and prosecuted in an energetic manner wrought of courage and confidence.

There is now much life in the manufacturing enterprises, and vigorous efforts are being made to push their wares into notice.

THIS season bids fair to be an era in church building. More church edifices have been planned to be built this year than for any previous year; not alone in San Francisco, but in nearly all the cities and towns of the interior. In no other way can the citizens of a village make so favorable and lasting an impression on the visitor who may be seeking for a location in which to settle, as that produced by a neat, commodious house of worship.

According to appearances, it will be only a few years hence when our section of the country will be noted for its beautiful churches, and the steady respectability of its inhabitants.

THE ART OF PLANNING.

An Address to the Students, Delivered by MR. J. MACVICAR ANDERSON, President of the Royal Institute of British Architects, and published in the Journal of the Proceedings of the R. I. B. A. The question is treated fully and yet so concisely that we are unable to make any reduction, therefore, we re-print the entire article.

IF it be true that one of the chief difficulties that attend the study of architecture is to be found in the number and variety of subjects with which it is essential to be more or less familiar, it is no less true that the comprehensive nature of the pursuit constitutes one of its greatest attractions, for it opens up a field of inquiry over which the mind may roam with ever-increasing vigor and interest. Absorption in one particular subject of study may produce lassitude, but no amount of devotion to a study so varied as that of architecture should ever conduce to such a result, for mental refreshment is to be found—not in cessation—but in variety of thought; and the student of architecture need never experience difficulty in finding mental repose by turning from one to another of the many fields of research that lie before him. For example, in History he will find the phases depicted through which the art has passed in by-gone ages; in Literature he will become familiar with the opinions of great masters which imparted individuality to the art of different epochs; in Nature he will gather from the development of the mineral and vegetable creations, the properties of the materials in which his designs will have to find expression; in Science he will learn what is the strength and formation of such materials, and how to adapt them to his requirements without doing violence to their material characteristics; in Observation of the executed works of others, whether ancient or modern, he will, from sketching and measurement, discern how successful results have been attained, or artistic effects produced. In Design he will apply the varied knowledge he has thus acquired from History, Literature, Nature, Science, and Observation; and, by the artistic and scientific treatment of the materials at his command, he will impress his ideas and personality on the architecture of his day.

For the successful pursuit of a study so varied and so fascinating many qualifications are desirable, but three are essential: Natural Aptitude, Application, Imagination. Without the first, the student will do well to abandon the career, even though he may have spent time in discovering his want of affinity with it. Many illustrations from real life might be quoted of men who had devoted years to the preliminary study of a profession only to find that they had no aptitude for it, and have with good sense left it for a more congenial career, in which they have earned reputation and renown. If the heart, as well as the intellect, be not engaged in the work of life, you may possibly, in favoring circumstances, attain to respectable mediocrity, but you will never achieve real success. Be sure, therefore, at the outset, that you possess that earnestness of purpose and heart-love for your work which spring from natural affinity and cannot exist without it. It is needless to insist on the importance of Application. Original genius or natural endowments cannot be acquired or imparted, but it is marvellous to what an extent Application compensates for the lack of such gifts. Was it genius that led George Stephenson to perfect the invention of the locomotive steam-engine—probably the greatest promoter of civilization that the world has ever seen—or was it simply indefatigable application? Read his life, if you have not done so, full of lessons for all, and judge for yourselves. Or again, look at a life but recently terminated: admittedly unendowed with genius, but possessed of good sense, honesty of purpose, and earnest application, how startling the success, how remarkable the position, which was achieved by the late First Lord of the Treasury. If you have application, you possess one of the most powerful levers with which to remove and triumph over difficulties. But it is obvious that Natural Aptitude and Application, invaluable as they are, are not sufficient to qualify you for the career on which you are entering. Far away the most important work of your lives as architects will be that of Design, and if you are devoid of the mental endowment of Imagination—by means of which alone can there be Design—you will be like a ship without compass or rudder, your lives will be aimless, and you will miss the prize of your calling. Possessed of all knowledge your works, without imagination, will be but imitations and reproductions, not designs. Equipped with learning, but devoid of creative power, you would not be artists; and, therefore, could not be architects.

I have glanced at the varied nature of your engagements as students of architecture; it would be manifestly impossible within the brief compass of this Address to discourse on all, or even a few, of these with any prospect of a beneficial result. I propose, therefore, to confine my remarks to one branch of them only, and to ask your attention to a few suggestions respecting it. The subject which I have selected is what I do not hesitate to refer to as "The Art of Planning." No doubt there are those who will regard such a designation as a contradiction in terms, for it is to be feared that there are not a few who consider planning as, at the best, a very prosaic part of an architect's work—to whose poetic fancies the idea of elevating it to the dignity of an art may appear to be a sort of architectural blasphemy. There are others who, without going so far as this, do not hesitate to relegate planning to an inferior and subordinate place, not worthy of the exercise of the higher and artistic faculties of the designer—a constructive skeleton, as it were, admirable it may be in its mechanism, but which the architect must clothe with grace before it can be admitted to the sacred courts of art. Now I do not hesitate to declare that such views of planning are thoroughly fallacious, and injurious to the best interests of architecture, because derogating to a commonplace utilitarianism what is really an integral and inseparable part of the art, the root from which grow the loftiest conceptions,—the suggestive source from which springs all that follows.

Thus viewed, you will see at once that it is impossible to exaggerate or over-estimate the importance of the study of planning. It may indeed be safely asserted that there is no study in which the human mind can engage on the results of which the comfort, convenience, and happiness of society so much depend. This, I admit, is claiming a good deal, but no more than the study properly demands. It is not my purpose at present to emphasise utilitarianism, but do not forget that every building is designed for use; to say so is not to derogate from art, because the highest art is displayed when a building is so designed as most successfully to fulfil its purpose by combining fitness with beauty. Thus the primary field for the exhibition of the architect's art is planning. This does not appear to admit of doubt. Let me demonstrate it. What is architecture? Is it the mere clothing of the structure? Or is it the artistic design of the structure itself? Unquestionably the latter; and if so, how can the study of planning be other than artistic work, the primary stirring of the dry bones out of chaos, and the life inspiration which creates out of them the useful and the beautiful? Planning is not the mere casual throwing together of so many forms, the chance disposition of so many lines representing walls, enclosing so many haphazard spaces representing rooms; it involves the exercise of imagination. The design of the plan is the medium for educing this quality, just as much as the design of the elevation. It is customary, no doubt, to hear the word design applied to the latter much more than to the former; but the one is really just as much design as the other; consequently the plan affords the opportunity for the display of artistic power just as much as the elevation. Not only so, but a true artist while studying and elaborating his plan has a mental drawing-board by his side, on which he rears in his mind's eye forms and proportions suggested by it and emanating from it; he disposes the arrangement so as not only to meet the requirements, but also so as to produce a happy result in point of effect; in short, the two things go together, they are mentally indivisible, and must be elaborated, not without reference to one another, but in unity. Hence experience demonstrates that a good plan will generally be found to produce a good elevation: they are integral parts of a whole; the one having been artistically studied with a view to the other, the result will be harmonious, for if the tree is good, so will the fruit be.

Did time permit, it might be interesting to divide the subject; and classify it under separate heads, treating each in turn, as for example: the plan ecclesiastical, the plan collegiate, the plan palatial, the plan municipal, the plan judicial, the plan official, and the plan domestic; and a moment's reflection will show you how easily we could find, in the elaboration of the characteristics and requirements of each, much that might profitably engage our attention. I must, however, content myself with a more general treatment, touching briefly what may be called principles, leaving the application of them to your own imagination.

None but those who have made a real study of planning have any conception of the infinite breadth and variety of the field of design which it creates. They only know experimentally the charm of puzzling over difficulties; of revising, re-arranging, and re-disposing, in order to overcome them; thereby probably creating other difficulties, which in their turn have to be surmounted by a further similar process, and so on, until, after many disappointments, many failures and many inventions, a satisfactory result is at length reached. It is now many years since I resolved never to let a plan leave my hands until I felt satisfied that it was right; and in battling with the difficulties thereby created until they have been successfully obviated, I have found some of the most engaging studies of professional life. The question with you should never be, whether a plan is good enough—that is an unworthy standard—but rather, is it the best that I can design? The former, the "it-will-do-well-enough" standard, prevails far too commonly; the latter is the only standard really worth working for, because the only one which will lead to attainments beyond mediocrity. Never, then, rest content with a plan until you are satifieds that it meets and fulfills all the requirements of the case, in the best and most complete manner that you can think of; the plan is the foundation of the whole design, and I need not say to architectural students, that if the foundation be faulty, there is not much hope for the superstructure.

It may seem like insisting on an elementary truism to say that the plan of a building must necessarily be adapted to, and governed by, the exigencies of the site, but the not infrequent violation, or rather neglect, of so obvious a principle justifies me in emphasising its importance. The peculiarities of a site in respect to levels and aspect frequently constitute difficulties that at first sight appear insurmountable, but out of which emanate in skillful hands the happiest results, which otherwise might not have been thought of, or attained. Herein is displayed the skill of the artist: to lay hold on all such adventitious circumstances and hindrances, and conform them to his will, transforming obstacles into mediums for achieving success. The neglect of such opportunities is unpardonable, and betrays the bungler.

Prospect, again, constitutes an important factor in planning. When the right aspect presents the best views, the case is simple; but this is often not the case, and few conditions call for more ingenuity than when the proper aspect is at variance with the prospect that it is desirable to secure. In towns, indeed, aspect and prospect must necessarily, and to a great extent, be subordinated to immovable conditions; but in the country it is different. While, therefore, striving for comfort, convenience, and grace within, never neglect an opportunity of securing the inestimable attraction of a higher than any art loveliness, the prospect of nature and creation. In connection with prospect, let me in passing condemn a practice too much in vogue, the glazing of the upper portions of windows with tinted, stained or painted glass, sometimes uglier than anything it is intended to obscure from view. Situated as we are in London, the expedient is no doubt attended with advantages, shutting out hideous objects which one's neighbors are so found of obtruding, or excluding the impertinent gaze of the too curious; but in the country, where it is frequently adopted, what possible justification can be urged? Is it possible that anything can compensate for the light of the sun, the beauties of nature, or the marvels of the heavens? Never, then, attempt to obscure the contemplation of God's universe by the commonplaces of humanity.

I would say, further, that a plan to be good must be simple. No doubt the arrangement of some buildings is necessarily more elaborate than that of others; but you may take it as an unerring guide, that when you find a plan becoming complicated and confused, you are on the wrong tack. I have seen an artist, after hours of work, wipe from his canvas all he had painted, and then make a fresh start with manifest advantage and no real loss of time; so, when your planning results in complication, your best course is ruthlessly to obliterate what you had done, and begin *de novo*. Nothing will compensate for the absence of simplicity in a plan. This is a golden test which I have never hesitated to apply, and I speak from no inconsiderable experience.

Again, a plan is only good when it is the embodiment of thrift. Much has been said, and more has been written, on the moral aspect of thrift; and it would be easy to enlarge on the advantages of its application, not merely to the life, but also to the artistic work of the student of architecture. I must, however, be content for the present to deal with it in its relation to my subject, and to show that without thrift, both of space and material, a plan cannot properly fulfill its purpose. Thrift is not parsimony any more than liberality is waste. Each space is a plan, be it room, hall, stair or passage, should be just the size that is necessary for its purpose; if it be less, there is parsimony, for what is inadequate will have to be enlarged hereafter at much more than what would have been the original cost; if it be more, there is waste, for it has involved the expenditure of more capital than was required, and will incur needless labor and consequent cost in maintenance. Take as an illustration a room which has been designed on a scale beyond the necessities of its occupants; it is obvious that it has cost more to build and furnish than it should have done, and involves a perpetual cost for maintenance and service which should have been avoided. Hence, the happy medium is to be found in thrift. So in respect to materials: walls should be of sufficient thickness, floors and roofs of sufficient strength for their respective functions, not much more, and not much less; else there will ensue, either waste in the first instance, or parsimony, which will involve waste in the long run. There are, however, cases in which materials should not be too sparingly employed: in a mansion, for example, intended to be a family home, and to pass from generation to generation, it would be unwise, and out of keeping with its purpose, to apply too literally such a condition as this; for nothing imparts more dignity and a greater idea of the enduring purpose for which such an edifice is designed than massive walls, thicker no doubt than may be actually required for sound construction, but not more than is called for in order to be in harmony with the traditions and associations which the structure will represent. This, however, is but one of those exceptions that prove the rule of thrift which I have enforced. I am, of course, not unprepared for the inevitable protest of the art student, who in a burst of æsthetic enthusiasm will denounce the suggestion that so prosaic a quality as thrift should dare to enter the hallowed sanctuary of the art studio; but while entertaining much sympathy with the enthusiasm of youth, and by no means desiring to curb it, and while respecting opinions which I doubt not are perfectly genuine, I venture to think that it would be easy to demonstrate that it would be in the true interest of art were her portals more frequently and more hospitably thrown open for the admission and entertainment of the prosaic maiden I have introduced to your notice. How often for instance might she, with manifest advantage, restrain the artist hand in scattering with inartistic profusion ornament which is misplaced, and therefore ineffective! But to enter on such matters would be to deal with other branches of the architect's studies, and be foreign to my present purpose.

I need not detain you by enumerating conditions more or less obvious, each one of which contributes in its place to the merit of a plan. Apart from considerations of aspect, prospect, and dimensions, each place should be—not only convenient in itself—but should be in its proper position in relation to other places; the work of an establishment, as well as the cost, may be materially diminished or increased, according as this condition is observed or neglected. Doors, windows, fireplaces, should be arranged so as at once to pro-

mote comfort and convenience without needlessly destroying wall-space, or incurring draughts; the amount of window-space should be regulated according to the aspect; and many other considerations of a similar nature should be duly thought of. In short, the perfect plan is, and can only be, the result of the thoughtful study of each principle and every detail: none are too minute to be overlooked: as little things sweeten life, so attention to little details makes a plan complete.

I have written to little purpose if I have not convinced you that planning is one of the most important, difficult, and artistic studies of the architect.

Now let me inquire why it is that plans are so frequently bad. I am aware that there are men in the profession who are adepts in planning, and whose productions in this respect we admire. But are they the majority? Rather, I fear, will they be found to be the small minority. Rarely do I examine published plans without detecting faults which are obviously not the necessary outcome of the circumstances. Why is this? In the majority of cases it does not, I believe, arise from lack of ability on the part of the author, but from the neglect to apply the ability he possesses to the working out of a good plan. Where plans are bad, they are so from two causes. (1) It is impossible to produce a satisfactory result without practical knowledge of the requirements: in the case of a gentleman's house, for example, how can we expect to succeed without being familiar with the nature and working of the establishment? (2) Plans are bad because they are not studied as they should be: I am satisfied that there are many practising architects who have never realized the true nobility of planning, who have never experienced the fascination of the almost exhaustless field it presents for the display of imaginative artistic skill, and who consequently have concentrated their artistic powers in the design of the elevation. Need I guard myself from possible misconception by adding that not one word I have written is intended to militate against the importance of artistic design as applied to the elevation? My subject is Planning, and my remarks naturally apply specially to it. Moreover, architects are not likely to regard the design of the elevation as the least artistic portion of their work, and it is because I entertain the conviction, judging from results, that they do far too much regard the design of the plan in that light, that I have emphasised its artistic character.

The architecture of the future will derive its character, and find its development, from the students of to-day; hence I have been tempted to embrace this opportunity to bring specially before you the subject of planning, believing that those who under-value it, do so because they have not studied it and tasted its fascination, and in the conviction that there is no more useful as well as artistic study in which you can engage. Remember that the subject vitally affects you who are devoting your lives to the study of architecture, and that your treatment of it will still more vitally affect those for whom, by-and-by, you will be called on to design; nothing will so certainly secure for you their grateful blessing as to promote the comfort, convenience, and beauty of their homes, for on nothing does the daily happiness of civilized society so greatly depend. If I have succeeded in elevating the study and lifting it out of the prosaic level from which it is too generally regarded; if I have inspired in any of you, whom it is my privilege to address, the determination to throw yourselves into it with an enthusiasm which you may not hitherto have displayed; if I have thus, through influencing you, sown seed which will fructify for the benefit of succeeding generations; if I have demonstrated that in this study is to be found one of the most interesting, fascinating and artistic pursuits, the time will not have been misspent which we have this evening devoted to the consideration of the Art of Planning.—J. Macvicar Anderson.

THE evolution in architecture for residence property during the past quarter of a century in San Francisco, is fairly represented by the two buildings herein illustrated.

The building shown at the left in the engraving, is a partial side view of one erected about twenty-five years ago, on Haight street, between Laguna and Buchanan streets, for Mr. Hiram Rosencrans, at the time a prominent hardware dealer, and at present the property of Mr. G. G. Burnett.

The more prominent building adjoining is the residence of Mr. Thos. Pollard, built in 1891.

Both these buildings were designed by, and erected under the supervision of Mr. James E. Wolfe, architect.

CITY RESIDENCE.

ONYX ON THE PACIFIC COAST.

BY PROFESSOR LOUIS FALKENAU, MEM. TECH. SOC.
[Read Sept. 4, 1891.]

Taken by permission from the Bulletin of the Transactions of the Technical Society of the Pacific Coast.

The demand for material adapted to the interior decoration of buildings is steadily increasing, and for some time past variegated marble and the so-called onyx have been extensively used, as they are more easily cut and polished than other stones, and are otherwise preferable to many of the materials at our disposal.

Onyx proper is a species of quartz of great hardness, and occurs in small fragments or nodules, while the so-called onyx of which this paper treats is mainly calcium carbonate, mostly in the modification called aragonite, and occurs in large masses. Its hardness is from 3½ to 4, its specific gravity from 2½ to 4, and it is easily cut into slabs and polished.

Onyx has been found in several localities of our State, but with a few exceptions, in small deposits, that do not yield large and perfect slabs. Large deposits have been found in Arizona, and new finds are constantly reported from all parts of the United States. Mexico has many fine deposits of onyx, most of which is used for clocks, table tops and small ornaments. The specimens of Mexican onyx, which I have here, are from La Sorpresa and La Mesa Mines, Tehuacan Pueblo, of which I have received the following description by the owners:

The deposits of onyx are found running through hills measuring about four miles across, at an angle of about 45 degrees, in layers of from 4 to 15 inches in thickness, separated from each other by parallel layers of clay, gravel and country rock. The deposits reappear on the other side of the canyon, running into the opposite hills at about the same angle.

The Sorpresa onyx is mostly white and green. The La Mesa, variegated. The first is near the bottom of the hills, the latter above it; a hard, red country rock separates the two mines. No marble, and no calcite crystals have thus far been found there. The deposits have been worked for three or four years without the use of machinery. From 5,000 to 6,000 cubic feet of onyx have been shipped to Paris, London and New York at a price of about $10 per cubic foot. The shipping port is Vera Cruz, which is reached in one day by railroad.

As the croppings of these deposits have been traced for five miles along the hill-sides, and extend from the bottom of the hill to the top, the amount of available material is very great. The largest slabs obtained were 12 feet long, 8 feet wide and 5 feet in thickness.

In our State the deposits of Suisun, and of San Luis Obispo, have for several years past been worked by Messrs. J. & F. Kesseler, of this City, who have kindly furnished me these specimens and the following description of the San Luis Obispo quarry:

To Prof. Louis Falkenau. Sir:—According to promise, we send you a short statement regarding our onyx mine in San Luis Obispo County, Cal. The mine is situated about thirty miles from San Luis Obispo, and about twenty miles from Pismo Beach. It lays in the hills between Huasno Creek and Arroyo Creek, about sixteen miles from Arroyo Grande, a station of the narrow gauge railroad. The ledge stands nearly perpendicular on the side of a hill. The earth and stone in front of the ledge have been removed to the depth of about forty or fifty feet for a distance of eighty feet along the ledge, which is sixteen feet wide on the top and gets thicker going down.

The croppings show themselves from three to four hundred feet along the ledge, and again about half a mile to the northwest. The blocks stand all on their edges, and are from two to three feet, from eight to twelve feet, and some from fifteen to twenty feet long, and from six inches to eighteen inches thick.

Along the ledge there are also several valuable mineral springs. The onyx has beautiful colors—red, green, sky-blue, rose color, and a lovely golden yellow. The rich colors run in charming and graceful transition from one shade to another. Men who have worked and used onyx extensively declare it to be the finest onyx known. It has solidity, large sizes, beautiful colors, and an endless variety of tints. It is within easy reach of San Francisco, whence it may be shipped to all parts of the world.

Surrounding the mines and springs are nine hundred and twenty-nine acres of land, which form part of the property; they have plenty of timber and running water, and would form a beautiful park for the springs.

Very respectfully,

San Francisco, March, 1891. J. & F. Kesseler.

I have no knowledge of other deposits in California having been worked to any extent. The Arizona deposits, discovered in August, 1889, which I visited in September, 1890, are located in Yavapai County, about 28 miles southwest from Prescott. The onyx is found in a group of low rolling hills. Eleven claims of 600x1500 feet cover the location. The bottom of the hills, and the beds of the creeks and gulches surrounding them show strata of conglomerate, formed of fragments of onyx mixed with other rock and cemented by lime carbonate. Above these the onyx crops out boldly in well-defined strata of from 12 to 20 feet in height, extending into the hills almost horizontally, with a slight dip toward the center.

The tops of the hills show indications of onyx, and several shafts sunk at a considerable distance from the hillsides show solid masses of onyx immediately below the surface. At the time of my visit, only about 1,800 square feet of the ground had been explored by cuts and shafts. At a very conservative estimate, I would say that there were 1,440,000 cubic feet, equal to 144,000 tons of onyx then available. Should, as is very probable, the balance of the still undeveloped croppings, prove to represent strata of equal dimensions to those already opened, the available supply would be practically inexhaustible. Large blocks, some 7x4 feet and 18 inches in thickness, had been separated from the mass by blasting, and from such blocks most of the samples I have here were broken by a sledge hammer. That the material stood such treatment as well as it did speaks highly for it.

The many varieties found in this deposit differ very much in color and density (8 to 10 cubit feet per ton). Analysis showed the presence of iron, manganese, strontia and magnesia, and it is to the iron and manganese the different tints are due.

Several tons of the onyx were taken to Colton to be cut and polished. The small slabs I have here are samples I brought from there.

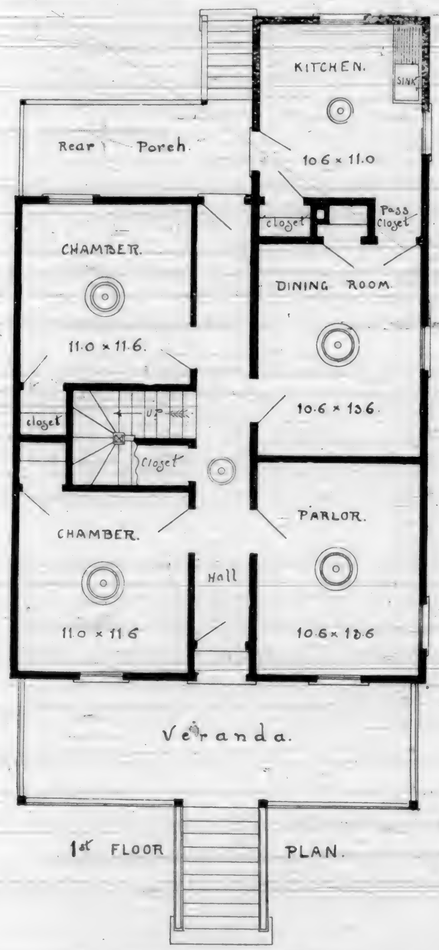
Lately a new location has been found near Phœnix, Arizona, which is said to produce onyx of good quality and in great abundance. The cost of onyx varies from $5 to $10 per cubic foot, and over. To what extent it is used may be inferred from the following amounts expended on it: In Vanderbilt's residence, Newport, $250,000; C. P. Huntington's residence, New York, $100,000; Equitable Building, New York, $75,000; Auditorium Hotel, Chicago, $60,000; Imperial Hotel, New York, $500,000; Grand Union Hotel, New York, $25,000.

At the time the foregoing paper was read there were exhibited about forty specimens of onyx having polished surfaces and presenting almost every shade of color, and showing the laminations which indicated the manner of its formation by deposition.

Removal—Mr. James E. Wolfe, architect, after twenty-one years continuous occupancy of the same suite of rooms, corner of Montgomery and Pine streets, has moved his office to the Flood Building.

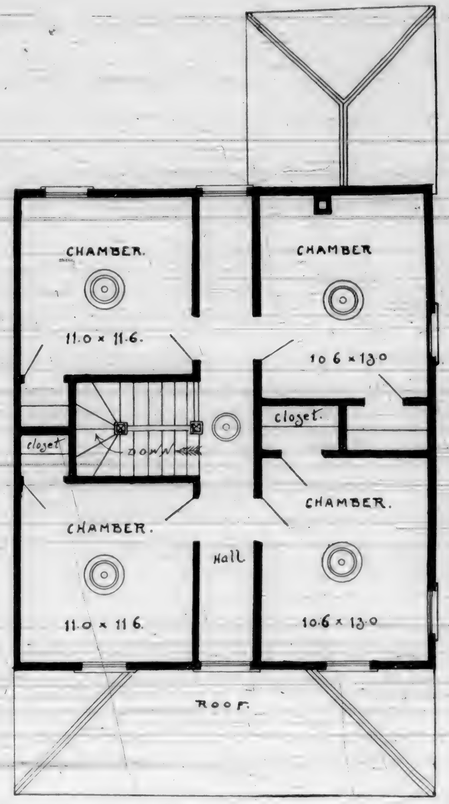
RURAL NOTES.

THE accompanying design is intended for a cheap and commodious suburban or farm dwelling. The front may be finished in any style desired. The interior arrangement presents some desirable features for locations in the "warmer belts" of this coast and some of the valleys. The first floor has on one side the parlor, dining-room and kitchen, while on the other side are two chambers and the stair-way to upper story. The second floor is divided into four chambers, stair-way and main hall. The main halls of both stories are extended through from front to rear, having doors or windows at each end, which secures perfect ventilation with through air currents. The first story has a wide veranda across the front, and at rear a porch convenient to hall and kitchen. The kitchen chimney is placed in the two story part of the house to gain sufficient height to insure a good draught.



1st FLOOR PLAN.

SUBURBAN DWELLING.



2nd FLOOR PLAN

SUBURBAN DWELLING.

ADULTERATION OF PAINTS AND OILS.

Written for the California Architect.

PERHAPS of all the adulterations from which the public suffer, the most aggravating is that caused by the adulteration of paints and oils, and this because the amount of profit to be derived by the painter is so small when compared with the loss and damage to the owner of the property, caused by the use of poor material when the best the market affords is called for in the specifications of the architect. The labor of painting being the same, or very nearly the same when good materials are used, as when the adulterated, or substitute, is employed, the extra profit being only on the first cost of the stock; which bears no comparison to the injury done to the owners of the property where the latter is used.

A slight review and comparison of the two methods of work may not be uninteresting to architects, contractors, and others who take an interest in the welfare and good looks of our city and its surroundings.

To the better understanding of the subject it may not be out of place to glance briefly on the composition and manu-

ED. BURNS ARCHT
26 O'FARRELL. 27.

MODERN HOUSES.

FOR

WILLIAM HINKLE ESQR.

PUBLISHED BY THE
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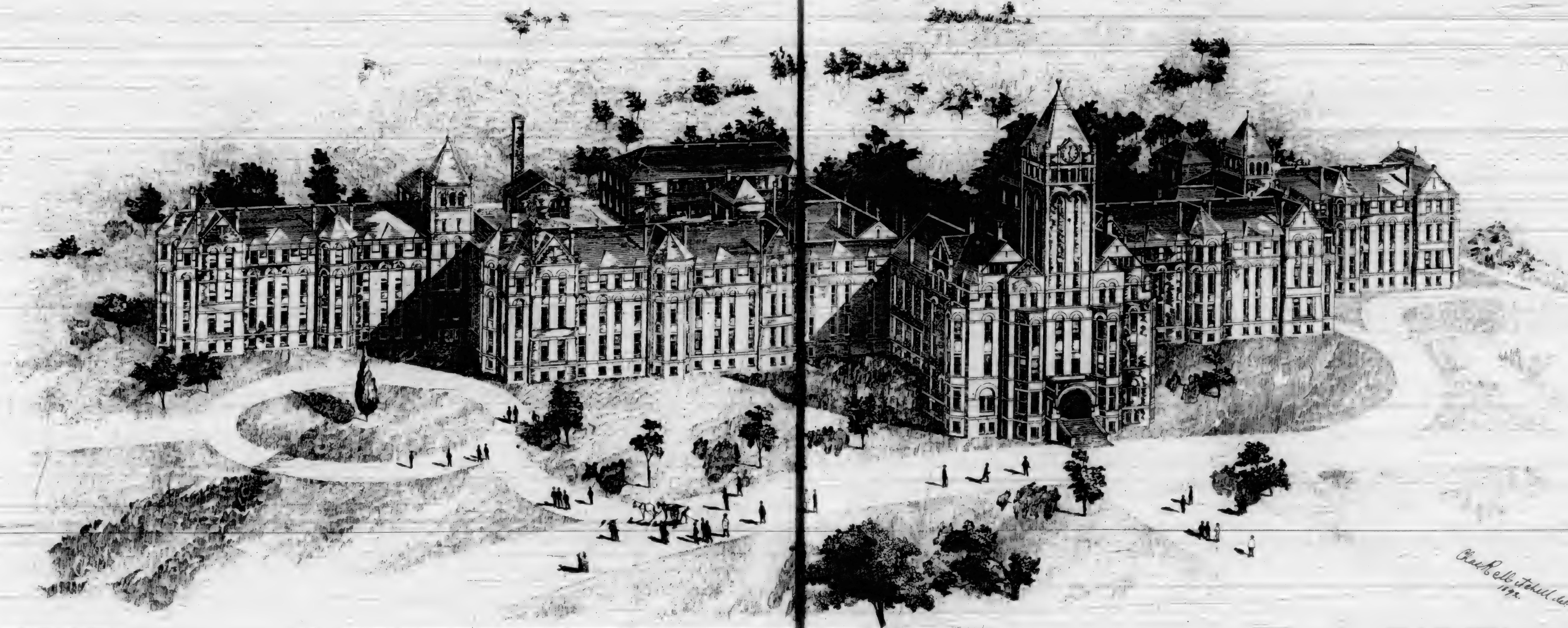
SAN FRANCISCO, CAL.

BRITTON & REY PHOTO. LITH.

THE MENDOCINO STATE ASYLUM FOR THE INSANE
UKIAH CALIFORNIA

COPELAND AND PEIRCE ARCHITECTS
SAN FRANCISCO CAL.



BRITTON & REY PHOTO. LITH.

PUBLISHED BY THE
CALIFORNIA ARCHITECTURAL PUBLISHING CO.
SAN FRANCISCO, CAL.

facture of both lead and oils as intended for the use of the house painter, upon which much ingenuity, skill and science has been displayed, to say nothing of the vast sum that has been expended in plants for the manufacture of an article intended for the use, ornament and presentation of our buildings.

White lead, or carbonate of lead, is manufactured from the purest of metallic lead, great care being used in the selection of the same to obtain the best quality, care being taken to avoid that containing much silver, that metal being the one that would cause the discoloration of the finished article. It is a singular fact that of all the rapid processes for making white lead none have superseded the old Dutch method for producing white lead with body, or covering quality—this is due no doubt to the opaqueness of each particle of the body—if each article is more or less transparent it shows the effect when spread upon wood notwithstanding the same amount of lead may be contained in both preparations.

The white lead ground with linseed oil forms in time a chemical compound instead of a mere mechanical mixture. It is this quality that renders it so valuable a medium for preserving wood from decay. The wood absorbing the oil and carrying the lead into the pores, thus preventing the atmosphere from encroaching upon, and commencing its work of oxidation upon the wood. Another cause for the preservation of the wood may be found in the destructive effect that lead has upon all fungus growth.

If, however, sulphate of baryta, a heavy earth, though of the same weight bulk for bulk, as white lead and also satisfactory in regard to its color, be ground with oil, the result is merely a mechanical mixture, no chemical union takes place between the oil and baryta, no cement is formed and but little protection of the wood afforded. In fact it is little better than a coat of whitewash if so good. Now what is true of the whole, is true of a part, and a mixture of half and half lead and baryta, is only half as good as all lead. Some painters contend that as baryta is a permanent color it is an improvement to add to the lead, this might be true if the oil united chemically with the baryta as it does with the lead. This not being the case however, it may be considered an adulteration pure and simple.

Before leaving the subject it may not be amiss to give an easy mode of detecting the presence of baryta. Take a small quantity of the suspected article, say a table-spoonful or less of the mixed paint, put it over an open fire, in an iron ladel, or small crucible, thus burning off the oil and turpentine. Then add to the remainder placed in a glass vessel, some nitric acid diluted one half with water—the lead will be dissolved forming nitrate of lead, the baryta left as a residue.

Linseed oil, as is well known, is expressed from flaxseed—the best quality being obtained from cold pressed seed—an additional quantity of lower quality is obtained by heat and repressure. It would seem that up to the present time nothing has been devised of a more satisfactory nature than this oil for the purpose of making a mixture with lead, or other mineral oxides, and carbonates for the reason that the oil will form with the lead or other mineral oxides, a chemical combination and therefore a more lasting protection to the wood, and thus serve to give wood and metals a coating well adapted to protect them from the action of the atmosphere.

Pure white or red lead ground with linseed oil, thickened to the proper consistency with spirits of turpentine, furnish a coating to wood or metal that will protect as well as ornament, also remain a protection and ornament for a reasonable length of time—while on the other hand poor fish oil diluted with benzine and ground up with baryta, affords no adequate protection to either wood or metals, and though for a short time may look well will soon blister, work off, and look dirty—affording no protection to the wood and become anything but an ornament.

The dealer in adulterated paints and oil should be held accountable for a large measure of the blame for such work, many painters doubtless purchase their stock in good faith that the articles they buy are what they profess to be. We were informed some years since that one of the largest of Eastern paint manufacturers, one too that manufactured much pure paint, never placed on the label "pure" except upon adulterated paint.

The claim for Lucol as a new invention to resist water, acids, alkalines, etc., and far above linseed oil in some respects, the writer leaves to others for further consideration.

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.

MENDOCINO STATE ASYLUM FOR THE INSANE.

The buildings for the Mendocino State Asylum for the Insane are now being erected on the State Ground three miles east of the town of Ukiah in Mendocino County. The Asylum consists of eight buildings. The Administration building, four ward buildings, two for the reception of female and two for the reception of male patients, a kitchen building, laundry and bakery building, and a boiler and engine house.

The buildings are built of brick with fire-proof halls and stair cases, the roofs are covered with slate. The fronts are of pressed brick with Ione red sand stone trimmings.

The total frontage of buildings is about 9,000 feet, and will be completed on or about January 1, 1893.

When completed they will accommodate about 600 patients.

Messrs. Copeland & Peirce of this city are the architects.

MODERN HOUSES.

Our illustration shows a row of dwellings now being built on the corner of Octavia and Broadway, that will prove quite an improvement to that part of the city.

The location is one of the best, situated as it is on the sunny-side of the block and a commanding elevation allow-

ing an unobstructed Marine view. Each house will be two stories with finished attic and basement.

The interiors will have finish of oak, mahogany and maple in principal rooms, and redwood in natural color in attic rooms. The dining-rooms will have paneled ceilings of oak and high oak wainscot of same material, and floors of inlaid hard-wood.

Each house will be finished with all modern conveniences—such as furnaces, dumb waiters chutes, electric lighting, speaking tubes, etc., and new and elegant designs in plaster decorations. The fronts will be finished in shingle, pebble-dash and paneling.

The front entrances are bold and inviting, approached by broad flights of concrete steps, and the vestibule floors laid in mosaic. Front doors will be oak and plate glass and all trimmed in antique copper.

The buildings are being erected by William Hinkle, Esq.

The designs are by Mr. Edward Burns, architect, under whose supervision the entire work will be performed.

Architectural Compositions.

By HENRY P. KIRBY. Published by BATES, KIMBALL & GUILD, 9 Tremont Place, Boston, Mass.

A collection of 50 fac-simile plates in portfolio, 15 by 20 inches, from pen drawings of Cathedrals, Chateaux, Palaces, Country and City Mansions, Hotels, Churches, Railroad Stations, Interiors, Details, etc., etc. Mr. Kirby requires no introduction to architects, as his wonderful pen drawings are already well known. His drawings have a freshness, sparkle and vigor that are entirely their own.

Two editions will be published, both from the same plates. The first printed on Whatman's hand-made paper, with special portfolio and title-page, each copy numbered, and sold only by advance subscription at $15.00. The second, printed on fine cream tinted paper made expressly for this work, price $10.00.

California's World's Fair Magazine.

A monthly journal devoted to the interests of the California exhibit at the World's Fair. Published by B. FEHNEMANN, 75 Flood Building, San Francisco. Subscription price, $3.00 per year. The Magazine is a new publication devoted to the interests of the World's Fair and in the aid to the advancement of industrial progress.

The Timber Trades Journal and Saw Mill.

We have received the Seventeenth Annual Special Issue of the *Timber Trades Journal*. It contains about 400 pages and is fully illustrated, and is an international authority on matters relating to the lumber trade throughout the world. It is published by WILLIAM RIDER & SON, London, Eng. The American office is at 136 Liberty street, New York.

The Engineering Record

Contains an illustrated article on the subject of "Public Baths," and which should be in the library of every architect.

South San Francisco News

Is the title of a new eight-page weekly paper. The first edition appeared on March 4, 1892. It is published by MR. C. L. BARNES, and is devoted to the interests and development of South San Francisco.

The paper has started out with a bright energetic look and we wish it success.

Toilettes

Is a monthly journal published in New York and treating of art in costumes, and is well illustrated with designs from Worth and other celebrities.

NOTICE OF MEETINGS.

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

GEO. H. SANDERS, Pres. — OLIVER EVERETT, Vice-Pres.
H. T. BESTOR, Sec. — JOHN M. CURTIS, Tres.

TECHNICAL SOCIETY OF THE PACIFIC COAST, meets first Friday of each month at Academy of Sciences Building.

JOHN RICHARDS, Pres. — L. WAGONER, Vice-Pres.
OTTO VON GELDERN, Sec. — GEO. F. SCHILD, Treas.

CALIFORNIA ELECTRICAL SOCIETY, meets the first and third Monday evening of each month at the Academy of Sciences Building.

GEO. P. LOW, Pres. — C. O. POOLE, Vice-Pres.
W. I. CROSETT, Sec. — O. BROOKS, Treas.

MASTERS PAINTERS' ASSOCIATION OF THE PACIFIC COAST.

E. M. GALLAGHER, Pres. — H. G. JARMAN, Sec.

THE regular meeting of the San Francisco Chapter of the American Institute of Architects, was held the 11th inst. at their rooms, 408 California street. The President, Geo. H. Sanders, presiding.

A report from the committee on the Chapter Classes was received. For the competition of pen and ink drawings, "Diffidence," Mr. Linden Bree, received first mention; "Mars," Mr. Henry H. Meyers, receeived second mention; and "Pen and Ink," Mr. C. A. Meussdorffer, received third mention. The committee recommended that the Chapter Medal for the year 1891, be awarded to Mr. Linden Bree.

Drawings from models—Mr. C. A. Meussdorffer was placed first; Mr. Linden Bree, second; Mr. Joseph Rowell, third, and Mr. R. H. Wetmore, Jr., fourth.

Flat Studies—Mr. C. A. Meussdorffer was given first mention; Mr. Harvey E. Harris, second; and Messrs. Meyers and Blackenburg as equally entitled to third mention.

Mr. W. W. Polk was introduced as a visitor. Mr. Polk gave some good advice to the art students who were present, and entertained the members of the Chapter on the subject of the inspiration of art and architecture. The meeting ended with a pleasant discussion in regard to the architecture of the present time. Those who were absent lost a rich treat

COMMERCIAL LAW.

II. THE GENERAL CHARACTERISTICS OF LAW.

LAW is the rule of action prescribed by the supreme power in a state, for the guidance and control of the individual. From the rude regulations of the nomadic tribe, to the finely adjusted system of jurisprudence of to-day, is a long span of gradual but logical and progressive development. As new commercial and social development has extended and multiplied the rights and duties of men, the law has widened in its application to meet the new conditions. The first requisite of law is that it shall be as stable and fixed as the eternal hills, and the next requisite is that it shall be as flexible and pliant as the changing needs of men. We shall see how this apparent paradox is met. First, there are two kinds of law, so to speak; or more correctly, two sources of law; one, the common law and the other statute law. Common law is defined to be that "which runneth back to the time when the mind of man runneth not to the contrary," while statute law is that which is specially enacted. Common law may be said to be the foundation and the structure—statute law the alterations and additions.

The common law contains the essential elements of all jurisprudence. The common law of commerce, or law merchant as it is termed, is really the judicial adoption of those customs and practices which were adopted among merchants from time memorial. It is practically, a system of philosophy reasoned out from the primal conditions it is designed to protect. Statute law is the enactment of such additional regulations as necessity from time to time requires.

An instance which well illustrates this principle is the Statute of Frauds, so called. At the common law a man might do with his own as he chose. As the cunning of men was educated by experience, it developed that men might, in the proper exercise of this right perpetrate great wrongs upon others. The common law provided no remedy for this, and so resource was had to statute, and a law was enacted, providing, among other things, that upon a sale of personal property there must be an immediate and continued change of possession, to indicate where the title was actually vested. At the common law, there was nothing to prevent a man, when his goods might be levied upon, from saying that they were not his; that he had previously sold them to another, and by collusive testimony the prior sale could be proved. So the statute was enacted to prevent that and other species of fraud. In our own time, the Interestate Commerce Act furnishes an instance of supplementing by statute the requirements of the common law. At the common law a common carrier was required to carry for all who applied, and to charge for his services a fair and reasonable compensation. But it was found that charges, in themselves, fair and reasonable, and therefore within the common law duty of the carrier, became detrimental to the interests of the community by being different for different persons. And so by statute the further duty was imposed upon the carrier charging the same price to all for the same service. These will serve to show the relative relations of statute and common law.

There are two grand divisions of law—civil and criminal, and civil law is composed of two branches—contracts and torts. The law of contracts refers wholly to these obligations which are voluntarily assumed by the individual, while the law of torts refers exclusively to those obligations which are imposed upon him by law. The whole of the law of contracts may be summed up in the statement that the law will compel a man to do that which he has agreed to do, and the law of torts is simply to enforce against a man the consequences of doing what he ought not to do.

The application of these simple propositions to the complex necessities of such a civilization as ours, sometimes makes the law seem full of uncertainties and strewn with technicality, but it will be found that every case resolves itself down to one or the other of these propositions. The maze of complication which the law presents to the casual observer arises from the application of the underlying principles to the facts of the particular case.

If the facts of a given case are undisputed, there can seldom be a serious difference of opinion as to the law applicable to it. Ingenious lawyers may devise cunning theories, but, with the facts determined, an honest lawyer, properly equipped, ought to be as well able as the judge, to determine what the result of litigation would be.

The first question to be determined is as to whether a wrong exists—if so, we have the word of Blackstone that its remedy may be found in the law. Litigation is rather a question of proof than of law, as a rule, and of that every litigant should be sure before entering court. If men would inform themselves more thoroughly upon their rights and duties under the law, and be better able to judge for themselves of the probable outcome of litigation, thousands of cases which encumber the courts, would never have been brought. And this is information which the business man should possess, and which he ultimately will consider essential to his success.

We have seen the necessity for a general intelligence upon these subjects, we have seen something of the nature of law, and in the next of this series will be found some information as to the application of the law by the courts.

LEGAL DECISIONS.

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

LIABILITY FOR DEATH OF UNSKILLED WORKMAN.—Where a person employes about dangerous work, men who are not skilled in the work, he must provide them with proper safe-guards. A man was employed about dangerous work at a factory, in which he had no experience, under the direction of a competent master mechanic. The master mechanic left the work and placed in charge an unskilled man, and by reason of the use of improper tools and appliances, an accident occurred and the workman was killed. The employer was liable in damages to his surviving family.

McElligatt v. Randolph, Supreme Court of Errors of Connecticut, 22 At. Rep. 1094, (91C).

PARTNERSHIP RELATIONS UNDER JOINT CONTRACT.—A mason and a carpenter furnished estimates to the owner of a lot for work, in the erection of a building thereon, to be done by each according to his craft. These estimates were separately accepted, but only one contract was made between the owner of the first part, and the mason and the carpenter of the second. Payments as the work progressed were made to either indifferently, and were divided between themselves in the proper proportion. In their notice of lien they described themselves as contractors, and their claim as arising under a single contract, the notice being verified by both. The carpenter assigned his interest to the mason, describing them both in the assignment as claimants for the whole amount of the lien. These facts are sufficient to sustain a finding that they were partners as to the work done and the lien claimed therefore, though both testify that they had no intention of becoming partners.

Parr v. Baur, City Court of Brooklyn, 16 N. Y. Supp. 258, (157H).

SUFFICIENCY OF MECHANIC'S LIEN STATEMENT.—When the Mechanic's Lien statute requires a person claiming a lien for labor, under an entire contract for labor and materials at an entire price, to file a statement of the amount due him, and provides that "the contract price, the number of days of labor performed or furnished, and the value of the same, shall also be stated," a statement which contains two items, as follows: "Labor of myself, between September 1, 1889, and May 1, 1890;" and "Labor laying 1,100 yards concreting, at twenty-five cents per yard, in the last part of August 1890, and ending Auguts 30, 1890," is insufficient, because these items do not show the number of days labor was performed.

Ellinwood v. City of Worcester, Supreme Judicial Court of Massachusetts, 28 N. E. Rep. 1053, (114H).

BUSINESS MOSAICS.

Line Drawings made in pen and ink suitable for reproduction by any of the processes in use, can be ordered through this Journal. Architects and Engineers are oftentimes too busy or too isolated to obtain the time or talent for the ornamental drawings. These drawings can be made from the plain drawings, and we will cheerfully furnish information regarding such work.

Shingle Stains are being extensively used for exterior coloring of shingle work on modern dwelling houses, especially of the better class.

The above cut is a sketch of a cottage which was coated with Cabot's Creosote Stains and presents a very pleasing appearance. It was built in Ross Valley, California, last summer, and was planned by M. G. Bugbee, architect of this city. Mr. Samuel Cabot, of Boston, is the manufacturer of these stains and has met with success principally on account of using pure material and no adulterant in his stains. These stains stand the California climate wonderfully, and are perfectly adapted to red wood. The agenst of this firm are Bell & Van Wyck, 330 Pine Street, San Francisco.

The Excelsior Redwood Company is one of the most extensive firms on this coast engaged in the manufacture and shipment of finished redwood products for the markets of the business world. The company has two large plants, one in San Francisco and the other in Humboldt County, California.

They have all the latest improved machinery for turning out first-class articles worked ready for the builder. One of the specialties of this firm is the manufacture of tanks from 300 up to 50,000 gallons. The redwood tanks are used for the storage of water, wine and beer.

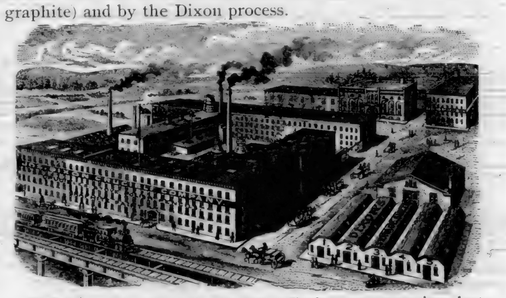
Another specialty is the manufacture of shingles for the Eastern market—redwood shingles having a great advantage over pine or other shingles commonly used in those sections—besides great quantities of split posts, shakes, tree-stakes, piles, fruit-trays, etc. The office of this company is at the corner of Fourth and Channel Streets, San Francisco.

We have received from the Cincinnati Corrugating Co., Ohio, an illustrated catalogue of their manufactures, which include Corrugated Roofing, Siding, Ceiling, Arches, Lath, Shutters and Doors, V Crimp Iron Roofing, Standing Seam Plain Roofing, Roll and Cap Steel Roofing, Outcalt Elastic Joint Roofing, Metallic Weather Boards, Ridge Capping and Beaded Metallic Ceiling; also Roofing Tin Plates and Juniata Galvanized Sheets, "Piqua" Brand.

They make a specialty of ornamental ridge work.

The Graphite Industry is fittingly represented by the Company whose founder first gave it birth.

The Joseph Dixon Crucible Co., Jersey City, N. J., was founded by Joseph Dixon in 1827, who, at that time, began the manufacture of black lead crucibles and completely revolutionized the crucible business. All crucibles used at the present day for melting brass, steel, copper, gold, silver nickel, etc., are made of blacklead, (the common name for graphite) and by the Dixon process.



The Dixon Company have not only been progressive, but they have been aggressive, and have pushed their goods into all parts of the civilized world. During the past year they made extensive changes in their factories, and we take pleasure in showing by the illustration above the main works and offices located in Jersey City. Their graphite mines are at Ticonderoga, N. Y., and their cedarmills are at Crystal River, Fla.

The nature of graphite, sometimes called Plumbago, or blacklead, is not generally understood; and therefore, its great value in the mechanical arts has not been fully appreciated. Graphite is one of the forms of carbon. It is not affected by heat, cold, acids, alkalies or any known chemical solvent. It is also the best solid lubricant known to science a remarkable conductor of heat and electricity. The peculiar qualities of Graphite have given it a wide range of usefulness. It is used in the manufacture of lubricants for all purposes, crucibles, stove polish, lead pencils, foundry facings, electrotyping graphite, graphite paint, etc.

The Dixon Company are miners as well as importers of graphite in all its forms, and use no graphite that they do not mine or prepare. Their mines are located in Ticonderoga, N. Y., and they have every facility in the way of chemists and expensive machinery, etc., necessary for completely freeing the graphite from the silica, sulphur and other impurities which it contains when it comes from the mines. The company's illustrated catalogue of graphite productions is an interesting pamphlet and well worth reading. It is sent free on application.

Mott's Patent Open Lavatory, as illustrated on page viii, has many advantages over the old style of lavatory. There is no closet underneath to act as a receptacle for dirt or filth; but it is so arranged that it can be kept perfectly clean, and presents an artistic appearance as is usual with this firms manufactures.

Merchant & Co's. Star Ventilator is an article which should be carefully examined into by all interested parties. It is made of galvanized iron, copper or brass, and for ventilating churches, school houses, theaters, factories, etc., it has no equal. Special ventilators for railroad cars are also furnished by this firm.

The Wm. Powell Company of Cincinnati, Ohio, manufacture a rubber stopper which is far superior to any stopper heretofore known. It is metal cored, which gives it weight and strength, so that it cannot float out of the socket. It is encased entirely with rubber, so that it cannot injure or dent the most fragile Basin or Bath, and there is no brass stud ring to pull out. For basin, bath, sink and tray plugs they are excellent, and should in all cases be used in preference to the old style of metal stoppers.

The windows of the Crocker Building are being fitted out complete with the Marshall Patent Sash Balance and Burglar Proof Lock.

TENDERS TO BE RECEIVED.

Sealed proposals will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M., on the 8th day of April, 1892, and opened immediately thereafter, for all the labor and materials required for the excavation, foundations, cut stone work and brick work, iron and wood floor and roof construction, roof covering, etc., ready for the interior finish of the U. S. Post Office, etc., Building, at San Jose, Cal., in accordance with drawings and specification, copies of which may be had on application at this office, or the office of the Superintendent at San Jose, California.

Each bid must be accompanied by a certified check for a sum not less than two per cent of the amount of the proposal.

The right is reserved to reject any and all bids and to waive any defects or any informality in any bid.

All proposals received after the time stated, will be returned to the bidder.

Proposals must be enclosed in envelopes, sealed and marked, "Proposal for the Excavation, Foundations, Cut Stone Work and Brick Work, Iron and Wood Floor and Roof Construction, Roof Covering, etc., ready for the Interior Finish, of the U. S. Post Office, etc., building at San Jose, Cal.," and addressed to,

W. J. EDBROOKE,
Supervising Architect.

February 27, 1892.

Sealed proposals will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 5th day of April, 1892, and opened immediately thereafter, for all the labor and materials required to put in place complete the iron columns, steel and iron floor, ceiling and roof construction, skylight roof complete, etc., for the U. S. Custom House and Post Office Building at Newark, N. J., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Newark, N. J.

Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal.

The right is reserved to reject any and all bids and to waive any defect or informality in any bid. All bids received after the time stated, will be returned to the bidder.

Proposals must be enclosed in envelopes, sealed and marked, "Proposal for the iron columns, steel and iron floor, ceiling and roof construction, for the U. S. Custom House and Post Office Building at Newark, N. J.," and addressed to,

W. J. EDBROOKE,
Supervising Architect.

March 5, 1892.

CITY BUILDING NEWS.

Antonio near Jones. To build; owner, C. Curtin; architect, M. J. Welsh; contractor, Henry Rohling; cost, $4,400; signed, Feb. 24; filed, Feb. 24; payments, $1,100, frame up; $1,100, brown coated; $1,100, completed; $1,100, 35 days.

Baker near Clay. To build; owner, R. C. Miller; contractor, W. W. Rednall; bond, guaranteed; cost, $5,000; signed, Feb. 20; filed, Feb. 20; payments, $1,200, roof on and building enclosed; $1,200, brown coated; $1,200, completed; $1,250, 35 days.

Baker near Grove. To build; owner, H. H. Lowenthal; architect, Edward Burns; contractors, Buck Bros.; bond, $3,000; cost, $5,500; signed, Feb. 17; filed, Feb. 17; payments, $1,000, frame up; $1,000, brown coated; $1,000, completed; $2,500, 35 days.

Bartlett near 24th. To build; owner, J. H. Robertson; architect, M. J. Welsh; contractors, Douglass & O'Connor; bond, $1,586; cost, $6,345; payments, $1,586.25, frame up; $1,586.25, brown coated; $1,586.25, completed; $1,586.25, 35 days.

Broadway near Fillmore. To build; owner, Geo. F. Volkman; architects, Kenitzer & Kollofrath; contractor, C. F. Ruppel; bond, $3,650; cost, $14,600; signed, Feb. 8; filed, Feb. 9; payments, $3,500, frame up; $3,500, brown coated; $3,650, ready to paint; $600, completed; $3,650, 35 days.

Broadway and Gough. Plastering, arches and centres; owner, R. M. McMurray, architects, R. H. White & Co.; contractors, Lockwood & Hogan; cost, $1,125; signed, Feb. 8; filed, Feb. 9; payments, $450, brown coated; $393, standing finish on; $282, 35 days.

Broadway near Gough. To build; owner, Althea Walker; architect, W. H. Lillie; contractor, G. V. Daniels; bond, $500; cost, $1,300; signed, Jan. 22; filed, Feb. 5; payments, 75 per cent as work progresses; balance 35 days.

Broadway near Webster. To build; owner, Adolph A. Son; architect, Clinton Day; contractor, Samuel H. Kent; cost, $18,009; signed, Feb. 27; filed, Feb. 29; payments, $5,000, second floor joists are set; $3,000, enclosed and roof boards on; $2,000, brown coated and exterior primed; $2,800, inside finish on; $2,706, completed; $4,503, 35 days.

Bush and Chelsea Place. Brickwork and trench digging; owner, Mrs. M. W. Newman; architect, P. B. Schmidt; contractor, J. O'Sullivan; cost, $2,935; signed, Feb. 20; filed, Feb. 20; payments, 1st day of each month 75 per cent of value of work done; balance 35 days.

Bush, bet. Gough and Octavia. Grading; owner, Centenary M. E. Church; architect, W. W. Polk; contractor, F. Simonart; cost, $300; signed, Feb. 19; filed, Feb. 20.

Bush near Montgomery. Plastering; owner, D. O. Mills; architects, Burnham & Root; contractor, J. L. Crichton; cost, $19,887; signed, Feb. 19; filed, Feb. 19; payments, 1st and 15th day of each month 75 per cent as work progresses; balance 35 days.

Carl near Willard. Retaining walls; owners, Metropolitan Railway Co.; architects, Shea & Shea; contractor, D. J. Brennan; cost, $1,368; signed, Feb. 16; filed, Feb. 18; payments, $1,000, brickwork and cementing finished; $188, completed; $307, 35 days.

Carl near Willard. A power house; owners, Metropolitan Railway Co.; architects, Shea & Shea; contractors, Anderson Bros.; cost, $9,100; signed, Feb. 27; filed, Feb. 29; payments, $2,850, brick wall up and rear wooden walls up; $2,000, roof tinned and sash in place; $1,975 completed; $2,275, 35 days.

Chapultepec and Henrietta. To build; owner, Chas. Brusell; contractors, Peterson & Person; bond, $400; cost, $1,182; signed, Feb. 11; filed, Feb. 12; payments, $295, frame up; $295, brown coated; $297, completed; $295, 35 days.

Eddy near Laguna. To build; owner, Jeanette Joel; architects, John & Balczynski; contractor, Wm. Pluns; cost, $4,685; signed, Feb. 12; filed, Feb. 15; payments, $800, frame up; $800, partitions set; $800, white coated; $800, completed; $1,185, 35 days.

Eddy near Scott. Excavating, grading, etc.; owner, Rev. J. F. McGinty; architect, T. J. Welsh; contractor, M. J. Feely; bond, $1,707; cost, $6,827; signed, Feb. 29; filed, March 1; payments, $1,280, frame up; $1,280, brown coated; $1,280, white coated; $1,280, completed; $1,707, 35 days.

Elizabeth near Noe. To build; owner, F. Campbell; contractor, A. Petry; cost, $1,700; signed, Feb. 26; filed, Feb. 28; payments, $425, enclosed; $425, brown coated; $425, accepted; $425, all bills are shown and receipted.

Ellis near Powell. Plumbing and gas-fitting; owner, J. Frowenfeld; architects, Salfield & Kohlberg; contractor, H. Williamson; cost, $1,390; signed, Dec. 18; filed, Feb. 16; payments, $600, rough work in; $500, accepted; $390, 35 days.

Fell near Ashbury. To build; owner, Geo. Lang; contractor, W. H. Lillie; cost, $3,000; signed, Feb. 23; filed, Feb. 26; payments, 1st and 15th day of each month 75 per cent of work done; balance 35 days.

Fifteenth near Guerrero. To build; owner, Mary A. Schmidt; contractors, C. L. & J. A. Buck; cost, $2,585; signed, Feb. 16; filed, Feb. 18; payments, $500, roof on and rough plumbing in; $600, brown coated; $835, completed; $650, 35 days.

Frederick and Masonic Ave. Artificial stone work; owner, M. A. Fritz; architect, A. J. Barnett; contractors, W. R. Patterson & Co.; cost, $1,200; signed, Feb. 20; filed, Feb. 23; payments, $450, sidewalks completed; $450, completed; $300, 35 days.

Fulton, No. 617. Alterations and additions; owner, Cora Cliff; contractors, Gardner & Boyden; cost, $3,650; signed, Feb. 9; filed, Feb. 10; payments, $1,000, ready for plastering; $1,000, white coated; $1,000, ready for painter; $650, completed.

Geary near Franklin. To build; owner, J. A. Miller; architect, A. J. Barnett; contractor, O. E. White; bond, $2,000; cost, $5,000; signed, Feb. 18; filed, Feb. 20; payments, $1,000, roof boards all on; $1,000, brown coated; $750, white coated; $1,000, completed; $1,250, 35 days.

Harrison near Third. Alterations; owner, Leon Levy; contractor, L. A. Secor; cost, $784; signed, Feb. 29; filed, March 3; payments, $150, rear part done and brickwork finished; $250, plaster on; $384, accepted.

Hayes and Buchanan. To build; owner, P. J. Gallagher; architect, N. A. Comstock; contractor, Frank Williams; cost, $5,720; signed, Feb. 15; filed, Feb. 26; payments, $1,430, frame up; $1,430, brown coated; $1,430, completed; $1,430, 35 days.

Hayes near Webster. To build; owner, Henry F. Blanchet, Jr., architect, Emile Depierre; contractor, David Ross; bond, $1,200; cost, $6,540; signed, Feb. 19; filed, Feb. 23; payments, $800, 1st story joists are on; $1,200, roof on and building enclosed; $1,200, standing finish on and glazed; $800, ready to paint; $945, accepted; $1,895, 35 days.

Hyde, No. 812. Carpenter, brickwork and plastering; owner, Mrs. Caroline Stern; architect, Wm. Curlett; contractor, S. Wray; cost, $2,655; signed, Feb. 15; filed, Feb. 27; payments, $691.25, frame up; $400, roof on; $400, brown coated; $400, completed; $803.75, 35 days.

Hyde near California. Alterations and additions; owner, Ellen Littleford; architects, Henriksen & Mahoney; contractor, Geo. Lack; cost, $1,825; signed, Feb. 24; filed, Feb. 26; payments, $1,369, as work progresses; $456, 35 days.

Ivy Ave. near Laguna. To build; owner, J. Boas; architects, Salfield & Kohlberg; contractor, Henry Holzenberg; cost, $3,100; signed, Feb. 9; filed, Feb. 16; payments, $750, frame up; $750, white coated; $800, accepted; $800, 35 days.

Laguna near Green. To build; owner, Jeremiah Donovan; architect, H. D. Mitchell; contractor, Jno. T. Hayes; bond, $1,000; cost, $4,495; signed, Feb. 1; filed, Feb. 5; payments, $850, frame up; $850, enclosed and laths on; $850, white coated; $820, completed; $1,125, 35 days.

Laguna and Greenwich. To build; owners, H. P. Schneider and wife; architect, H. D. Mitchell; contractor, L. B. Schmidt; cost, $9,000; signed, Feb. 8; filed, Feb. 9; payments, $1,500, frame up; $1,500, brown coated; $1,500, completed; $1,500, 35 days.

Lloyd near Scott. To build; owner, Max Wiesenhutter; architects, John & Balczynski; contractors, Schutt & Kreeker; cost, $2,500; signed, Feb. 17; filed, Feb. 17; payments, $800, frame up, building enclosed, roof on and floors laid; $800, white coated; $675, completed; $825, 35 days.

Mission near Main. To build; owners, John Lee & Co.; architect, M. J. Welsh; contractor, Jas. T. Edwards; cost, $7,928; signed, Feb. 16; filed, Feb. 16; payments, $1,400, foundation walls ready for joists; $1,400, walls ready for 2nd floor joists; $1,200, walls ready for roof; $1,000, roof completed; $940, completed; $1,983, 35 days.

Mission and 15th. Store fixtures; owner, Jas. J. Stanton; architect, J. E. Krafft; contractor, Chas. M. Depew; cost, $1,355; signed, Feb. 16; filed, Feb. 17; payments, $800, work set and ready to paint; $255, completed; $400, 35 days.

O'Farrell near Pierce. To build; owner, Henry Geary; contractor, J. J. Matsem; cost, $3,800; signed, Feb. 8; filed, Feb. 24; payments, $1,000, frame up; $900, white coated; $1,900, 35 days.

O'Farrell near Gough. To build; owners, Duschbery and J. Stencel; architect, C. I. Havens; contractor, S. T. Greene; cost, $11,900; signed, Feb. 23; filed, March 2; payments, $2,231, rough frame up and diagonal boarding on; $2,231, brown mortar on and principal part of outside finish on; $2,231, hard finished and outside mill work up; $2,231, completed; $2,976, 35 days.

Pacific near Morrell. To build; owner, E. Micheletti; architect, M. J. Welsh; contractor, Ivory Wells; cost, $4,000; signed, Feb. 18; filed, Feb. 19; payments, $750, frame up; $750, brown coated; $750, completed; $750, 35 days.

Page near Schrader. To build; owner, J. F. Sarber; architect, W. H. Lillie; contractors, Brault & Batcman; bond, $800; cost, $2,300; signed, Feb. 25; filed, Feb. 26; payments, $345, frame up; $345, enclosed; $345, brown coated; $345, standing finish on; $345, completed; $575, 35 days.

Post near Mason. Tinwork, etc.; owner, Olympic Club; architect, H. A. Schulze; contractors, Jos. F. Forderer Cor. Wks.; cost, $9,895; signed, Feb. 17; filed, Feb. 17; payments, 1st day of each month 75 per cent of work done; balance 35 days.

Powell Street Theater. Electric lighting; owners, Denicke & Siebe; architects, Wood & Lovell; contractors, Edison Electric Co.; cost, $2,250; signed, Feb. 18; filed, Feb. 19; payments, $1,087.50, completed; $862.50, 35 days.

Powell Street Theater. Interior work; owners, Denicke & Siebe; architects, Wood & Lovell; contractors, Kellett & McMurray; cost, $1,500; signed, Feb. 10; filed, Feb. 11; payments, 75 per cent as work progresses; balance 35 days.

Sacramento and Montgomery. Passenger elevator; owners, Pacific Mutual Life Ins. Co.; architects, Wright & Sanders; contractors, Cahill & Hall; cost, $8,000; signed, Jan. 24; filed, Feb. 6; payments, 1st day of each month 75 per cent of work done; balance 35 days.

Sacramento near Drumm. Alterations and additions; owners, Hirschler & Co.; architect, W. H. Armitage; contractor, J. R. Whalen; cost, $2,950, signed, Feb. 25; filed, March 2; payments, 15th and 30th day of each month 75 per cent of work done; balance 35 days.

Sacramento and Powell. Grading and brickwork; owner, J. T. M. Kelly; architect, W. H. Armitage; contractors, Martin Fennell & Son; cost, $1,248; signed, Feb. 17; filed, Feb. 20; payments, $600, walls ready for plates; $329, chimneys completed; $320, 35 days.

Sacramento and Powell. Moving etc.; owner, J. T. M. Kelly; architect, W. H. Armitage; contractor, J. J. Dunn; cost, $15,769; signed, Feb. 17; filed, Feb. 23; payments, 1st day of each month 75 per cent work done; balance 35 days.

Sutter bet. Steiner and Fillmore. To build; owner, M. S. Price; architect, H. C. Macy; contractor, P. G. Martin; bond, $300; cost, $1,960; signed, Feb. 8; filed, Feb. 10; payments, $1,470, as work progresses; $490, 35 days.

Texas near Solano. To build; owner, Hannah Roberts; architect, W. C. Dickerson; contractor, T. Bishop; cost, $2,250; signed, Feb. 23; filed, Feb. 23; payments, $450, side walls of frame up; $550, enclosed and roof tinned; $800, completed; $850, 35 days.

Twelfth near Howard. Iron work of engine house, etc.; owners, E. P. White & Co.; architect, J. E. Krafft; contractors, Joshua Hendy Machine Works; bond, $2,500; cost, $4,511; signed, Feb. 11; filed, Feb. 11; payments, 75 per cent on 1st day of each month; balance 35 days.

Twelfth near Howard. Laundry and engine house; owners, E. P. White & Co.; architect, Julius E. Krafft; contractor, Thos. M. McLachlan; bond, $7,000; cost, $11,560; signed, Feb. 10; filed, Feb. 11; payments, 75 per cent of work done 1st day of each month; balance 35 days.

Utah near Yolo. To build; owner, Patrick Barrett; contractor, T. F. Mitchell; cost, $1,100; signed, Feb. 29; filed, Feb. 29; payments, $275, frame up; $275, brown coated; $275, completed; $275, 35 days.

Walnut, bet. Sacramento and Clay. Brickwork; owners, L. M. Weismann; et al.; contractor, Fred Wagner; cost, $1,280; signed, Feb. 17; filed, Feb. 19; payments, $200, all foundations in; $600, brown coated; $480, 60 days.

Washington near Baker. To build; owner, H. H. Lowenthal; architect, Edward Burns; contractor, L. B. Schmidt; bond, $3,000; cost, $4,500; signed, Feb. 17; filed, Feb. 18; payments, $1,000, enclosed, rustic on and roof on; $1,000, brown coated; $1,150, completed; $1,350, 35 days.

Webster and Bay. To build; owner, E. J. Wilkinson; architect, C. M. Rousseau; contractor, Andrew Christensen; cost, $5,700; signed, Feb. 23; filed, Feb. 24; payments, $1,425, roof on; $1,425, brown coated; $1,425, accepted; $1,425, 35 days.

ALAMEDA COUNTY.

Boardman's map of Oakland. Additions, alterations, etc.; owner, Oakland Preserving Co.; architect, Chas. Mau; contractor, G. S. Johnson; cost, $1,600; signed, Feb. 25; filed, Feb. 27; payments, $400, ½ material furnished and ¼ work completed; $400, ½ furnished and ½ completed; $400, completed; $400, 35 days.

Central and Alameda Ave., Alameda. To build; owner, F. B. Haight; architects, J. C. and E. A. Mathews; contractors, D. Straub & Son; cost, $4,264.50; signed, Feb. 4; filed, Feb. 9; payments, $800, frame up and ready for enclosing; $800, enclosed and chimneys built; $800, brown mortar on and gas, water and heating pipes are in; $796.50, completed; $1,065, 35 days.

College Hd., Lot 8, Berkeley. To build; owner, Jas. S. McShane; contractor, Thos. H. Gilbert; cost, $5,750; signed, Feb. 23; filed, Feb. 24; payments, $837, frames up and rustic and shingles on; $837, brown mortar on; $837, completed; $839, 35 days.

Encinal, near Ala. To build; owners, Brucker & Bansbach; architect, T. G. Cary; contractors, Marcuse & Remmel; cost, $2,600; signed, Jan. 23; filed, Feb. 10; payments, $650, frame up; $650, brown mortar on; $650, completed; $650, 35 days.

First and Lizzie Street, Alameda. To build; owner, Norman McLeod; architect, H. Meyers; contractor, Wm. Sanderson; cost, $1,969; signed, Feb. 10; filed, Feb. 11; payments, $400, frame up and roof sheathed; $800, building enclosed and mortar on; $800, completed; $969, 35 days.

Fountain near Lincoln Ave., Alameda. To build; owner, Mrs. Jennie Shannon architect, M. Stenhint; contractors, Marcuse & Remmel; cost, $1,375; signed, Feb. 27; filed, Feb. 29; payments, $343.75, frame up; $343.75, brown mortar on; $343.75, completed; $343.75, 35 days.

Fulton near Kittridge, Berkeley. To build; owner, Levi Booth; contractor, Geo. A. Embury; cost, $2,600; signed, Feb. 9; filed, Feb. 10; payments, $650, frame up; $650, building enclosed and brown mortar on; $650, completed; $650, 35 days.

Kings Ave. near Patterson, Ala. To build; owner, A. D. McMorran; contractor, H. Scholten; cost, $1,600; signed, Feb. 23; filed, Feb. 23; payments, $400, frame up and enclosed; $400, brown mortar; $400, completed; $400, 35 days.

Market St. Tract, Oakland. To build; owner, Stephen Zerga; architect, S. Edgar Fisher; contractor, Joseph Mennerman; cost, $1,875; signed, March 1; filed, March 1; payments, $468.75, ¼ when frame is up; $468.75, brown mortar on and chimneys in; $468.75, ¼ completed; $468.75, 35 days.

Ninth near Broadway, Oakland. Brickwork, etc.; owner, S. Huff; architects, Salfield & Kohlberg; contractors, Merrill Brick Co.; cost, $4,600; signed, Feb. 13; filed, Feb. 23; payments, 75 per cent as work progresses, 25 per cent 35 days.

Ninth near Broadway, Oakland. Carpenter work, glazing, etc.; owner, S. Huff; architects, Salfield & Kohlberg; contractors, McDonald & Eggleston; cost, $4,100; signed, Feb. 19; filed, Feb. 23; payments, $1,500, partitions set; $825, completed; $750, completed; $1,025, 35 days.

Ninth near Broadway, Oakland. Cast and wrought iron work; owner, S. Huff; architects, Salfield & Kohlberg; contractors, Bigelow & Little; cost, $2,331; signed, Feb. 13; filed, Feb. 23; payments, 75 per cent as work progresses until accepted, 25 per cent 35 days after acceptance of building.

Ninth near Broadway, Oakland. Gas-fitting, plumbing, etc.; owner, S. Huff; architects, Salfield & Kohlberg; contractor, Henry Saudern; cost, $1,00; signed, Feb. 23; filed, Feb. 23; payments, $370, rough work done; $370, work accepted; $260, 35 days.

Ninth near Broadway, Oakland. Iron Work, etc.; owner, S. Huff; architects, Salfield & Kohlberg; contractor, Wm. Cronan; cost, $800; signed, Feb. 23; filed, Feb. 23; payments, 75 per cent as work progresses and 25 per cent 35 days.

Ninth near Broadway, Oakland. All plastering; owner, S. Huff; architects, Salfield & Kohlberg; contractor, D. S. McNamara; cost, $873; signed, Feb. 24; filed, Feb. 26; payments, $400, brown coat plaster on; $253, completed, $220, 35 days.

Oakland Por lots 10 & 11. To build; owner, W. L. Archard; architect, C. M. Wange; contractor, H. J. Specht, cost, $861; signed, Feb. 9; filed, Feb. 11; payments, as work progresses.

Pacific Ave. and Paru, Alameda. To build; owner, Alvan Roundy; architect, Chas. Shuner; contractor, J. H. Young; cost, $3,380; signed, Feb. 24; filed, Feb. 25; payments, $1,000, frame up; $800, enclosed; $740, plastering on and windows in; $850, 35 days.

Peralta Ave. near Belmont, Brooklyn. To build; owner, Harry W. Davis; architects, J. C. Mathews & Son; contractors, McDonald & Eggleston; cost, $1,482; signed, Feb. 23; filed, Feb. 25; payments, $150, frame up and ready for enclosing; $450, enclosed and one coat plaster on; $511.50, completed; $370.50, 35 days.

Peralta Park. To build; owner, Mrs. J. E. Hocking; architect, R. Gray Frise; contractors, Ashley & Dornell; cost, $6,913; signed, Feb. 10; filed, Feb. 11; payments, $978.40, foundations laid, framing up and buildings enclosed, except roof; $978.40, roof on, rough plumbing done and 1st coat plaster on; $978.40, plastering finished, windows put in and hung; $978.40, 35 days.

Roberts and Wolfskill Tr., O. T. To build; owner, J. W. O'Donnell; architect, O. Everett; contractors, Brehaut & Diamond; cost, $2,350; signed, Feb. 18; filed, Feb. 19; payments, $587.50, rustic on, building and roof sheathed; $587.50, brown mortar on; $587.50, completed; $587.50, 35 days.

Sixteenth near Jefferson, Oakland. To build; owner, Aaron Jacobs; architect, E. C. McManus; contractor, J. C. Bassett; cost, $3,500; signed, Feb. 18; filed, Feb. 23; payments, 1st and 15th of each month 75 per cent of value of work done and materials furnished; 25 per cent 35 days.

Twenty-second and New Broadway. To build; owner, Max Greenhood; architects, J. C. Mathews & Son; contractor, F. C. Bignami; cost, $9,086; signed, Feb. 25; filed, Feb. 26; payments, $1,200, brick walls of basement are completed; $1,000, frame up and ready for enclosing; $1,500, enclosed, gas and water pipes in place and chimneys built; $1,500, brown mortar on and outside painted one coat; $1,589.50, completed; $2,271.50, 35 days.

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GAS is rapidly supplanting coal for cooking, heating and general or special household use. The present demand for conveniences for housekeeping can only be met by the substitution of gas for other fuel. It seems somewhat anomalous that in many cases the much vaunted electric light is made applicable by the use of gas which runs a gas engine, which in turn runs a dynamo for inducing the electric fluid forming the electric light. The field for its use is widening, and the consumption of gas is continually increasing to such an extent as to lead to the conclusion that gas is destined to become the fuel of the future.

When gas became a necessity for lighting purposes, it was the usual custom for the house owner to put in the tubing, leaving for the tenant the furnishing of the fixtures, such as chandeliers, etc. At the present time, it is expected by the tenant that the owner will provide the gaslight fixtures.

In the cooking department, the tenant furnishes the movable stoves, but the owner provides ranges, when set in brick work. The owner puts in all the apparatus where hot air, water or steam is used for heating, also grates for burning wood or coal in open fire places. In some of the larger cities it has become the custom for the owner to provide all the cooking and heating appliances for gas fully connected and ready for the use of the tenant by turning on the gas. The Mecca Flats, recently built in Chicago, comprising a block of ninety flats, each of which has a gas cooking range, gas water heater, and gas clothes drier furnished and fitted up complete ready for the tenant. Another block of one hundred and thirty four flats, each flat has a gas cooking range and all requisite heater generators provided by the owner.

Architects during the last few years have given much attention to the various systems of cooking and heating, and the appliances which would produce the most satisfactory results as to economy and comfort. In all household heating, one main feature to be gained is cheerfulness. A home without cheerfulness seems prevaded by the atmosphere of the tomb. "The fire on the hearth" enlivens everything in the apartment; care is driven away and contentment reigns over the home. The most feasible way to obtain this desirable condition seems to be the open gas fire grate, it is cleanly to use and always thoroughly under control by the turn of the finger.