

(Continued from page 112.)

A GRAND REDWOOD PLANK

Perfectly free from knots or checks, there stands against the side of the Pavilion a redwood plank, 13 feet long, 50½ inches wide and 3 inches thick. Where in the world can this be beaten?

CALIFORNIA SLATE

The slate quarry in El Dorado Co. can furnish slate equal to any in the world. The color is a rich blue-black. The grain is very fine and the surface is unusually smooth. The samples in the Fair prove conclusively that those wanting a perfect fire-proof material need not go out of the State to procure the same. J. O. Hanscom is Secretary of the Company, and the office is at 10 California street.

RANSOME'S PATENT CONCRETE MIXER

E. L. Ransome, of 402 Montgomery street, presents one of his celebrated Patent Concrete Mixers. In a late issue of the *Scientific American*, attention was called to their superiority. By their aid any one can prepare material ready for instant use. Mr. Ransome has these machines for sale. He also makes a specialty of renting the same, so that those who only want them for certain work can return the "Mixer" when they have finished the job.

CALIFORNIA WIRE WORKS

The grand display presented by the California Wire Works entitles them to a gold medal. In fact it should be a diamond medal, if truly intrinsic merit was considered. They have a machine in active operation making barbed wire fencing. We have noticed people stand for hours watching the same. Then their French or wire nail machine. How it seems to eat up the coils of wire. The latter is placed in such a position that the machine is fed continuously, and the nails drop in a perfect shower in a large box underneath. It will hardly do for one to pick them up, at least for some little time, as they are hot when they leave the machine. Then, the grand display of wire rope for rigging; the mammoth hawsers for large vessels; the steel wire rope for our cable systems; beautifully designed summer houses, and even down to fine bird cages; wire screenings of every size, from that strong enough for a jail to that in general use for kitchen windows. In fact, everything in the shape of wire ornaments, and for every purpose for which wire can be utilized, this Company presents in its various exhibits the practical results of many years of study and improvements. The office of the Company is at 329 Market.

MANTELS, MIRRORS, AND BRIC-A-BRAC

S. & G. Gump have one of the most exquisite displays in the Fair. The designs in mantels are very artistic. A feature of their display is the beautiful varieties shown in tiles and hearths. Their parlor ornaments attract much attention from their unique styles.

FINE CARPETS

Next to the building of the house comes the furnishing thereof, and the goodly housewife turns her first attention to the carpets. No other place this side of the Rocky mountains can show the assortment of goods exhibited by Sloane & Co. Ravishingly exquisite designs may be seen of the Chehabas and Royal Fereghan (both Persian), Gobelin and Victorian Moquettes, Scotch Axminsters, Afghan, and in fact every kind of patterns to suit the most aristocratic tastes. Besides the car-

pets, Messrs. Sloane & Co., keep a full assortment of window hangings and adornments. This grand establishment may be found on Market street, near 3d, Nos. 641 to 647.

"MATHUSHEK'S PIANOS."

Geo. F. Wells presents a grand display of "Mathushek" pianos. Of the thousands who stand daily at his booth, but few are there who would not at once award the palm to the "Mathushek." Mr. Wells feels proud in the fact that the last prize ever given at the Mechanics' Fair for an eastern made piano was won by the "Mathushek." One peculiarity of the firm making these grand instruments is, that they never advertise. So that any one reading a notice of these pianos can say that it was to the excellence of the tone and finish that such praise was called forth. Some of the Piano Companies spend thousands of dollars yearly in advertising. This must be charged *pro rata* to each piano. With the "Mathushek" the buyer gets this discount. Mr. Wells can be found at 1360 Market street.

LARGE STICK OF TIMBER

Suspended overhead is the largest stick of timber ever sawn at a mill. It is 151 feet long, 20 inches square and contains 5033½ feet of lumber. But few knots can be seen in its entire length.

WILL & FINCK'S CUTLERY, ETC.

This firm's display proves that skill and energy will surmount all difficulties. Starting many years ago, in a very small way, they have gradually advanced, until to-day, there is not a house this side of the Rocky mountains can compete with them. Their display of home-made cutlery is superb. One of the specialties of this firm is their electric bell system. Many of our largest hotels and other buildings have been furnished with their electric bells and electric lightings. The annunciators furnished by this house are a model of neatness and availability. Their place of business is 818 Market street, in the Phelan building.

Mr. J. B. Kershaw, who represented Messrs. N. and G. Taylor Co., tin plates, metals and tanners' supplies, Philadelphia, from 1879 to 1886 as traveling salesman through the west and northwest, will again fill the same position with this old and reliable house, on and after August 1st. This notice will be acceptable to the trade west of the Mississippi, extending out to the coast, with whom Mr. Kershaw has hosts of friends.

Messrs. N. and G. Taylor Co. are the sole importers of the genuine and guaranteed brand of OLD STYLE Roofing Tin, and the return of Mr. Kershaw to this live and energetic house is not without considerable significance, and it is fair to presume that he finds it more profitable to sell the guaranteed, and what may be called the "original brands" of this house, rather than push the sale of any imitations that may be handled by other parties.

Messrs. N. and G. Taylor Co. carry a full line of all their guaranteed brands in not only their Chicago and New Orleans warehouses in addition to the stocks carried by jobbers who handle their goods, but have also placed their goods in the hands of Messrs. W. W. Montague & Co., of San Francisco; Harper & Reynolds Co., of Los Angeles, and we are now advised, have just established an agency with Messrs. Peters & Miller, galvanized iron cornice and tin plate workers, of Tacoma, Washington Territory. They sell an immense quantity of their guaranteed brands all along the line of the Central and Northern Pacific, in fact, from a circular just issued by this house, we notice in the list nearly all the prominent jobbers and tin plate houses of the United States, which seems to us not only flattering to the brand they represent the sale of, but also creditable to this old and reliable house of Taylor & Co., who established their business as far back as 1810, in the old city of Philadelphia.

ESTABLISHED MARCH 17, 1868

W. J. HENNEY & CO.

DIRECT IMPORTERS OF
RELIABLE AND STYLISH
FURNITURE & CARPETS.
MANUFACTURERS OF
ART DRAPERIES, FINE BEDDING,
ETC.

18, 20 & 22 ELLIS STREET
NEAR
MARKET & STOCKTON.
SAN FRANCISCO,
CALIFORNIA.

Rural Homes, Wheeler.	1 50
Old Homes Made New.	50
The Suburban Cottage.	1 50
Homes for the People.	2 00
Leffel's House Plans.	2 00
Water Closets.	1 00
Sewer Gas.	1 25
Steam Engine Catechism.	1 00
Builder's Guide.	2 00
Cozy Homes.	25
How to Paint.	1 00
Cutting Tools.	1 50
Universal Assistant.	2 50
Rural Architecture.	1 50
Wonders of Art.	1 25
Grimshaw on Saws.	4 00
Dwellings, Reed.	3 00
Plumbing, Appliances.	1 50



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SAN FRANCISCO.

The above beautiful design was prepared especially for this Journal, and is peculiarly appropriate for a suburban home.

STANDARD UNIFORM CONTRACT.

Some time ago, special committees from the American Institute of Architects, the Western Association of Architects, and the National Association of Builders, were appointed to draw up a form of contract for general use, all over the United States.

The object sought to be obtained by the Committee was to prepare a Form of Contract which could be received and adopted generally by architects and builders as a Standard Form, and in which the several provisions necessary to constitute an equitable agreement, as between the owner and the builder, would be incorporated. The Joint Committee were empowered by their respective Associations to prepare and adopt such a Form of Contract, and this work, as embodied in the accompanying printed copy, may be said to be the authorized Standard Form of said Association.

A copy of the "Contract" has been forwarded to this office. We present it in full. AS THE "CONTRACT" HAS BEEN COPYRIGHTED, copies can only be obtained through the "Inland Publishing Co." Chicago, Ill. If desired, forward your application to the Company, and your name and address will be printed in the proper places.

We can furnish them complete, with your names, etc., added for \$2 00 per hundred or \$10 per thousand.

THIS AGREEMENT, made the day of
..... in the year one thousand, ... hundred and,
by and between,

..... part of the first part
(hereinafter designated the Contractor) and,

..... part of the second part
(hereinafter designated the Owner);

WITNESSETH that the Contractor, being the said part of the first part, in consideration of the covenants and agreements herein contained, on the part of the Owner, being the said part of the second part, do covenant, promise and agree with the said Owner, in manner following, that is to say:

1st. The Contractor shall and will well and sufficiently perform and finish, under the direction, and to the satisfaction of Architect (acting as Agent of said Owner), all the work included in the,

agreeably to the drawings and specifications made by the said Architect, and signed by the parties hereto, (copies of which have been delivered to the Contractor), and to the dimensions and explanations thereon, therein and herein contained, accord-

ing to the true intent and meaning of said drawings and specifications, and of these presents, including all labor and materials incident thereto, and shall provide all scaffolding, implements and cartage necessary for the due performance of the said work.

2d. Should it appear that the work hereby intended to be done, or any of the matters relative thereto, and are not sufficiently detailed or explained on the said drawings, or in the said specifications, the Contractor shall apply to the Architect for such further drawings or explanations as may be necessary, and shall conform to the same as part of this contract, so far as they may be consistent with the original drawings, and in event of any doubt or question arising respecting the true meaning of the drawings or specifications, reference shall be made to the Architect, whose decision thereon, being just and impartial, shall be final and conclusive. It is mutually understood and agreed that all drawings, plans and specifications are and remain the property of the Architect.

3d. Should any alterations be required in the work shown or described by the drawings or specifications, a fair and reasonable valuation of the work added or omitted, shall be made by the Architect, and the sum herein agreed to be paid for the work according to the original specification, shall be increased or diminished as the case may be. In case such valuation is not agreed to, the Contractor shall proceed with the alteration, upon the written order of the Architect, and the valuation of the work added, or omitted shall be referred to (3) three Arbitrators, (no one of whom shall be personally connected with the work to which these presents refer), to be appointed as follows: one by each of the parties to this contract, and the third by the two thus chosen; the decision of any two of whom shall be final and binding, and each of the parties hereto shall pay one-half of the expense of such reference.

4th. The Contractor shall, within twenty-four hours after receiving written notice from the Architect, to that effect, proceed to remove from the grounds or building, all materials condemned by, whether worked or unworked, or take down all portions of the work which the Architect shall condemn as unsound or improper, or as in any way failing to conform to the drawings and specifications, and to the conditions of this contract. The Contractor shall cover, protect and exercise due diligence to secure the work from injury, and all damage happening to the same by neglect, shall be made good by.

5th. The Contractor shall permit the Architect, and all persons appointed by the Architect, to visit and inspect the said work or any part thereof, at all times and places during the progress of the same, and shall provide sufficient, safe and proper facilities for such inspection.

6th. The Contractor shall and will proceed with the said work, and every part and detail thereof, in a prompt and diligent manner, and shall and will wholly finish the said work according to the said drawings and specifications, and this contract, on or before the day of in the year one thousand, hundred and (provided that possession of the premises be given the Contractor, and lines and levels of the building furnished him, on or before the day of in the year one thousand, hundred and), and in default thereof the Contractor shall pay to the Owner, dollars for every day thereafter that the said work shall remain unfinished, as and for liquidated damages.

7th. Should the Contractor be obstructed or delay in the prosecution or completion of the work by the neglect, delay or default of any other contractor; or by any alteration which may be required in the said work; or by any damage which may happen thereto by fire, or by the unusual action of the elements, or otherwise; or by the abandonment of the work by the employees through no default of the Contractor, then there shall be an allowance of additional time beyond the date set for the completion of the said work; but no such allowance shall be made unless a claim is presented in writing at the time of such obstruction or delay. The Architect shall award and certify the amount of additional time to be allowed; in which case the Contractor shall be released from the payment of the stipulated damages for the additional time so certified and no more. The Contractor may appeal from such award to arbitrators constituted as provided in Article 3d of this contract.

8th. The Contractor shall not let, assign or transfer this contract, or any interest therein, without the written consent of the Architect.

9th. The Contractor shall make no claim for additional work unless the same shall be done in pursuance of an order from the Architect, and notice of all claims shall be made to the Architect in writing within ten days of the beginning of such work.

10th. The Owner agree to provide all labor and materials not included in this contract in such manner as not to delay the material progress of the work, and, in the event of failure so to do thereby causing loss to the Contractor, agree that will reimburse the Contractor for such loss; and the Contractor agree that if shall delay the material progress of the work so as to cause any damage for which the Owner shall become liable (as above stated), then shall make good to the Owner any such damage over and above any damage for general delay herein otherwise provided; the amount of such loss or damage, in either case, to be fixed and determined by the Architect, or by arbitration, as provided in Article 3d.

11th. The Owner shall effect insurance on said work, in his own name and in the name of the Contractor, against loss or damage by fire, in such sums as may from time to time be agreed upon with the Contractor, the policies being made to cover work incorporated in the building, and materials for the same in or about the premises, and made payable to the parties hereto as their interest may appear.

12th. Should the Contractor at any time refuse or neglect to supply a sufficiency of properly skilled workmen, or of materials of the proper quality, or fail in any respect to prosecute the work with promptness and diligence, or fail in the performance of any of the agreements on part herein contained, such refusal, neglect or failure being certified by the Architect, the Owner shall be at liberty, after three days written notice to the Contractor, to provide any such labor or materials, and to deduct the cost thereof from any money then due or thereafter to become due to the Contractor under this contract; and if the Architect shall certify that such refusal, neglect or failure is sufficient ground for such action, the Owner shall also be at liberty to terminate the employment of the Contractor for the said work and to enter upon the premises and take possession of all materials thereon; and to employ any other person or persons to finish the work, and to provide the materials therefor; and in case of such discontinuance of the employment of the Contractor he shall not be entitled to receive any further payment under this contract until the said work shall be wholly finished, at which time, if the unpaid balance of the amount to be paid under this contract shall exceed the expense incurred by the Owner in finishing the work, such excess shall be paid by the Owner to the Contractor, but if such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the Owner. The expense incurred by the Owner as herein provided, either for furnishing materials or for finishing the work and any damage incurred through such default, shall be audited and certified by the Architect whose certificate thereof shall be conclusive upon the parties.

13th. And it is hereby mutually agreed between the parties hereto, that the sum to be paid by the Owner to the Contractor for said work and materials shall be subject to additions or deductions on account of alterations as herein before provided, and that such sum shall be paid in current funds by the Owner to the Contractor in installments, as follows:

It being understood that the final payment shall be made within days after this contract is completely finished; provided, that in each of the said cases the Architect shall certify in writing that all the work upon the performance of which the payment is to become due has been done to satisfaction; and provided further, that before each payment, if required, the Contractor shall give the Architect good and sufficient evidence that the premises are free from all liens and claims chargeable to the said Contractor; and further, that if at any time there shall be any lien or claim for which, if established, the Owner or the said premises might be made liable, and which would be chargeable to the said Contractor, the Owner shall have the right to retain out of any payment then due or thereafter to become due, an amount sufficient to completely indemnify against such lien or claim, until the



VARIOUS DESIGNS FOR BUSINESS BUILDINGS.

same shall be effectually satisfied, discharged or cancelled. And should there prove to be any such claim after all payments are made, the Contractor shall refund to the Owner all moneys that the latter may be compelled to pay in discharging any lien on said premises, made obligatory in consequence of the former's default.

14th. It is further mutually agreed between the parties hereto, that no certificate given or payment made under this contract, except the final certificate or final payment, shall be conclusive evidence of the performance of this contract, either wholly, or in part, against any claim of the Owner, and no payment shall be construed to be an acceptance of any defective work.

15th. And the said Owner hereby promise and agree with the said Contractor to employ, and hereby employ to provide the materials and to do the said work according to the terms and conditions herein contained and referred to, for the price aforesaid, and hereby contract to pay the same, at the same time, in the manner, and upon the conditions above set forth.

16th. And the said parties for themselves, their heirs, executors, administrators and assigns, do hereby agree to the full performance of the covenants herein contained.

IN WITNESS WHEREOF, the parties to these presents have hereunto set their hands and seals, the day and year first above written.

In presence of

Great Chances for Three Inventors.

I have often taken occasion to remark that the world is awaiting the appearance of three great inventors, greater than any who have gone before; and to whom it will accord honors and emoluments far exceeding all ever yet received by any of their predecessors. The first is he who will show us how, by the combustion of fuel, directly to produce the electric current; the second is the man who will teach us to reproduce the beautiful light of the glowing-worm and the fire-fly—a light without heat, the production of which means the utilization of energy without that still more serious waste than the thermo-dynamic loss now met with in the attempt to produce light; while the third is the inventor who is to give us the first practically successful air ship. The first two of these problems are set for the electric engineer, and we may be pardoned excess of faith, should it prove to be such, when, contemplating the enormous gain to humanity which must come of such inventions, we look confidently for the genius who is to multiply the wealth of the world to an extent beside which even the boon conferred by the creators of the steam engine and telegraph will not appear overshadowing. When this inventor comes forward, and most probably not till then, it is very likely that we shall see steam superseded by a rival.—Prof. R. H. Thurston.

Galvanized Iron for Water Pipes, Tanks, etc.

I had the notion of using galvanized iron pipes, coated inside and out, for the service pipes of my house, but on asking advice on the subject, I have been informed that the material is declared to be unhealthful, and that its uses is forbidden in many places. I happened to notice, also, the accompanying note on the subject, in one of the scientific papers, which is to the same effect (clipping enclosed). Will you please give me the benefit of your opinion?—M. W., Cumberland, Md.

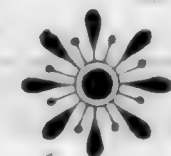
Answer. The clipping enclosed read as follows: "We do not consider galvanized iron to be a safe material for water pipes. Zinc is a metal which is readily attacked and dissolved by certain waters, forming unwholesome and poisonous salts." Replying to the above, we do not share in the opinion conveyed in the quoted item. We have never met with any well-authenticated case of hurtful influence exerted by zinc or galvanized iron when used as the contact surface for service pipes or tanks for water for household use. There is but one salt of zinc that may be said to possess actively poisonous qualities—namely, the chloride; and the likelihood of this salt being formed under any circumstances at least in quantity sufficient to dangerously affect the water is almost infinitely small. The action of portable water on a surface of zinc will be to form an exceedingly thin coating of oxide, and ultimately of carbonate of zinc over the entire surface. And as this salt is very insoluble, it will effectually protect the underlying metal from the further chemical change for an indefinite period. The Massachusetts State Board of Health, some years ago, investigated the subject, and made a report affirming the comparative harmlessness of zinc or galvanized iron for the purpose herein named. An instructive confirmation of this judgment is given by the example of the city of Hartford, Conn. In 1855, at the recommendation of the Water Commissioners of that city, service pipes of iron, galvanized inside and outside, were adopted there, and have been in use ever since. They are used also, to a considerable extent in Philadelphia, and other cities. So far as we are aware, in none of these places has the slightest bad effect been traced to the practice. Such evidence ought to outweigh any amount of condemnation based simply on hypothesis. In writing some time since, in this journal, on system, we took occasion to comment on the immunity, from any specific disease, of the men who work at the galvanizing pots, that could be traceable to the absorption of the metal. The use of sal-ammoniac as a flux to clear the surface of the melted zinc in the pot, causes clouds of the chloride to be carried into the air. Yet the men work at these pots day after day, sometimes when ventilation is bad (as on a damp day), enveloped in clouds of it so as to appear like shadowy figures at a short distance away, without noticeably affecting their general health. It is safe to assert, we believe, that a galvanizer handling iron about a galvanizing pot, takes into his system through the mouth and nostrils, whence it finds its way into the stomach and lungs, more zinc in the course of a single day's work than he would be likely to get from his galvanized water service pipes in a month. In the face of such a fact as this, the denunciation of zinc for water-storage tanks and conduits, out of fear of the consequences of the homeopathic doses of this metal that would be dissolved, is, in our judgment, a bugaboo.—M/r. and Builder.

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CITY BUILDING NEWS.

*There is no Paper or Journal on
 the Pacific Coast that pretends to
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CALIFORNIA Architect and Building News.

Ash Ave., between Buchanan and Laguna, residence. Owner Peter Flynn; architect Henry Geiffus; contractor Jas. Finn; cost \$2,045; signed Aug. 16th, '88; filed Aug. 18th; limit Oct. 20th.

1st payment when roof is on \$500; 2d, when partition and outside work done \$500; 3d, when completed \$530; 4th usual 35 days \$515.

Ashbury and Waller, frame building. Owner, Julia Gascon; architect, Wm. Mosser; contractor, J. J. Plumm; cost, \$2,900; signed, Aug. 15, 1888; filed Aug. 16, 1888; sureties, F. Joost and C. S. Holmes; limit, 10 days.

Payments, seventy-five per cent as work progresses; balance 35 days.

Army Ave., near San Jose avenue, additions to two buildings. Cost, \$800.

Broderick, between Sutter and Bush, one-story frame. Owner, S. Leszynski; architect, W. H. Armitage; cost, \$3,000.

Bush between Fillmore and Webster, two-story and basement frame. Owner Rosalie Morris; architect John & Zimmerman; contractor F. W. Kern; cost \$4,215; signed Aug. 15th, '88; filed Aug. 17th, '88; sureties O. W. Nordwell and E. Joost; limit Dec. 1st, '88.

1st payment when framed \$800; 2d, when partitions are up \$800; 3d, rough mortared and outside finish on \$800; 4th when the inside is ready to paint \$750; 5th and last usual 35 days, \$1,062.

Buchanan, near O'Farrell, additions. Owner, W. Plums; cost, \$1,500.

Bryant ave between 24th and 25th, two-story frame. Owner, Patrick Angler; architect and builder, Geo. Houston; cost, \$3,000.

Clinton Park, near Dolores, two-story frame. Owner and builder, J. McBean; cost, \$4,500.

Capp, near Twenty-fifth, one-story frame. Owner and builder, Lewis; cost, \$3,000.

Clayton between Page and Oak, one-story cottage. Owner, Miss Marie J. Casten; architect, Jas. E. Wolfe; contractor, J. W. Sims; cost, \$1,975; signed, August 30th, filed, September 1st; limit, Nov. 10th; surety, D. Jordan; amount of bond, \$1,000.

1st payment, roof sheathing on, \$300; 2d, floored, \$300; 3d, brown coated, \$450; 4th, completed, \$431; balance, usual 35 days.

Clay between Central ave and Walnut street, two-story frame. Owner, J. W. Kelly; contractor, S. M. Hills; cost, \$2,700.

Clay, near Walnut, two-story frame. Owner, W. J. Kelly; architect and builder, S. M. Hills; cost, \$2,500; signed Aug. 30, 1888; filed Aug. 31, 1888.

1st payment, when enclosed, \$600; 2d, when brown coated, \$600; 3d, when completed, \$600; 4th, usual 35 days, \$700.

Clay and Mason, residence. Owner C. Wreden; architect H. Geiffus; contractor F. W. Kern; cost \$3,080; signed Aug. 14th; filed Aug. 18th, '88; limit Nov. 15th, '88.

1st payment when roofed \$600; 2d, brown coated \$600; 3d, hard finished \$600; 4th when completed \$510; 5th and balance usual 35 days \$770.

Columbia and 24th, improvements. Owner Louis Kahn; architect H. Geiffus; contractor J. W. Sims; cost \$1,625; signed Aug. 16th, '88; filed Aug. 18th, '88; limit Oct. 15th, '88.

1st payment when brickwork and plank-ing is done \$600; 2d when completed \$600; 3d, usual 35 days, \$425.

Diamond, near Eighteenth, two-story and basement. Owner, N. Straub; architect, John Zimmerman; contractor, J. Klein; cost, \$3,300; signed, Aug. 25, 1888; filed, Aug. 28, 1888; surety, C. S. Holmes; limit, Nov. 1st, 1888.

1st payment, when frame is up, \$825; 2d, when partitions are set, \$825; 3d, ready to paint, \$425; 4th, when completed, \$400; 5th, usual 35 days, \$825.

Diamond, near 18th, two-story and base-ment. Owner, N. Straub; architects, John & Zimmerman; contractor, J. Klein; cost, \$3,300; signed Aug. 25, 1888;

1003 Devisadero, alterations. Owner Anna Callingham; architect Schmidt & Shea; contractor Thos. Elam; cost \$1,325; signed Aug. 16th, '88; filed Aug. 17th, '88.

1st payment when building is enclosed on roof \$490; 2d, when completed \$500; 3d and last usual 35 days \$335.

Emma, near Ridley, two-story frame. Owner, J. T. Meyers; contractors, Martin & Maguire; cost, \$2,800.

Eddy and Buchanan, two-story frame. Owner, Elizabeth Burns; architect, B. Henrick, sen; contractor, A. G. Fitzpatrick; cost, \$4,262; signed Aug. 14th; filed Aug. 16th; sureties, Jas. Pendergast; limit, 70 days; amount of bond, \$4,300.

1st payment, when roof is on, \$800; 2d, when brown coated and outside finish on, \$800; 3d, white coated and sashes hung, \$800; 4th, when varnished and trimmed, \$800; 5th and balance, 35 days, \$1,062.

Emma near Ridley, two-story frame. Owner Jno. F. Meyers; contractor Martin & Maguire; cost \$2,550; signed Aug. 6th, '88 filed Aug. 17th, '88; sureties, J. W. Wes-son; limit 90 days.

1st payment when framed \$500; 2d, when brown coated and pipes in \$500; 3d, plumb-ing done and doors hung \$500; 4th, white coated and prime coat of paint \$500; 5th, when completed \$500.

Eighteenth and Noe, two-story frame. Owner, McQueen; contractors, McCready Bros.; cost \$5,000.

Eighteenth, near Collingwood, one-story frame. Owner, Graham; builders, Mc-Cann & Schetzer; cost, \$2,000.

Eighteenth, near Collingwood, additions; cost, \$1,200.

Fell bet Webster and Franklin, two-story frame. Owner, Wm. Olsen; architect, H. D. Mitchell; contractor, R. Sinnott; cost, \$2,950; filed, September 5th; limit, Nov. 12th.

Payments—frame up, \$900; brown mortar on, \$800; white mortar on, \$700; balance, \$550, 35 days.

Fell between Webster and Franklin, build-ing, W. Olsen; architect, H. D. Mitchell; contractor, R. R. Fraxler; cost, \$2,620; signed, August 27th; filed, August, 28th; limit, Nov. 5th, surety, C. A. Malm.

Payments; 1st, when frame is up, \$600; 2d, when brown coated, \$700; 3d, when building is primed, \$700; 4th, usual 35 days, \$620.

Fell, between Webster and Fillmore, two-story frame. Owner, Catherine Rubling; archi-tect, John & Zimmerman; contractor, Adam Miller; cost, \$6,020; signed Aug. 16th; filed Aug. 30th; limit, Nov. 15th; sureties, Chas. Lackeman and H. Wil-liamson.

1st payment, when framed, \$1,000; 2d, when partitions are set, \$1,000; 3d, outside finish on, \$1,500; 4th, when inside is ready to paint, \$1,000; 5th, usual 35 days, or when bills are all paid, \$1,520.

Ford, near 17th, two two-story frame. Owner and Builder, I. Sullivan; cost, \$4,000.

Fifth, near Mission, additional story. Cost, \$2,500.

Folsom near 8th, building. Owner, Mrs. E. Hauser; architect, Saffield & Kohlberg; contractor, Kincaid and Thompson; cost, \$4,160; signed Aug. 16, 1888; filed Aug. 29, 1888; limit, 65 days.

1st payment, when building is framed, \$800; 2d, when building is roofed, \$800; 3d, when building is brown coated, \$840; 4th, when completed, \$900; 5th, balance usual 35 days; sureties, F. P. Latson and John F. Kennedy; amount of bond \$4,660.

Fillmore between Golden Gate ave and McAllister street, two-story frame. Owner, E. McEneaney; architect, M. J. Welsh; contractor, T. Sullivan (plumbing and gas excepted) cost, \$3,487; sureties, F. Joost, W. Thyarks; signed, Sept. 4th; filed, Sept. 5th; limit, 79 days.

Payments; frame all up, \$870, brown mortar on, \$870; completed, \$870; balance, \$877, 35 days.

Fillmore between Golden Gate ave and McAllister, two-story frame. Owner, E. McEneaney; architect, T. J. Welsh; contractor, T. Sullivan; cost, \$4,500.

Fifth, near Harrison, two-story frame. Owner, Jno. Löffler; architects, John & Zimmerman; contractor, C. Roebber; cost, \$1,220; signed Aug. 22, 1888; filed Aug. 30, 1888; limit, 30 days.

1st payment, when frame is up, \$400; 2d, when roofed, \$400; 3d payment, 35 days, \$420.

Franklin and Ellis, stair building. Owner Academy of Sacred Heart; architect C. J. I. Devlin; contractor A. Sanborn; cost \$2,100; signed Aug. 9th, '88; filed Aug. 17th, '88.

1st payment when the stringers tread and risers of main stairs are in place \$1,000; 2d when completed \$1,100.

Franklin and Ellis, plastering contract. Owner, Academy of Sacred Heart; architect C. J. I. Devlin; contractor, Martin Garrick; cost \$3,550; signed Aug. 8th, '88; filed Aug. 17th, '88; sureties, Flanagan & Mason; amount of bond \$3,000; limit Sept. 1st, '88.

1st payment, 1st coat of mortar \$900; 2d, hard finish \$850; 3d when completed \$900; 4th, usual 35 days, \$900.

Fulton, No. 426, two-story frame. Owner, Mrs. M. Dowling; architect and builder, G. M. Salisbury; cost, \$3,500.

Fulton, near Lyon, two-story frame. Owner, H. Winter; architect, John & Zimmerman; contractor, F. W. Kern; cost, \$4,170; signed Aug. 22, 1888; filed Aug. 30, 1888; limit, Dec. 1, 1888; sureties, Joost & Nordwell.

1st payment, when framed, \$800; 2d, when brown coated, \$1,000; 3d, inside finish ready to paint, \$1,300; 4th, usual 35 days, \$1,020.

426 Fulton, two-story frame. Owners, Jas. and Mary Dowling; architect, Geo. M. Salisbury; contractor, Geo. M. Salisbury; cost, \$3,135; signed Aug. 23d, 1888; filed Aug. 30, 1888; limit, Nov. 22d, 1888.

1st payment, when rafters are set, \$1,000; 2d, when building is brown coated, \$1,100; 3d, balance, usual 35 days, \$1,035.

Golden Gate ave near Larkin, two-story additions and repairs to building. Owner, Carpenter & Son; architect, W. H. Armitage; cost, \$6,000.

Golden Gate ave near Larkin two-story additions. Owner, M. Shaif and L. Wilbert; architect and builder, J. J. Cummings; cost, \$1,120; signed, August 29th; filed, August 29th; limit, Oct. 1st.

1st payment, \$100 one week; 2d, when building is enclosed, \$20; 3d, when building is completed, \$120; 4th, 90 days from Aug. 29th, \$700.

Golden Gate Ave and Polk, brickwork. Owner, Hugh Keenan; architect, C. J. I. Devlin; contractor, C. Ferris; cost \$4,380; signed Aug. 2d, '88; filed Aug. 18th, '88; limit 4 weeks; sureties R. Llewellyn and J. Williamson; amount of bond \$4,000.

Payments, 75 per cent of work done when wall and piers are ready for 1st story and 1st story walls are ready for 2d story joists and when 2d story walls are ready for roof frames; balance on completion if no liens.

Golden Gate ave corner Polk three-story brick. Owner, Bryan; architect, C. Devlin; mason, C. Ferris; carpenter, H. Keenan; cost, \$25,000.

Guerrero street, additions. Owner, Mrs. H. Kahler; architect, H. Daley; cost, \$1,500.

Guerrero st. No. 11, alterations. Owner, H. S. Kaler; architect, R. H. Daley; contractor, Ivory Wells; cost, \$1,500.

Guerrero, near 26th, additions; cost \$800.

Harrison, near 26th, two-story frame. Owner, Geo. Fuchs; architect, R. H. White; contractor, Rountree Bros.; cost, \$4,157; signed Aug. 29, 1888; filed Aug. 31st, 1888; limit, 90 days; surety, Latson & Kennedy.

1st payment, when roofed, \$900; 2d payment, brown coated, \$800; 3d, primed, \$700; 4th, completed, \$707; balance, usual 35 days.

Harrison near Sixth, two-story frame. Owner, George Fuchs; architect, R. H. White; contractor, Rountree Bros. cost \$4,500.

Hayes between Laguna and Buchanan, two-story frame. Owner, Mrs. M. Tracy; architect, W. Mooser; contractor, J. Bruce; cost, \$4,800.

Hyde between California and Sacramento, two-story frame. Owner, Jas. Ford; architects, Schmidt & Shea; contractors, Linden Bros. cost, \$3,954; signed, Aug. 17; filed Sept. 3d.

Payments; frame up and enclosed, \$740; brown coated, \$740; hard finished, \$740; completed \$744; balance, \$990, 35 days.

Howard near 15th, two-story frame. Owner, Henry Haustien; architect, H. Geilfus; contractors, Schutt & Kreeker; (except plumbing and painting) amount, \$3,950; signed, Sept. 3d; filed, Sept. 3d.

Payments; when frame is up \$590; enclosed and partitions set, \$590; brown mortar finished, \$590; white mortar on, and inside finishes up, \$590; all completed, \$590; balance, \$1,000 usual 35 days.

Howard and 20th, plumbing contract. Owner Nellie G. Barkus; architect J. H. Littlefield; contractor Sweeney & Kearns; cost \$688. signed Aug. 3d, 1888; filed Aug. 9th 1888.

Payments \$344 when rough pipes are in; balance usual 35 days.

Howard near 15th, two-story frame; Owner, H. Hanstein; architect, H. Geilfus; contractor, Schutt & Kreeker; cost, \$4,500.

Howard and 10th, grading. Owner, Omnibus Cable Co; architect, Percy & Hamilton; contractor, C. A. Warren; cost \$4,540; signed Aug. 2d, 1888; filed Aug. 7th, 1888; limit 49 days; sureties Shain & Richardson.

Payments at rate of 75 per cent as work progresses, balance usual 35 days.

Howard and Natoma, contract for well boring. Owner, Omnibus Cable Co; contractor, Wm. Allingham; cost \$5.80 per foot; limit 35 days; signed Aug. 7th; filed Aug. 7th.

Payment at the rate of 75 per cent; balance 35 days after completion.

Howard and 20th, two-story frame building. Owner, Nellie G. Barkus; architect J. H. Littlefield; contractor, Ingesson & Gore; cost \$7,800; signed Aug. 3d, 1888; filed Aug. 9th, 1888; limit Dec. 10, 1888; sureties W. J. Adams and R. L. Taylor. Payments, 75 per cent as work progresses; balance usual 35 days.

Hancock, near 19th, one-story frame. Owner, Dr. Merrill; contractors, Kincaid & Thompson; cost, \$2,500.

Jessie, near Ninth, additions. Cost, \$1,800.

Jones and Clay, painting. Owner, Magdalena Iis; architect, H. C. Macy; contractor, Geo. J. Smith; cost, \$1,595; signed Aug. 6, 1888; filed Aug. 11, 1888. 1st payment, when primed, \$350; 2d, when ready to grain, \$200; 3d, when ready to varnish, \$345; 4th, when completed, \$300; 5th and balance, usual 35 days, \$400.

Jackson and Pierce, carpenter work. Owner Kate A. Van Wyck; architect Wm. F. Jones; contractor Thompson & Moar; cost \$8,250; signed July 8th, '88; filed Aug. 17th, '88; sureties F. Joost; limit 5 months.

Payments 4 installments of \$1,537.50, balance usual 85 days.

Kentucky and Solano, one-story frame. Owner, John Daly; architect and builder, C. E. Dunshee; cost \$1,100; signed Aug. 8th 1888; filed Aug. 9th 1888; limit 50 days.

1st payment \$300 on or before completion; balance \$25 per month at 8 per cent.

Kearney, corner of Commercial, alterations. Owner, Mark Sheldon; cost, \$4,000.

Lyon, near Hayes, one-story frame. Owner, W. B. Webster; architect, A. J. Barnett; contractor, R. P. Sanchez; cost, \$4,000.

Moss between Howard and Folsom, two-story frame. Owner, J. J. Heinz; architect, W. H. Armitage; cost, \$3,000.

Noe, near 17th, one-story frame. Owner, Dr. Blood; contractors, Kincaid & Thompson; cost, \$2,500.

New Montgomery, between Filbert and Greenwich, frame building. Owner, Giovanni Guatelli; architect Wm. Mooser; contractor, Davoni & Idralgero; cost \$13,000; limit 110 days; signed Aug. 7th, 1888; filed Aug. 8th, 1888; sureties J. Cuneo and G. DeLuca.

Payments 75 per cent as work progresses; balance 35 days.

Natoma, bet 6th and 7th, two-story frame. Owner, Thos. McLaughlin; architect, M. J. Welsh; contractor, R. Sinnott; cost, \$3,000; signed July 3d; filed Aug. 14th; limit, 65 days; sureties, Jno. B. Walters and Owen Prunty.

1st payment, when frame is up, \$750; 2d, when brown coated, \$750; 3d, when completed, \$750; 4th, usual 35 days, \$750.

O'Farrell, near Laguna, two-story frame. Owner, Franklin Bros.; cost, \$14,000.

Post between Pierce and Scott, two-story frame. Owner, Mrs. Julia Chadwick; architect, T. J. Welsh; contractor, J. A. Shepard; cost, \$1,837; signed, Sept. 7th, filed, Sept. 11th; limit, 90 days; sureties, J. H. Jones, J. L. Shepard.

Payments; frame up, \$1,200; brown mortar on, \$1,200; completed, \$1,200; balance, \$1,237, 35 days.

Polk near Grove, one-story frame. Owner and builder, J. W. Smith; cost, \$1,000.

Page between Baker and Lyon, two-story frame. Owner, Michael E. Finn; architect and builder, Geo. Houston; filed, Sept. 11th; cost, \$3,696.

Payments; rustic on, \$922; brown mortar on, \$922; white mortar on, \$922; balance, \$936, 35 days.

Pierce, bet Sacramento and Clay, plumbing. Owner, C. J. Wingerter; architects, Schmidt & Shea; contractors, S. Ickleheimer & Bro.; cost, \$1,443; signed, Aug. 14, 1888; filed Aug. 15, 1888.

1st payment, when rough work is in, \$500; 2d payment, when completed, \$580; 3d, usual 35 days, \$363.

Pierce, bet Sacramento and Clay, two-story frame. Owner, C. J. Wingerter; architects, Schmidt & Shea; contractor, Wm. Pluns; cost, \$4,100; signed, Aug. 11, 1888; filed Aug. 15, 1888; sureties, F. and B. Joost; limit, Nov. 4, 1888.

1st payment, when ready to plaster, \$900; 2d, when hard finished, \$900; 3d, when completed, \$900; 4th, usual 35 days, \$1,400.

Pierce, bet Turk and Eddy, residence. Owner, J. Mackonsy; architect, Wm. Mooser; contractor, J. W. Reid; cost, \$4,100; signed Aug. 11, 1888; filed Aug. 13, 1888; limit, 10 weeks and 3 days; sureties, E. Lundstedt and P. Mitchell.

Five payments, at the rate of 75 per cent as work progresses; balance, usual 35 days.

Pine and Octavia, four dwellings. Owner, S. Wenlan; architects, Pissis and Moore; contractor, A. Jackson; cost, \$19,388; signed, Aug. 28, 1888; filed, Aug. 31 1888; limit, 100 days.

1st payment, when framed, \$4,000; 2d, when brown coated, \$3,500; 3d, when hard finished, \$3,500; 4th, when ready to paint, \$3,000; 5th, when completed, \$538; balance usual 35 days, \$4,850.

Pine and Octavia, four dwellings. Owner, S. Wenlan; architects, Pissis & Moore; contractor, A. Jackson; cost, \$19,388; signed Aug. 28, 1888; filed August 31, 1888; limit, 100 days.

1st payment, when framed, \$1,000; 2d, when brown coated, \$3,500; 3d, when hard finished, \$3,500; 4th, when ready to paint, \$3,000; 5th, when completed, \$538; balance, usual 35 days, \$4,850.

Steiner, near Haight, frame building. Owner, A. C. Christensen; architect, Saffield & Kohlberg; contractor, John F. Grant; cost, \$3,667; signed, Aug. 28, 1888; filed, Aug. 29, 1888; limit—surety, Geo. W. Watson and A. D. Moore; amount of bond, \$3,600.

1st payment, when building is brown coated, \$1,375; 2d, when completed, \$1,375; 3d, usual 35 days, \$917.

Sutter, near Gough, additions to school building. Architect, T. J. Welsh; cost, \$4,000.

Second, corner of Market, alterations to a part of Grand Hotel. Hussey, Superintendent, \$10,000; architect, Smith.

Sanchez, bet 15th and 16th, 2 story and basement frame. Owner, Christina and August Goetze; architect, A. Goetze; contractor, Wm. Plans; cost \$4,220; signed July 10th, 1888; filed Aug. 10th, limit 85 days; sureties B. Joost and W. Thyarks.

1st payment when enclosed and roofed \$1,000; 2d, when brown coated \$1,000; 3d, when completed \$1,120; 4th and balance usual 35 days \$1,100.

Stockton and California, three story frame. Owner Janet S. Portues; architect and builder, F. E. Neubauer; cost \$11,260; signed Aug. 15th, '88; filed Aug. 16th, '88; limit 4 months.

Payments 75 per cent as work progresses; balance usual 35 days.

Sumatra and Susquehanna, one-story frame. Owner, B. Sallies; architect W. H. Armitage; cost, \$2,800.

Scott, near Jackson, additions. Cost, \$4000.

Townsend and Clarence Place, three story brick. Owner, Cal. Elec. Light Co.; architects, Percy & Hamilton; cost, \$60,000.

Townsend and Clarence Place, brick work. Owner, Cal. Elec. Light Co.; architects, Percy and Hamilton; contractors, Richardson and Gale; cost, \$15,690; signed, Aug. 22, 1888; filed, Aug. 28, 1888; limit, 75 days.

Payments 75 per cent 1st, Saturday in each month; balance usual 35 days.

Townsend and Clarence Place, wrought iron. Owner, Cal. Elec. Light Co.; architect, Percy Hamilton; contractors, Biglow and Little; cost, \$3,557; signed, Aug. 22, 1888; filed, Aug. 28, 1888; limit, 60 days.

Payments 75 per cent 1st, Saturday each month; balance usual 35 days.

Townsend and Clarence Place, carpenter work. Owner, Cal. Elec. Light Co.; architect, Percy and Hamilton; contractor, Thos. Day; cost, \$11,796; signed, Aug. 22, 1888; filed, Aug. 28, 1888; limit, 45 days.

Payments, 75 per cent 1st Saturday in each month; balance usual 35 days.

Townsend and Clarence Place, Joshua Hendy machine works. Owner, Cal. Elec. Light Co.; cost, \$5,175; signed, Aug. 22 1888; filed, Aug. 28, 1888; limit, 40 days.

Payments 75 per cent 1st, Saturday in each month; balance usual 35 days.

Townsend and Clarence Place, iron roofing. Owner, Cal. Elec. Light Co.; architect, Percy and Hamilton; contractor, Jos. F. Foderer, \$2,900; signed, Aug. 22, 1888; filed, Aug. 28, 1888; limit, 20 days.

Payment, 75 per cent 1st Saturday each month; balance usual 35 days.

Turk near Larkin, two-story frame. Owner, Daley; architect, Welsh; contractor, Davis; cost, \$6,000.

Treat ave, between 24th and 25th, frame building. Owner J. Quinlan; architect, Geo. Houston; contractor Geo. Houston; cost \$2,790; signed Aug. 8th 1888; filed Aug. 9th 1888; limit Nov. 10, 1888.

1st payment when rafters are in place \$690; 2d, when brown coated \$700; 3d, hard finished and inside doors are in place \$700; 4th and last \$700, 35 days as usual.

Twentieth and Howard, two-story frame, painting. Owner, Nellie G. Backus; architect, J. H. Littlefield; contractor, Jos. Larsen; cost, \$460; signed Aug. 3, 1888, filed Aug. 13, 1888; limit, 18 days. 75 per cent as work progresses; balance; usual 32 days.

Twenty-second, bet Harrison and Alabama, residence. Owner, Mrs. D. E. Keeks; architect, M. J. Welsh; contractor, T. Sullivan; cost, \$2,375; signed, Aug. 11, 1888; filed Aug. 13, 1888; sureties, F. Joost and W. Thyarks; limit, 70 days.

1st payment, when building is framed, \$593; 2d, when brown coated, \$593; 3d, when completed, \$593; 4th and last, usual 35 days, \$596.

Twenty-third near Noe, two-story frame. Owner, Mrs. Roberts; architect, W. H. Armitage; cost, \$4,500.

Twenty-seventh and Duncan, alterations. Owner, R. Dhu; architect, M. J. Welsh; contractor, E. Edwards; cost, \$1,875; signed Aug. 13, 1888; filed Aug. 13, limit, 60 days; sureties, J. Lewis and P. Swift.

1st payment, when framed, \$400; 2d, when brown coated, \$400; 3d, when completed, \$400; 4th, usual 35 days, \$675.

Van Ness and Sacramento, two-story frame, basement and attic. Owner, J. H. Neustadter; architect, Smidt and Shea; contractor, S. H. Kent; cost, \$23,950; signed, Aug. 30, 1888; filed, Aug. 31, 1888.

1st, payment, when second-story joists are set \$3,500; 2d, floors laid, \$3,500; 3d, brown coated, \$3,500; 4th, outside finish on, \$3,500; 5th, when completed, \$3,950; balance 35 days \$6,000; limit, seven months.

Van Ness, and Sacramento, plumbing. Owner, J. H. Neustadter; architects, Schmidt & Shea; contractors, Duffy Bros.; cost, \$2,985; signed, Aug. 30, 1888; filed, Aug. 31, 1888; limit, seven months; sureties, Watson & Adams.

1st payment, rough pipes in, \$900; 2d, all vessels except washstands set, \$550; 3d, when completed, \$785; 4th, usual 35 days, \$750.

filed Aug. 28, 1888; surety, C. S. Holmes; limit, Nov. 1, 1888.

1st payment, when frame is up, \$825; 2d, when partitions are set, \$825; 3d, when ready to paint, \$425; 4th, when completed, \$400; 5th, usual 35 days, \$825.

Van Ness and Sacramento, painting. Owner, J. H. Neustadter; architects, Schmidt & Shea; contractor, J. J. Donovan; cost \$1,815; signed Aug. 30, 1888; filed Aug. 31st, 1888; limit, 7 months.

1st payment, \$600, 2d coated; 2d, completed, \$750; 3d, 35 days, \$465.

Vallejo, near Webster, dwelling. Owner, D. D. Harris; architects, Pissis & Moore; contractor, C. S. Waterbury; cost, \$5,450; signed, Aug. 20, 1888; filed, Aug. 31, 1888; limit, 80 days; sureties, Latson & Holmes; amount of bond \$2,000.

1st payment, when framed, \$1,200, 2d, brown coated, \$1,000; 3d, hard finished, \$900; 4th, ready to paint, \$900; 5th, completed, \$80; 6th, usual 35 days \$1,370.

Valencia, between 24th and 25th building. Owner, M. K. Meachem; architect, M. J. Welsh; contractor, J. J. Dunn; cost, \$6,550; signed Aug. 9th, 1888; filed Aug. 11th, 1888; limit 75 days; sureties, C. S. Holmes and B. Joost.

1st payment when frame is up \$1,560;

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2d, when brown coated \$1,560; 3rd when completed \$1,560; 4th and last, usual 35 days \$1,570.

Valencia, near Herrman, additions. Cost, \$600.

Valencia, near Sixteenth, additions to brewery. Cost, \$800.

Washington and Waverly Place, three-story and basement, brick. Owner, Woo Tam; architect, J. J. and T. D. Newsom; contractor, Dennis Jordan; cost, \$3,250; signed, Aug. 27, 1888; filed, Aug. 28, 1888; limit, Nov. 25, 1888; surety, R. Llewellyn.

1st payment, when excavated, \$500; 2d, when the first story is up, \$500; 3d, when the roof is on, \$500; 4th, usual 35 days, \$550; \$1,200 is to be paid by monthly installments of \$100 with interest at 8 per cent.

Webster, bet O'Farrell and Geary, two frame buildings. Owner, L. Houser; architect, J. Marquis; contractor, M. J. Gorman; cost, \$10,650; signed Aug. 13, 1888; filed Aug. 13, 1888; sureties, J. Mahoney and Duffy Bros.; limit, 117 days.

1st payment, chimneys up and buildings roofed, \$2,050; 2d, ready to lath, \$2,000; 3d, when 1st coat of mortar is on, 1 coat of paint and sash glazed, \$2,000; 4th, when hard finished, plumbing and all fencing done, \$2,000; 5th, \$2,500, 35 days; 6th, \$100, at 60 days.

Waverly Place near Clay, three-story brick building. Owner, W. Alreuter; architects, Townsend and Wyneken; contractor, J. Pharo; cost, \$8,000.

COUNTRY BUILDING NEWS.

ALAMEDA.

Work has been commenced upon a handsome residence for Charles L. Hermann, on Alameda avenue, between Chestnut and Willow streets. It will be two stories in height, contain eleven rooms, and will be equipped with all modern conveniences. The cost will be about \$4,500. J. A. Leonard, of this city, is the architect.

ANHEIM.

A Goldthwaite will give all information in regard to a \$6,000 school building to be erected.

CHEHALIS, W. T.

N. B. Coffman can be addressed in regard to a \$7,000 school building.

EUREKA, H. B.

Henry Buhne, the tug owner, will build a \$10,000 residence. Jas. Simpson has the contract.

FRESNO.

Architect' Praum, formerly a partner with Mr. Daley of this city, has taken Mr. Saffell into partnership.

They have let a contract to G. B. Campbell for \$10,000 additions to the building of J. W. Ferguson. Also a \$20,000 brick building to same contractor for S. W. Griffith; plans are being prepared for Griffith & Co's \$5,000 three-story brick building, also for a \$7,000 building for P. Myer.

PASADENA.

H. Ridgeway is preparing plans for Mr. Brockaway. A \$2,000 brick building is contemplated.

PETALUMA.

Work has been commenced on H. B. Higbee's new residence on the Stanley lot. Ed. Hedges has the contract. It will be a one-story cottage and have all the modern improvements.

PORTLAND, OR.

Architect Kleeman has let a contract to Works & Gilbert for a \$1,500 cottage for J. Barley.

SHELTON, W. T.

A hotel building is being erected by Wm. Shorter.

SAN DIEGO.

Architects Clements & Co. notify us that a portion of the Hamilton Building will be erected at once. The total cost will be near \$400,000.

Henry Timkin will erect a \$9,000 residence, he having let the contract for same to Brewster & Whalen.

Comstock & Trotsche send us word that they are preparing plans for improvements to the Consolidated National Bank. Will cost nearly \$60,000.

SEATTLE, W. T.

S. Frauenthal will soon build a \$10,000 house.

SCARCITY OF MASONS—Contractors complain that brick masons are very scarce in Seattle, while the bricklayers' union claims that there are plenty of masons here to do all the work on hand at the present time. This indicates an unaccountable difference of opinion between the contractors and the masons.

Two large school houses will be built. Total cost over \$100,000. Address contractor Jas. Parke, for information.

SAN MIGUEL.

G. W. Spencer will have erected a brick building.

A \$1,000 hotel is being contemplated.

W. J. Smith will soon commence a five-room cottage for Amos Whittemore.

Work will soon commence upon a five roomed cottage for Amos Smith. W. J. Smith has the contract.

SAN BERNARDINO.

Architects Jones & Griffith yesterday let a contract to W. G. Hastings to erect two five-room cottages on G, between Second and Third, for Major B. B. Harris.

Wendell Easton, of Easton & Eldridge, the great realty firm of California, has aptly said that in architecture Los Angeles is entering upon the "stone age." The progress is from adobe to frame, from frame to brick, from common brick to pressed brick, from pressed brick to red stone and granite. Our new quarries will soon inaugurate the "marble age."

SANTA CRUZ.

The plans are being figured on for an Odd Fellows' Building. Address D. A. Damkroeger.

SAN JOSE.

S. Ellsworth is having a house built on his Saratoga avenue property.

TACOMA, W. T.

Architects Farrell & Darmer have plans for Birmingham & Hogue's \$20,000 three story brick building, and also for an \$18,000 brick building for Geo. B. Kandler.

Rev. G. H. Greer will have built for him by H. M. Matheson, a \$12,000 brick building.

RIVERSIDE.

Dr. S. R. Magee is building a fine residence on Magnolia avenue.

Work will soon be commenced on a handsome new residence for Mrs. Chalmers, the plans for which have just been prepared by A. C. Willard. The building is to be erected on Magnolia avenue and when completed will cost about \$8,000.

A. C. Willard has severed his connections with J. C. Pelton, Jr., and has just opened an office in the Castleman block, where he is prepared to execute plans and drawings for any and classes of buildings.

The plans are out for the building to be erected at the corner of Eighth and Orange streets, and it is expected that work on the building will be commenced within eight or ten days. The building will have a frontage on Eighth street of 75 feet. It will be three stories high, and when completed will be the handsomest block in the city.

The accepted plans for a new residence for R. S. Crombie are now ready. They were drawn by A. C. Willard, and are of the Queen Anne Eastlake style of architecture, and will go into the hands of the contractors the first of the month to make bids. The building is to be erected on Orange street between Thirteenth and Fourteenth and will be a two-story eleven-room house.

Contract was let September 1st to J. L. Woodward for a building for G. N. Reynolds.

Pottinger & Kroonen have commenced building the house for Mrs. J. S. Johnson, on Orange street, opposite the Glenwood. It is to be a two-story eleven-room house.

Work has been commenced on the new building to be erected by A. H. Naftzger, A. Haeblerlin and Down & Alguire, at the corner of Eighth and Orange streets. It will be two stories with fifty feet frontage on Eighth street, and running along Orange street ninety feet. It will be an imposing structure, built of pressed brick with red Arizona sandstone trimmings. The plans for the building were drawn by J. C. Pelton, and the contract for the brick and stone work was taken by Down & Alguire.

LIVERMORE.

All the carpenters in town are very busy at present.

John Beck is improving his property by the addition of a large stable.

The contract for the erection of Philip Anspacher's new cottage, corner of L street and College avenue, has been let to Capt. A. J. Palmer, of this place, and ground was broken last week. The work will be pushed rapidly forward. This will be one of the handsomest cottages in our town.

Jos. Fletcher is building an addition to his cottage.

VICTORIA, B. C.

Fisher & Wilson have let contract to Elford & Smith for a two-story brick building.

SAN PEDRO.

A school house to cost \$2,500 will be built. A. G. Barton has the contract.

Remaining Numbers of this year given free to all new Subscribers for 1889.

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No Others Received.

SAN FRANCISCO, OCT. 15, 1888.

But Seldom We Speak of Ourselves.

Without being egotistical we may safely say that this number of the CALIFORNIA ARCHITECT exceeds any of its predecessors in the amount of valuable reading matter furnished to its subscribers. It contains:

An Editorial on the New City Hall Tower.

Proceedings of the Chapter of Architects.

President Sander's masterly Address.

The New Plumbing Law.

A very interesting letter from E. C. Gilbert.

Report in full of the Committee on New City Hall Tower.

A complete summary of City Building News.

Country Building News.

List of members of Builder's Association.

Superb Illustrations.

An instructive article by Arthur Seymour Jennings.

And many other notable features. A steady improvement will be noted in each successive issue.

An Extra Edition.

For the past two months we have largely increased the number of our monthly issue. In December we guarantee to print 5,000 extra copies, which will be sent to parties all over the Coast who are interested in building matters.

SUBSCRIBE NOW FOR 1889.

Weekly Building News.

We are making arrangements to re-establish the WEEKLY BUILDING NEWS. One of our largest real estate dealers will assume control of the department devoted to transactions in real estate. Taken in connection with weekly building reports, we will present a complete record of all transactions benefitting directly those who build and those who furnish materials after dwellings are erected.

The City Hall Tower.

SINCE the first move was made toward the erection of the New City Hall, no one feature of the construction has attracted more general attention, interest and comment, nor provoked more pronounced controversy and disagreement as between the gentlemen composing the Board of Commissioners, than the tower.

To the architect it has been a very hard nut to crack, and the insignificant stipend pocketed by him each month in the shape of salary is a miserable compensation for the numerous annoyances alone encountered, to say nothing of the time, services and skill required of him as an architect. That he has and should have pride and ambition in the matter is both natural and reasonable, and it would be much less than fair to attribute wrong motives to him in striving to carry out and complete, according to his best judgment, so conspicuous and important a part of the work on the City Hall as the tower, which, if he is allowed to proceed with, must stand for all time as a monument to his architectural skill and genius, or stamp upon his name and memory all the ignominy that failure to produce a handsome, well-proportioned and properly-constructed tower will entail. Professionally, it will be life or death to him, as present and future generations will associate his name with praise if good, and reprobation and condemnation if he shall produce an architectural deformity at the expense of the public treasury. All this Mr. Laver undoubtedly well understands, and, as a sensible and intelligent man, has fully weighed and considered in his earnest efforts to have his high-tower plan adopted by the Commissioners and carried into execution; and, if the option was left with him, not a day of the time required in the construction of the tower would be lost. Is Mr. Laver wedded to his high-tower proposition? There can be no question upon that point, as he, with many other competent critics and judges, is satisfied that, if erected, the architectural delineations will be imposing and handsome in detail, and the general effect such as to command admiration from those whose esthetic eye and good judgment are capable of seeing and accepting the products of other minds than their own, upon the real merits of the thing produced, divested of all selfish and prejudiced cavillings, which, when applied, will see nothing except from the limited standpoint of their own individual notions.

It may be charged by some that this style of reasoning is inconsistent on the part of this journal, in view of the facts connecting the writer with a report made to the City Hall Commissioners upon the subject matter of this article. If so, we do not see it in that light. We have taken no decided stand in the matter, nor in any way expressed a fixed opinion in favor of or against any "type" of tower. And it appears to us that the question under review and all others, whether square, round or polygonal, have more than one side, to comprehend which, each must be viewed from a proper standpoint.

Mr. Laver, in his recent defense before the Board of Commissioners, very naturally and reasonably commended and argued the force and value of the reports of the two well-known civil engineers named by him, whose qualifications none will question, as against the report of the Chapter of Architects. Mr. Laver would not have been just to himself had he not done so, as the report of the former fully recommended and sustained the carrying out of the high-tower plans, while the latter simply commended said plans as good in architectural design and possible of construction, and further suggested and recommended a change of "type of tower." But this suggestion was a disturbing and interfering element, which furnished Mr. Laver's opponents a new battle-axe and subjected him to new and increased difficulties. The two reports concur on some of the propositions involved but differ on others—one in nearly every particular sustaining the architect, the other doing so as far as the judgment and opinions of the chapter thought right, with suggestions added which it was hoped would lead to an amicable and intelligent settlement of all differences of opinion, and result in the erection of a tower satisfactory to all parties directly concerned in its construction, and which would meet favor in the eyes of the community, who are to be the payors for whatever may be done.

VERY IMPORTANT PROCEEDINGS, S. F. CHAPTER OF ARCHITECTS.

Inaugural Address of G. H. Sanders, President of the Chapter.

A goodly attendance of members was noted at the last meeting of the Chapter. Among those present were W. J. Cuthbertson, J. B. Whittemore, H. T. Bestor, J. Cash, R. H. Daley, A. Pissis, W. P. Moore, E. Kollofrath, G. H. Sanders, G. H. Wolfe, G. W. Percy, W. Patton and John Newsom were elected members as Fellows.

Proposition received from C. Herbert Hasty to become a Student Member. Referred to Committee.

President read annual address, which was ordered printed in the official organ of the Chapter. (It will be found in full in this issue.—ED. ARCHITECT.)

A vote of thanks was tendered the President for his able address.

A communication was received from the Secretary of the New City Hall Commissioners requesting the Chapter to examine the revised plan of the tower, as prepared by Architect Laver. Plan of same accompanied the communication. The same was referred to the committee who had charge of the previous report.

Following is the report in full of the Committee appointed by the Chapter to consider the plans of the New City Hall tower:

To the San Francisco Chapter of the American Institute of Architects:

Your Committee appointed at the last regular meeting to consider the resolutions of the New City Hall Commissioners in reference to the proposed tower, beg leave to report, as follows:

Immediately on their appointment, your Committee made arrangements to prosecute the task imposed upon them, and on the day succeeding their appointment, called for and received the necessary drawings and other data requisite to enable them to proceed.

Having made a thorough and repeated examination of the drawings submitted for their inspection, have unanimously arrived at the following conclusions:

First.—They consider that the design submitted by Mr. Laver for the New City Hall Tower is in itself well adapted in its external architectural features, to complete and adorn the building to which it is to be added. The height—which has been more or less called in question—is considerable, but is not, in the opinion of the Committee, in excess of the proportions permissible in so vast a structure as that to which it is to be applied. On the contrary, in view of the enormous frontage and other dimensions of the New City Hall, it would be difficult to fix an assignable limit, beyond which it would not be possible to harmonize and proportion a structure of this description under given conditions.

They find, also, that the mansard roof, so called, in both the modified as well as the complete example exhibited in the drawings submitted to the Committee, while serving to fill up and prepare the structure for the reception of the tower, is by no means indispensable; at the same time it establishes the fact that should additional space be at any time required, the same may be obtained by its addition, with advantage, whenever deemed desirable.

They find, however, upon examination of the internal structure of the proposed tower, that on account of the position and nature of the bearings available, it will be necessary to construct it in iron instead of the solid material composing the walls of the completed portions of the building. They also find that in order to perfectly adapt the designs submitted by Mr. Laver to the existing structure, some additions to or modifications of the plans submitted to the Committee seem necessary; but these, considering the comparatively and unnecessarily immature condition of the drawings are probably intended by Mr. Laver in the final execution of the work when determined on. In the mean time your Committee, with this proviso, beg to suggest that in their opinion, to secure the entire stability of the superstructure, the iron beams forming the foundations of the whole should be extended under the projections at the angles of the tower, no provisions for that purpose appearing on the drawings as submitted to the Committee. They also think that a broad sill plate com-

posed of wrought iron beams and top and bottom plates should be placed on the circular brick wall surrounding the great circular hall under the tower. This would serve to equalize and distribute all unequal strains and bearings, and rectify any possible defects in the foundations of this part of the building. The Committee deem this provision absolutely necessary, for though the construction of the tower (which is of wrought iron, steel and sheet metal) is of the lightest practical description; the weight of the whole tower will be in the neighborhood of three thousand tons. But dead weight alone is not the only consideration, since the variable strains caused by windage will be very considerable, under even ordinary circumstances, and there are times when, at such a height, the velocity of the wind will mean several hundred tons added to the ordinary weights at different points of the circle.

SECOND.—For the above reasons, while the Committee have full confidence in the ability of Mr. Laver to carry to completion the excellent design proposed by him in as satisfactory and substantial a manner as is possible under the circumstances, and with the materials at his command, they feel compelled to say in view of the various objections which may be urged against the erection of any structure of the sort proposed, that they believe some such type as that adopted by the first Commissioners, would be found on the whole, more suitable for the purpose than the new and loftier design, though in the nature of things, less imposing in appearance and less in proportion to the size and importance of the building. The difficulty and expense of keeping such a structure in repair and proof against the destructive effects of climate and season, is a powerful argument, though one of an economical rather than artistic nature, in favor of reducing as much as possible the area, and especially the height of the exposed surfaces. And here your Committee would suggest that instead of employing materials, such as galvanized iron or steel in the external casing of the tower, which would need the preservative applications of some sort of paint, and would lead, as before stated, to endless repairs, they are of opinion that the use of copper, though of greater prime cost, would in the end prove of much more economical and of vastly greater architectural value, as it is a material beautiful and artistic in its application and effect, and eminently durable and in every way admirably adapted to the work proposed.

THIRD.—This brings your Committee to their last and final position. While they fully concede the many points of artistic merit as a whole, of both designs exhibited in Architect Laver's projects for the proposed tower of the New City Hall, and while they are quite ready to admit the possibility of their construction with safety and substantiability compatible with materials of such a perishable nature as those rendered necessary by the adoption of the peculiar method of construction hitherto submitted, they are not so ready to admit the advisability of such a course; and in view of the conditions existing in the present building, consisting as they do, of a great circular chamber, some 80 feet in diameter, surrounded by a massive brick wall, and including a circular peristyle of columns some 60 feet in diameter from centers, they believe that the possibility exists of erecting a perfectly unique structure in the form of a circular tower, or dome tower, which would offer features superior to any square structure yet proposed, and that before either of the designs now before the Commissioners are finally decided upon, it would be advantageous to furnish, as an alternative, such a design—homogeneous in material, with the existing building and equal to it in durability, and as free from necessity for endless protection and renovation.

Such a structure, we believe, would not only redound to the credit of all concerned in its production, but would ultimately be found to be of great economical advantage to the city generally.

It would be of a height proportioned to its possible diameter, and would compensate in dignity of material for comparative lack in magnitude, though a tower or dome of more than ninety feet in outside diameter, is one out of which it would seem that a very grand and imposing structure could surely be evolved. All of which should be left with confidence to the well-known genius and artistic ability of the architect of the building.

Respectfully submitted,

ALBERT PISSIS,
JAMES E. WOLFE,
B. E. HENRICKSEN,
W. J. CUTHBERTSON,
JOHN WRIGHT,

Committee.

SAN FRANCISCO, Sept. 17, 1888.

INAUGURAL ADDRESS OF G. H. SANDERS, PRESIDENT OF THE CHAPTER.

Fellows and Associates of the San Francisco Chapter:

Duly recognizing the honor and responsibility of addressing you a second time in an "Inaugural," and acknowledging also the ground of expediency which brought this about, I can only promise to fulfill this, and the succeeding duties of so important an office during the following year, as well as I know how.

It is conceded that an address of this kind should aim at something more than a mere review of a year's progress, seasoned with a few glowing prophecies of future advance in matters architectural.

So far, indeed, as the Chapter and its work and prospects are concerned, it may be said that we have not been altogether standing still, but that some advance has been made towards winning a position of honorable usefulness and gaining the confidence of the public in matters relating to the important province of constructive taste.

Our membership has somewhat increased during the year; and there has been a marked tendency among professional brethren still outside our society, to cast in their lot with the Chapter. This is a movement which should meet with every encouragement on our parts, as every added member widens our influence, increases our means of general utility, and brings us more and more *en rapport* with every portion of the building public and the constructive problems of the day.

It would be easy to tell a long story of our aspirations and our aims, about which indeed, we are apt to talk much and do little.

Perhaps it will be better worth while just at the present time to say a few words about a man who, though leaving but little so far as formal expressions of thought in set phrases is concerned, has left large evidences on every side of having done more to solve the problem of the architecture of the future, at least in America, than any other man of this or any age, for the time in which he lived—I allude of course, to the widely influential name of "Richardson." In some degree, like Phidias among the Greeks, or Michael Angelo among the Moderns, but in a wholly different way, the man, Richardson, lived and worked among us—well known and respected while he lived, but who bids fair to be better known and still more widely respected, nay revered in his works, and the example which those works place before the impressionable minds of the men of this age and nation—I repeat of this age and nation, for who can doubt that as the age is made by men, men are also made for each particular age, and by each particular age; in other words, are the outcomes of the times in which they live, and of their peculiar environment.

Now, as to this man, Richardson, I propose in the following remarks to elucidate from his works as well as I am able, some of the principles of design which have made this particular artist and professional man, at this time, so notable a figure in the foreground of architectural art.

In the first place I would say that I do not propose to give anything like a regular review of the man or his works, though an admirable basis is laid for the same in the notable book of Mrs. Van Rensselaer on the life and works of Richardson, lately published, and to which I am indebted for such authentic data as may be found in what I shall read to-night.

Born in 1838, of noble ancestry, (among which, on the mother's side, may be mentioned the well-known philosopher, divine and author, Priestly) educated at Harvard, and professionally trained at the Ecole des Beaux Arts in Paris, the man was undoubtedly broadened out into a very cosmopolitan character, and on that very account was doubtless better fitted than any other man of his day and generation for the life work which fell to his lot. He was constitutionally a large bodied, large hearted, large minded man, who wanted everything about him as "big" as himself, and who, almost immediately throwing off the superficial effect of his education and training, forthwith set to work with stone-axe and gavel, unfettered by rules and untrammelled by precedents, to hew out a system—an architecture for himself, for his clients, and for such of his brother architects who would follow in his footsteps, or at least join him in exploring the new fields he had discovered.

It was inevitable with such a character as his, but that the type of his selection, as regards style, if type he must have, should be full, large and capacious as himself, and nothing could better fit his fancy than the massive and ponderous features of the round arched styles of Southern France. But in his hands it assumed a new guise. With him, pillar, arch and lintel seemed to become vitalized into a new existence. Base, shaft

and cap seem to be so united and so well fitted for their purpose, that no other shaft, base and cap could by any possibility be devised which could do their work equally well in any other way; the arch becomes a new creation, each vousoir is in its turn the only vousoir in the whole arch, and every lintel would rest quietly under the weight of the whole world and never wake up. Every window becomes in turn the most important window in the structure, and every part of it is so thoroughly adjusted to every other part that it is without a peer among windows in its particular place and station. The wall surface is so carefully studied and adjusted, that it is difficult to find fault with a single stone.

The settled purpose he always had before him was absolute perfection in every part. One notable quality of the man, however, was the devoted zeal which he seemed to inspire in every one around him; they worked for him as they worked for no other man, and as if each was responsible for the whole, and so each and all conspired to carry out his suggestions in the most thorough manner, as the only way of securing the best result in the whole, so that every part of the work on his buildings shows indefatigable industry and zeal in those who have executed it. A piece of carving is wrought as if it was the only carving in the structure, and worked out with a care and minuteness, and such regard for the whole result, as if the artistic effect of the structure depended on it alone.

Every window, door, turret, column, arch, lintel, or feature of whatever kind is carefully designed and laboriously adjusted until each fits into its place like a wheel in a complicated mass of machinery, and each of which is indispensable to the action of the whole system.

Apply the above remarks to each department and to each material throughout a building, inside and out, and it is easy to see the thorough "technical" quality which would be certain to pervade the structure. But not alone this more strictly utilitarian element with its three subordinate attributes of utility, strength and adaptation or fitness, is to be thought of as entering into the sum total of the design, but considerations definitely ornamental must claim a still larger share of careful study in proportion to their higher artistic value in the domain of art. Every part must be carefully and completely subordinated to every other part and to the whole, so that every design must have entire unity of effect, and not only as to its general forms, but each detail, however unimportant, must be subjected to the same careful scrutiny, consideration and re-consideration—and this as regards color as well as form, even to the veriest shade.

Decoration, both in form and color, must be made truly ornamental. Every particle of ornamentation must be made in its turn as thoroughly a part of the building and as indispensable as any other merely utilitarian feature; it must be properly distributed as regards the whole, as well as within its own limitations. It must be thoroughly satisfying to that sixth sense, as it has been called, the sense which is capable of appreciating the subtle qualities of beauty styled "Esthetics" by the Greeks (and meaning that which is capable of affording pleasure to the senses), and this as regards both form and color and arrangement of both, and not of individual parts alone, but of the parts in relation to the whole, and the whole to its parts.

Thus again we have a trine, the Esthetic series of attributes—decoration or ornamentation, symmetrization and beauty. But we must take higher ground still if we would adequately grasp the full meaning and intent of the remarkable work of the remarkable man we are considering. As the swelling undulations of the wide-spreading plains are to the sweeping lines of the rolling hills, even so are these hills to the lofty mountains around whose feet they group themselves in humble yet contented emulation. And so are the exaltations of mere technical utility with such incidental and inseparable pleasure-giving qualities as arise from recognized adaptation of material and purpose, to the vastly greater and more exquisite results of ornamental qualities sought for their own sake and capable of gratifying the yearnings of the human soul for the beautiful; and these again to those pure aspirations of the intellectual faculties of the mind, rising far above the illusions and seductions of sense into the lofty regions and untainted atmosphere of Truth. Under the austere supervision of this high principle, *Nee Vile fanos* becomes a potent and most all-pervading legend, written in effect on each substance, form and subject throughout the whole realm of design, from the lowest foundation stone to the highest finial, from the outermost outline to the innermost recesses of the material temple; all things therein become representative of the designer and embody and incarnate him in his work. Every virtue and every vice, which either strengthens or weakens the creative power of thought, will

find its corresponding impress on the substance and form of every structure which has been evolved out of his consciousness or has obtained the seal of his approval.

And it is manifest that this principle in its turn, will pervade everything which is the subject of the designer's art, from the most utilitarian arrangement of plan to the highest expression of his skill in sculpture and painting. In the first it speaks in mechanical adaptation of means to ends; in the latter it, voices itself in distinct symbols—modified by more or less powerful expression, into an utterance of ideas—simple or complex, as the case may be, and capable of telling the most momentous truths, with all the added force of dramatic incident and forcible illustration.

This highest, or "phonetic" phase of the architectural art thus also includes a trine of attributes, viz.: Symbolical form, artistic expression, and ideal representation.

It is not claimed that all these particular and more or less complicated expressions of analytic thought found any definite utterance in the words or expressed ideas, or even had a conscious existence in the mind of Richardson. It is only claimed in that so far as the above sentiments and principles, crudely expressed and imperfectly formulated as they are in this paper, may be found embodied in the works and example of this man who was so earnest in his efforts to establish and promulgate true art; he has left an impress on the age, and has aroused a taste for the substantial, the beautiful and the true, which no other man of the present century, or few before him, have succeeded in accomplishing, none indeed in so brief a period as the active portions of Richardson's life really covered. He constantly sought in the evolution of a design, to obtain a single broad and comprehensive idea, and every subordinate part was carefully studied and brought into harmony therewith. In every department of the execution, and in every subordinate feature, truth of form, truth of material, truth of expression, with few and only early exceptions, was sought for with unswerving devotion.

In the often elaborate carvings which adorn his works, this is constantly found to be the case. Not contented with good general forms, authentic detail, graceful curves and some sort of ideal character, every part of even the least important feature is arranged with scrupulous attention to its relative effect in the whole composition. The beauty and grace must be of the right sort and harmoniously adapted to every other bit of grace and beauty found elsewhere in the structure, and the ideality must be expressed in consistent terms. Another notable point was his attention to materials. They must be of the best and carefully selected as to both quality and color. Again they must be properly placed. No degradation of a nobler by subordination to an inferior substance in the general construction is tolerated for a moment—stone, brick, metal, wood, plaster or glass must be of the best attainable quality and placed in the order of their dignity and character.

To convince oneself of the value of these principles, one has only to look about him to find them violated on every side.

Fatal facility of bedizenment in wood, paint and plaster has given us a terribly corrupt heredity, in a love for all sorts of flimsy ornament and useless and meaningless decoration. "Constructed Decoration" instead of "Decorated Construction" being regarded apparently as a cardinal virtue and one of the leading canons of architectural art in San Francisco. Even in many of our recent structures in which the materials partake of a substantial character and the mass and lines have been otherwise treated with dignity and propriety, the superimposition of false bearings and the misuse of materials has been altogether disastrous to all truly artistic values in the composition. But not alone in the houses we live in but in the garments we wear, the pictures we buy, and the books we read, is the regenerating influence of principle needed to rectify our taste and improve our moral sense.

The paltry "decoration" of our houses is too often paralleled in the puffing, paint and powder of our female friends and acquaintances and both in the shallow mockery of our religion, which seems in its most notable developments amongst us, for the most part, to glorify the *apparent*, whilst almost utterly ignoring the *real*.

The works of Richardson embraced every variety of structure from the humble cottage and railway side station to the stately church; the massive Court House and Town Hall as well as the ponderous warehouses and in all, in different degrees, his leading principles are found embodied in mechanical adaptation, beauty of design and truthful expression of purpose and appropriate treatment of material.

In the Pittsburg Court House and jail, and the great Marshal Field warehouse of Chicago, Richardson himself thought he had

touched the highest point of his ideal, and the latter clearly formulates in its great arches and their horizontal and vertical divisions, the peculiar features of the style which obtains in the most notable of the great structures of the present time devoted to mercantile or commercial purposes. Many will give the palm of excellence to his exquisite library buildings, so many of which were carried into execution, and all of which are unique in their way, and certainly never excelled in their unity, originality and beauty of design and detail, and perfect fitness of adaptation to the purposes for which they are intended.

Trinity Church, Boston, the first example of the peculiar style which at once became the favorite vehicle of his artistic taste should not, in our opinion, be considered, though it often is, the best or greatest example of his genius. Externally, though very fine in conception and execution, it is accompanied by some rather unnecessary adjuncts, which somewhat detract from the more solid and dignified features of the design. Internally it is for the most part simulated construction, and to the true artist unworthy of its reputation and of its designer. It should be said, however that Richardson himself defended it as being an intended sham, and to that extent a truthful structure, a logic seemingly worthy of a better cause.

In his dealings with his pupils, Richardson was accustomed to throw as much as possible the burden of the responsibility of design upon them, thus early developing their powers, arousing their ambition and making them feel the importance of the work committed to them; in this way it was that he succeeded in uniting all with whom he came in contact with himself in the effort to improve and to perfect such work as was placed in their hands. A true co-operation of the noblest sort, a co-operation of art workers for art's sake, striving to embody in lasting forms and living principles, the useful, the beautiful and the true.

NOTE.—The peculiar expressions "technical," "aesthetic" and "phonetic" were first employed, in the particular connections indicated above, by Ferguson, in the revised edition of his "History of Architecture," published about twenty years since. It is intended to further develop the subject in a future paper on another occasion.

Alameda 'Encinal.'

We are pleased to record the most convincing evidence upon the prosperity of a town that can be chronicled by any one living outside of the place to be noticed. The *Encinal* has been published for twenty years and the name of its editor is a synonym all over the State for genial character, and also as the exponent *par excellence* of editorial courtesies. Alameda is outgrowing itself and its inhabitants are no longer satisfied with a weekly paper. So our good friend Krauth comes out with the *Semi-Weekly Encinal*. We hope he will soon be able to change it to a daily. As an exponent of bright local news, with not a word but can be read by our children, the *Semi-Weekly Encinal* stands without a peer in the State. The best sign of a go-ahead place is the increase of its newspapers, or having those already established appear oftener than once a week.

Notes on Painting.

The best time to paint the outside of a house is early in the winter, or in spring, when the air is cold and no dust is flying.

Knots in boards may be killed before painting by several methods. The surest and best, in fine work, is to cover the knot with an oil size and lay silver leaf over it. Glue size, mixed with red lead, or gum shellac dissolved in alcohol and mixed with red lead, or gutta percha dissolved in ether, will satisfactorily cover knots not exposed to sunshine. The heat of the sun draws the pitch in the knot to the surface, through the paint.

If woods to be painted are soiled by smoke or grease, those parts are to be washed with a solution of saltpeter in water, or with very thin lime whitewash. If soap-suds are used to wash of the smoke or grease, they should be thoroughly rinsed with clean water, or the paint will not harden.

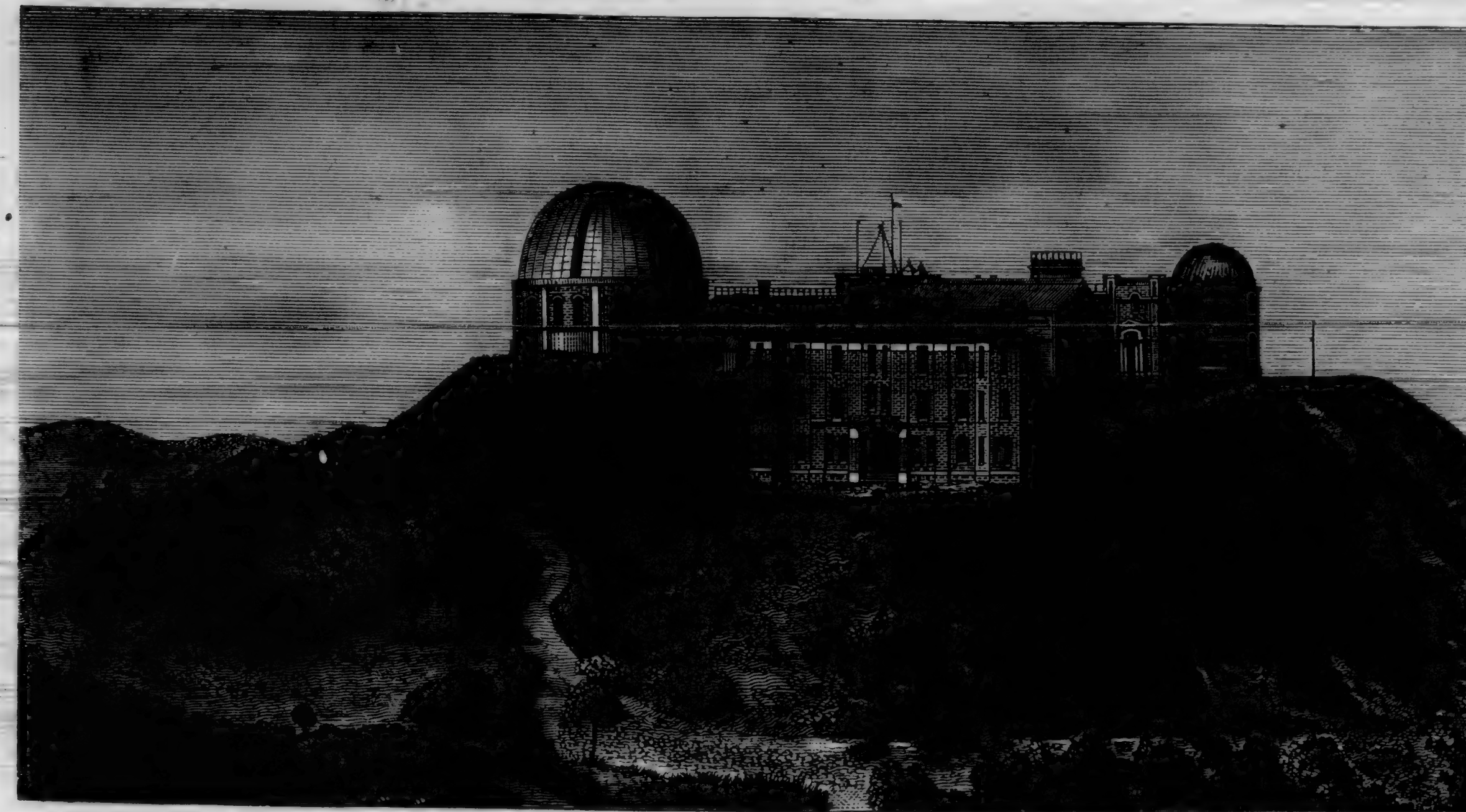
The first, second, and third coats of paint, on the outsides of buildings, should be prepared by mixing the white lead with boiled linseed oil, and allowing each coat to dry hard before applying the next.

PRICE OF LUMBER.

Price of lumber is still on the downward grade. It can be bought for \$18 per M for rough lumber.

Shingles have also declined 25 cents per M.

At \$18 per M the price is just to the millmen and low enough to consumers.



MT. HAMILTON, SANTA CLARA COUNTY, CALIFORNIA—THE SITE OF THE GREAT LICK TELESCOPE.

BERLIN, Sept. 1, 1888.

EDITOR ARCHITECT AND BUILDING NEWS.—

Dear Sir: It may be of interest to some of the readers of your valuable journal to know a few observations taken by a Californian while journeying through Europe—of the great variety of buildings and their furnishings, etc. We wrote you last from London, where we took steamer for Christiania (three days' journey). The first thing which pleased us, on our arrival, was the massive stone docks, which are similar to those at Liverpool, but not so extensive; next the streets, which were well-paved with hewn stone and cobbles. Most of the streets are very narrow and crooked, and the sidewalks are so narrow in some places that one is obliged to step into the gutter to allow another to pass. The main thoroughfare leading up to the palace is broad and straight and pleasant to ride upon. Owing to the narrowness of the sidewalks, the people are obliged to walk in the streets. This is not so bad, as the streets are well paved and always kept clean. The first thing which the eye of a mechanic lights upon is the buildings—how they are built and the materials of which they are constructed. One thing impresses itself upon your mind right away, and that is, the Norge people build to stay; all of their buildings have a solid, substantial look, if they are not all of that style which we of the nineteenth century enjoy seeing. Most of the buildings are of brick, then covered with a coat of cement, and subsequently covered in imitation of various stones. Others are built of granite and sandstone, and all the roofs are either slate or tiles, the latter being most used. Among the most conspicuous buildings here which we visited are the Palace, Houses of Parliament, University Buildings, Victoria Apartments, Akers Gaden and the Cathedral, the dome of which was very odd indeed, being a combination of the Gothic and old oriental Mosque. In the afternoon we took a ride down through the Fjords to King Oscar's Castle, a beautiful structure of solid masonry, with twisted tower. We were shown all through the various apartments, and then on top, where we had an extended view of the surrounding country and could see over the land and water for miles and miles. Sometimes, when it is clear, you can see down through the Fjords as far as—the "moon." We also visited several buildings in course of construction and found them putting in 14x14 inch hewed pine for sub-sills with 12x12 inch girders framed together strongly with 4x14 inch floor joists, all hewed and mortised and tenoned together—this was for an ordinary dwelling—and the roof put together in the same style, having timbers in the plates and rafters heavier than those which we in California put into foundations. And they go on this principle all the way through; even the locks and keys on the doors are as large as those of St. Peter's, and they still cling to the old brass knockers on the doors in place of our electric bells. We saw men hauling granite for a building coming down a steep hill with no breaks for their wagons. I expected to see the whole business roll on to the horses before they got to the foot.

After spending two delightful days here, we went to Stockholm, which is sometimes called the Venice of the North. It is certainly very beautiful, both for what nature and man have done for it. Mr. Werner Cronquist, Chemist for the Royal Navy, took your correspondent around the city and showed him the sights, which were many, and he took pride in them, I was convinced, as he pointed them out to me. Here we have the solid granite docks and bridges that characterize all these cities which I have visited. We see many long blocks of beautiful buildings, built of brick and stone, which will compare favorably with those of any city in the world. We see here that the later styles prevail, making a striking contrast with the city just left. Such a variety of modern architecture one is surprised and pleased to see. The new St. Johannes Church, now being built, is a monster structure, and will be very beautiful when complete. Architect Moller is a man of large experience and has designed some of the finest buildings here. The Church of the Kings is the first I have ever seen with a cast-iron spire and complete spear scroll work. It looks oriental, indeed.

On Sunday I attended the sacred concert given in the new German church, which is a solid granite edifice. The heavy stone columns through the center are six feet in diameter. Some of the most beautiful stained glass memorial windows made are in this church. The choir and organ loft and also the work around the altar is very richly carved and gilded. The pulpit is black and white marble, and was made in 1660. It was transferred from the old church to the new, and is a very pretty work of art. The largest telephone station in the world is located here—so I am told. Certainly the beautiful building, the immense tower, and the myriads of wires running hither and thither would indicate as much. I see they use here a preparation for coating brick buildings cemented, which makes them look like various kinds of marble. They use a scaffold such as I never saw in America in putting it on. It is a box 5x5 feet that holds two men. This is held in position by an immense pole 8x8 feet and 80 feet long, running through the center like a gauge on end, with a rope and racket attachment to hold it in place. It is certainly a novel scaffold. I notice that women are employed on many of the larger buildings to carry brick and wait on the men. They can run up and down five and six-story scaffolds as nimbly as the men. Among the prominent buildings we visited here are Drottningholm, Royal Castle (Tessin architect), Catarina lift building, The Polytechnical High School (Eddersd architect), Grand Hotel, Germania and Reidberg are large and commodious. The Royal Opera House and the Queen's Palace are solid granite structures. But the people must not be overlooked. They are just what they appear to be—kind, gentlemanly and generous-hearted, and know how to entertain strangers. I speak from experience.

Yours truly,

E. C. GILBERT.

Practical, Plane and Solid Geometry.

BY ARTHUR SEYMOUR JENNINGS.

* Prepared especially for the ARCHITECT AND BUILDING NEWS. (Copyrighted.)

CONSIDERING that everything made by man is of geometrical form, it would appear that a more or less perfect knowledge of geometry should be possessed by everyone. To the mechanical draftsman, the subject is essential and especially that branch which relates to solid geometry and projection, while to the mechanic a knowledge of it forms, almost invariably, a means to the end of advancement. The artisan in many trades who understands geometry, is he who becomes foreman or superintendent. This is especially the case in the building and engineering industries where the operations from beginning to end depend upon the application of geometrical principles. Hence, the civil engineer and the architect find it necessary to gain a knowledge of the subject, while those working under their directions—the builders, carpenters, masons and other mechanics—must be cognizant with it in order that they may be enabled to read the plans and drawings drawn out for their guidance. The land surveyor is simply one who is versed in geometry and its application to the measurements of the earth's superficies. Measurement is a science which depends upon a knowledge of geometry and arithmetic for its solution.

The wide usefulness of the subject has had the effect of producing a deal of literature on the subject. For the most part, such books as exist are either too elementary or too advanced for the man of average intelligence; they are either more suitable for the school room than the practical man or else are so far advanced as to be without the scope of a person of ordinary "school education." So far as it is possible within these pages, it is proposed to give a series of articles which shall form the basis of an extended study in this important subject. A solution of the more elementary problems will not be given unless they are not generally known, but sufficient reference to and explanation of them will be made to enable those readers who may not be already familiar with them to obtain their solution from sources. Particularly in connection with projection, it is hoped that architectural draftsmen and others may find the benefit from studying—not merely reading—this series.

At the risk of a charge of advertising, the author will, where occasion requires, make mention of either firms or books which, from his personal knowledge, he deems likely to be of assistance to the reader. The object of the paper is simply to assist the student in acquiring this knowledge, and with that end he invites criticisms or questions addressed to the editor and will always be pleased to render whatever assistance he can in this connection.

INSTRUMENTS.

The student of geometry will need a number of instruments in order that he may work out the various problems which are given. These must consist of, at least, a compass with pen and pencil points, a pair of dividers and a right line or drawing pen. Drawing boards, triangles, pencils, paper, rubber and thumb tacks will also be needed. Considering that sets of instruments may be had from 25 cents up to \$300, it will be seen that a description of them would occupy too much space to give here. The student is advised to obtain the catalogues of the various firms of mathematical instrument makers which will be sent free of charge to any one who mentions this paper. In most of the large cities are found dealers, or makers, who publish catalogues and it will be useful to give one or two names here for reference: Kauffel & Esser, Fulton street, New York; Queen & Co., Chestnut street, Philadelphia and W. Stanley, Norway Junction, London, Eng., are among the chief firms, each of which will be found of much value and interest.

Among the less known of mathematical instruments may be mentioned the compass illustrated in Fig. 1 which is employed for describing minute circles. The principle difference between this and other compasses lies in the fact that the pen works on a vertical rod which is held stationary. Pens for making dotted lines up to recent date usually consisted of wheels placed between the ribs of an ordinary right line pen, but they were very far from satisfactory. Probably the best dotting instrument is that shown in Fig. 2 which not only is adaptable to any description of dotted line but does its work clearly and quickly. To change the length or description of the dots, the wheel B is taken out and another one is inserted. It is found of con-

Fig. 1.—Compass for describing minute circles.

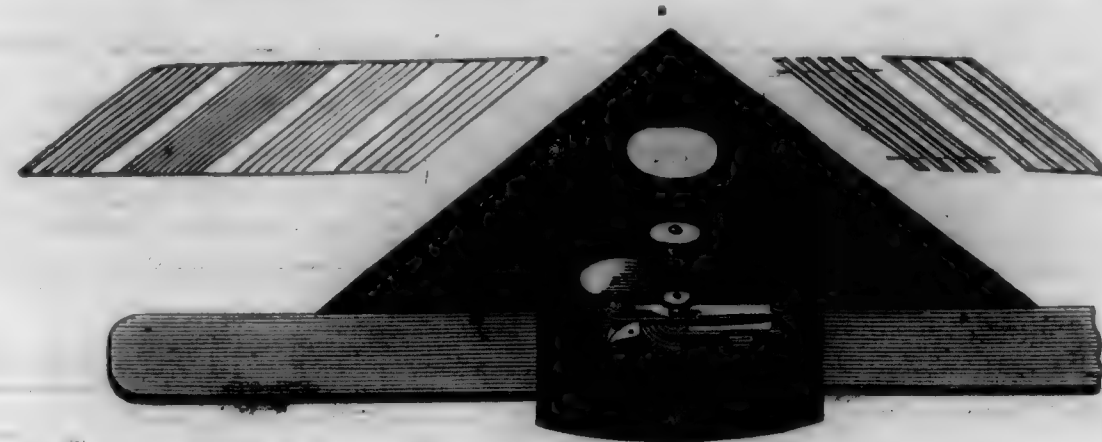


Fig. 3.—Bergen's Section Liner.

siderable service to have at hand a curve which may be used in describing ornamental work and a large number of different curves are manufactured in paper, hard rubber and wood for the purpose. These however, are to some extent unsatisfactory inasmuch as a great number of them will be required in setting out the work in an ordinary office. To meet the difficulty an instrument has been introduced, consisting of a flexible edge connected by a strip of pure drawn lead and it may be readily adjusted to any curve. One of the most difficult things to do in mechanical drawing is to draw a number of parallel lines at equal distance apart and it is required so often that several instruments for the purpose have formed the subject of patents in recent years. Among these may be mentioned Harden's section liner which is adapted for use on both sections and cylindrical work. Bergen's section liner in Fig. 3 is a very serviceable instrument of the same class while another is the "Universal Ruler," shown in Fig. 4. An entirely new description of form in mathematical instruments has lately been introduced into this country from Germany. They are constructed mainly in cylindrical form and in strength and convenience are claimed to exceed those of the old style. Having possessed himself of the suitable instrument the student will now proceed to study scales.

SCALES.—A scale drawing intended to represent some object

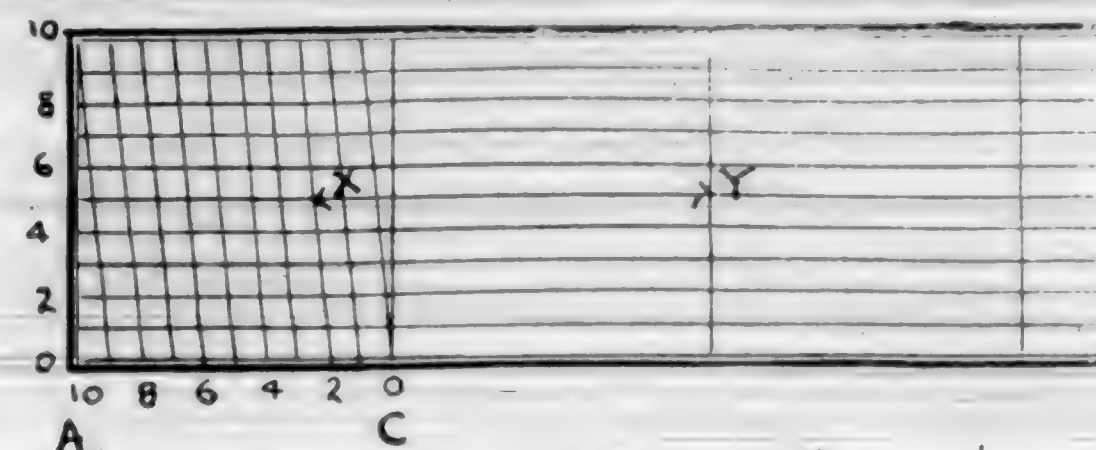


Fig. 5.—The Diagonal Scale.

such as part of a portion of mechanism, etc., may be full sized or it may be larger or smaller. In the last two cases it is said to

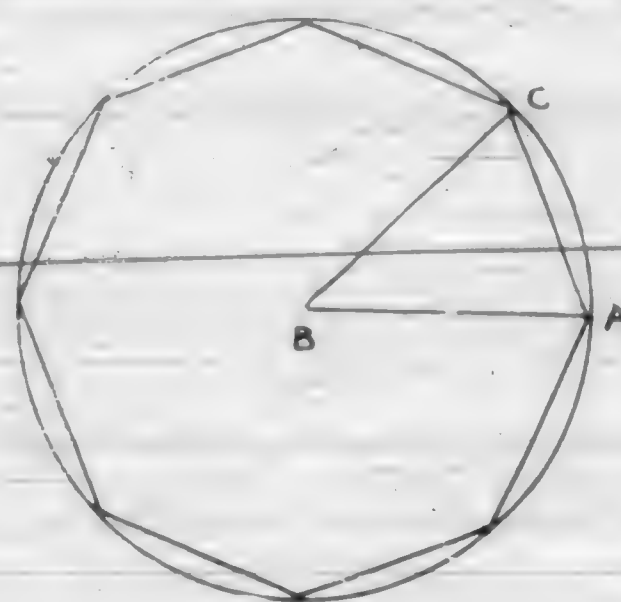


Fig. 6.—Construction of Polygon in circumscribing circle.

be drawn to scale. In the erection of an ordinary building some drawing (termed details or detail drawings) are full size and the majority on a scale of about a quarter of an inch to one foot. The fraction which exists between a drawing and the object which it represents is termed the representative fraction because it represents the fraction or proportion between the drawing and the object. Thus in a scale of an inch to a foot one inch represents 12 inches and the representative fraction is therefore 1-12. The construction of a plain scale must be very accurate and as it

involves considerable time and care to make, it is advisable that scales should be purchased ready made. These are made on wood, ivory and paper. The last are not at all reliable. The student will do well to make himself thoroughly acquainted with scales and should make for himself several until he is able to produce a result essentially accurate.

The construction and use of a diagonal scale does not seem to be so generally known as it might be, considering its efficiency. Its use is to give minute measurements such for example as one hundredth part of an inch. The principle upon which it is constructed will be clear on reference to Fig. 5. A B is divided into inches the first inch A C is divided into tenths as indicated by the figures placed against the divisions. To obtain the hundredth part of an inch, that is, the tenth part of the smaller divisions, lines are drawn diagonally, being divided up by horizontal lines into ten equal parts. It will be seen that if the diagonal line slope to the left 1/10th of an inch that the horizontal lines will

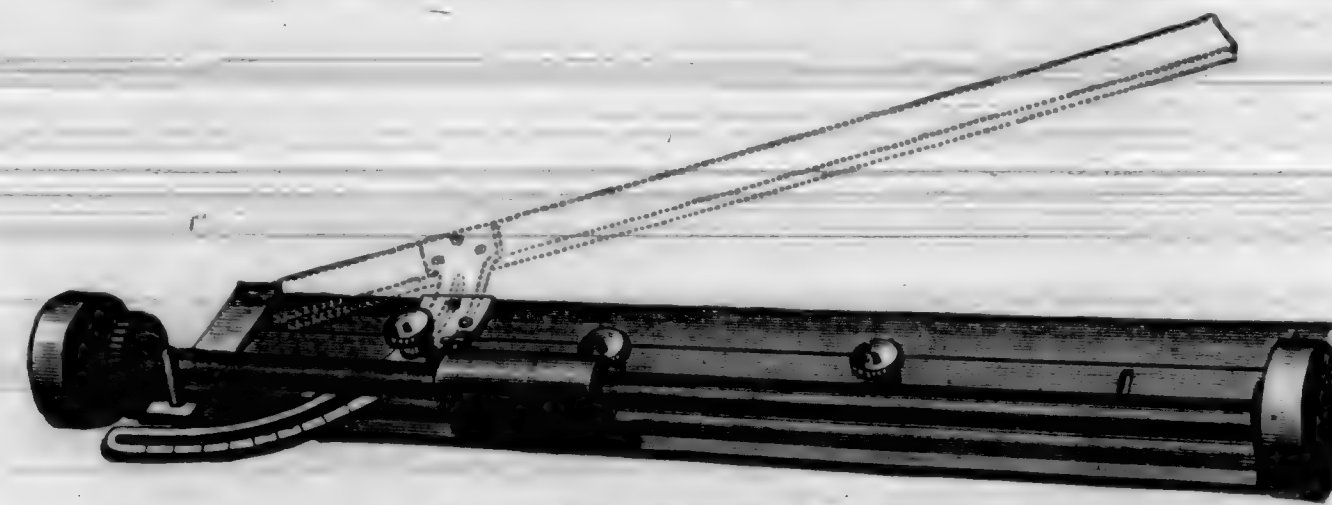


Fig. 4.—The Universal Section Liner.

divide that distance up into ten parts, giving the hundredth part of an inch. For example, the distance from X to Y in the figure will be 1.25 inches; that is, one inch, two tenths and five hundredths. It will be obvious that the most minute measurements by this system may be easily obtained and their utility in setting out on a small scale is very considerable.

ELEMENTARY PROBLEMS.

We may here pause to advise the student who is unfamiliar with the methods, to learn how to work out the following problems: Divide a line into equal parts or proportionally, making angles with compass only; bisecting angles and lines; erecting perpendiculars; polygons, triangles, squares and rectangles in circles.

POLYGONS.—The polygon is a figure having more than four sides and angles. When the sides are equal in length it is said to be a regular polygon, and when of unequal length an irregular polygon. The construction of the latter depends upon the length of lines and angles being given. Regular polygons, however

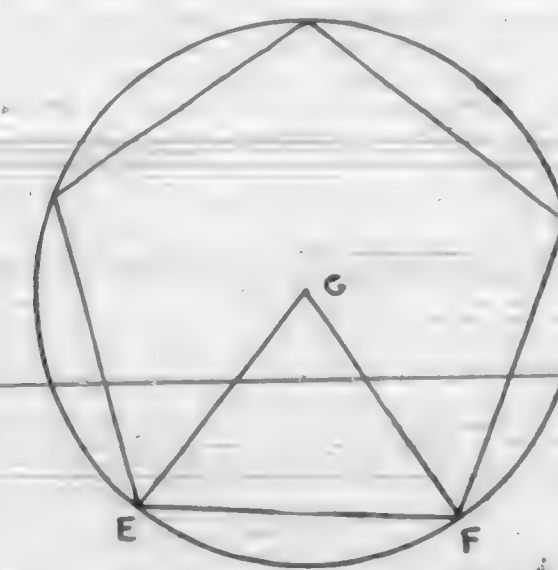


Fig. 7.—Construction of Polygon when one side is given.

may be constructed in a variety of ways. The geometrical methods are given in the books and are not within the scope of these papers. A quick way which is not generally known is by means of the protractor and is as follows: First. When the circle is given, divide 360 by the number of sides in the required polygon. Draw the circle shown in fig. 6 and a radius, making an angle with the first equal to that obtained by dividing as just mentioned. Thus suppose that it is required to draw an octagon or eight-sided figure in the circle A B: 360 divided by 8 equals 45, set up for the angle, 45 degrees, A B C, join A C, which is one side of the required polygon. Considering that all the sides are of equal length, the distance A C will step round the circle

eight times as required. Second. When the length of side is given set out the one side E F fig. 7, then work out the following sum:

$$(N-2 \times 90)$$

N

In this formula N equals the number of sides in the required polygon. Now take the angle so obtained and set it up at E and F respectively, and where the two lines meet at G, stick in the compass and with radius G F describe a circle. The line E F will now step round exactly the number of times required. For example, suppose it is required to draw a pentagon or five sided figure, N in this case equals 5, therefore 5 divided by 2 equals 3 times 90 equals 270 divided by 5 equals 54. The angles of course may be either set up by means of a protractor or by the scale of chords. This method of constructing polygons



Fig. 2.—Patent Dotting Instrument.

is an exceptionally quick one, and with a little care is very accurate. Another way to do the same thing is by an instrument known as the sector, an explanation of which will be given in our next paper. To be continued.

ODD FACTS ABOUT BUILDINGS.

The Definitions Used by Insurance Companies.

WHAT is a building, anyhow?

A reporter was securing some facts about insurance, and was surprised to find that a fishing scow comes under that heading, while a shanty does not always.

"That depends upon circumstances. Under the rules governing insurance companies a building is described briefly as follows: 'A building or house' is an edifice erected by art, composed of stone, brick, wood or other proper substance, fixed upon or over the soil, and designed for use in the position in which it is fixed."

"A policy upon a 'building' simply, without qualifications, will cover only the building as therein described. But the insurance will not include the contents, nor extend to the occupancy of the premises beyond that described in the policy."

"If the word building be qualified by additional words, as 'sawmill buildings,' it would then include everything appurtenant and necessary to fit it for occupancy as a sawmill, and carry with it the right to be used for such purposes."

"Fishing Scows are Buildings—When it is proved that they are used and occupied during the fishing season as dwellings and places of business, and after the fishing season as residence on land."

"A Shanty Not a Building—When used for storing tools, but not used for a workshop."

"Stories of a Building—Where the several stories of a building were owned by separate parties, it was held that such owners of distinct buildings, the one situated over the others, and the owner of the upper story must keep the roof in repair at his own expense; and he cannot recover from the owners of the stories below any portion of such expense, although the repairs were to protect the property of such owners."

"Gilbertson's Old Method" Roofing Tin has been specified by the Architect of the new B. & O. Depot at Smithfield street. One thing certain, the coming generation are sure of a good roof from rain and storm while waiting for trains at the B. & O.—*The Builders' Gazette, Pittsburg, Pa., Aug. 15, 1888.*

PLUMBING AND DRAINAGE.

*Rules and Regulations adopted July 19th, 1888,
by the Board of Health, City and County
of San Francisco, to take
effect immediately*

ORDER NO. 1,982.

Providing for the protection of the Public health, and requiring Plumbers to register their names and addresses at the Health Office, and comply with regulations of the Board of Health in reference to the drainage and plumbing of buildings.

The People of the City and County of San Francisco do ordain as follows:

[Plumbers to Register at Health Office.]

SECTION 1. Every master and journeyman plumber, carrying on his trade in this city and county, shall, under such regulations and rules as the Board of Health of said city and county shall prescribe (not in conflict with general laws), register his name and address at the Health Office of said city and county. And after the establishment of such rules and regulations, it shall not be lawful for any person to carry on the trade of plumbing either as a master or journeyman plumber, or otherwise, unless his name and address be registered as above provided.

[List of Registered Plumbers to be Published in yearly Report of Health Officer.]

SECTION 2. A list of the registered plumbers shall be published in the yearly report of the Health Officer or Board of Health.

[Penalty.]

SECTION 3. The drainage and plumbing of all buildings, both public and private, hereafter erected in said city and county shall be executed in accordance with plans previously approved in writing by the Board of Health of said city and county; and suitable drawings and descriptions of the said drainage and plumbing shall, in each case, be submitted to the Board of Health and placed on file in the Health Office.

[Drawings of Drainage and Plumbing to be filed.]

The said Board of Health is also authorized to receive and place on file drawings and descriptions of the drainage and plumbing of buildings erected prior to the passage of this Order.

[Penalty.]

SECTION 4. Any person violating any of the provisions of this Order shall be deemed guilty of a misdemeanor and upon conviction shall be punished accordingly.

In Board of Supervisors, San Francisco, May 28, 1888.

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

Ayes—Supervisors Curran, McDonald, Boyd, Pescia, Bush, Burns, Hawkins, Knorp, Heyer, Lambert, Joost, Morton.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, May 20, 1888.

E. B. POND,

Mayor and ex-officio President Board of Supervisors.

In pursuance of Order 1,982 of the Hon. Board of Supervisors, "providing for the protection of the public health and requiring plumbers to register their names at the Health Office and comply with regulations of the Board of Health in reference to the drainage and plumbing of buildings approved May 29, 1888," the Board of Health for the City and County of San Francisco, have adopted July 19, 1888, the following Rules and Regulations, to take effect immediately:

1. All material must be of good quality and free from defect. The work must be executed in a thorough and workmanlike manner.

2. The arrangement of soil and waste pipes must be as direct as possible.

3. Every house or building must be connected with the street

sewer by a cast-iron or iron-stone pipe extending out to the line of the street, and in the case of buildings erected on the line of street, said cast-iron pipe shall extend three feet beyond the front walls or any area wall. From the points above designated to the street sewer, the drain shall be continued either by the above mentioned cast-iron pipe or by a vitrified iron-stone pipe laid at a uniform grade from the street sewer to a point of juncture with the cast-iron pipe. All joints on said iron-stone pipe shall be made with Portland cement, and each joint of pipe when laid must be properly cleaned on the inside by a suitable scraper before the succeeding pipe is put in place. All joints on a cast-iron pipe shall be made with a suitable packing of hemp or oakum, and run full with molten lead and properly caulked.

4. Every house or building hereafter erected must have the house drain constructed of cast-iron where it lies under the building; but when the house drain is outside the building lines, or where there is an open space under the house of four (4) feet clear in height, it may be of iron-stone pipe. The house drain must have a fall of at least one-quarter of an inch to the foot; it should run along the cellar wall where practicable, or if laid under the lower floor of a building should be hung in iron straps securely fastened to the floor joists; it should be laid in as straight a line as possible. All changes in direction must be made in curved pipes and all connections with Y branches and one-eighth bends, with a trap placed under the sidewalk. The trap must be provided with a fresh-air inlet on the house side of the water-seal, of at least four inches in diameter, leading to the outer air. No brick, sheet metal or earthenware flue shall be used as a sewer ventilator, nor shall any chimney flue be used for this purpose. No T's to be used except in places where otherwise not practicable.

5. Every soil pipe shall be of cast-iron; waste pipe shall be of cast-iron, wrought-iron or lead.

6. All cast or wrought-iron pipe and fittings for waste, vent and soil pipe must be coated both inside and outside with coal-tar pitch, applied hot, or some other equivalent substance.

7. All iron soil or waste pipe, before being covered up, must have all openings stopped, and filled with water and be allowed to stand until inspected and approved. All connections of lead with iron pipe must be made with a brass ferrule of the same size as the lead pipe, and caulked into the iron pipe and connected to the lead pipe by a wiped joint. All connections of lead pipe should be wiped joints.

8. Every water-closet, sink, basin, bath or set of wash-trays or other vessel connected with the drain pipes, must be separately and effectively trapped. The traps must be placed as near the fixtures as practicable.

9. Traps must be protected from syphonage by special air-pipes of lead, wrought iron or cast iron, not less than the size of waste pipes, and, if to supply air to traps of water-closets, not less than two inches in diameter. These pipes must extend two feet above the highest point of roof or coping, or they may be branched into the soil pipe three feet above the highest fixture; they may be combined by branching together those which serve several traps. These air pipes must always have a continuous slope, to avoid collecting water by condensation. When the trap of any fixture is set more than two feet from the vertical line of pipe, a return connection must in all cases be provided.

10. Every safe under a basin, bath, urinal, water-closet, tank or other fixture, must be drained by a special pipe of lead or wrought-iron, not directly connected with any soil, waste-pipe, drain or sewer, but made to discharge outside the house.

11. Rain-water leaders must never be used as soil, waste or vent pipes, nor shall any soil, waste or vent pipes be used as a rain-water leader. All leaders from points below main roof must discharge into open trapped hoppers, on the surface of the ground.

12. No steam exhaust will be allowed to connect with any drain, soil or waste pipe.

13. All waste pipes from all interior plumbing, exclusive of water-closets, shall discharge into an open trapped hopper, except rooms which contain a water-closet, or where a building covers the entire width of the lot of ground.

14. Every line of waste and soil pipe must extend full bore to the ridge of the roof, or two (2) feet above the fire walls. When not more than one water-closet on the basement of first floor of a building connects with a line of soil pipes, an air pipe of cast or wrought-iron two (2) inches in diameter, extending to the ridge of the roof, or two feet above fire-walls, may be used.

15. All leaders, soil, waste, air and drainpipes inside of buildings before being covered up, must have all openings stopped up and be filled with water. The said test shall be made in the presence of the Inspector of Plumbing, and if satisfactory, he shall issue a proper certificate. Notice must be given to the Inspector when the work is sufficiently advanced for inspection.

16. All iron-stone pipe house drains, under houses, shall, after being laid, be filled with water and allowed to remain uncovered until inspected by the Plumbing Inspector of the Board of Health. When cast iron or iron-stone pipe is specified in the foregoing rules and regulations, if desired, wrought-iron pipe of standard steam thickness may be used, provided that the fittings are so constructed as to form a uniform bore with the pipe, without burrs or recesses.

17. No opening shall be provided in the sewer pipe of any building, for the purpose of receiving the surface drainage of the cellar, unless special permission is granted; and any opening so made must be immediately and permanently closed when directed by this department.

18. When a building is moved from one part of the city to another, or when an addition is made to a building, the plumbing rules and regulations adopted by the Board shall be followed.

19. On and after the first day of August, 1888, all plumbers doing business in the City and County of San Francisco, shall register, pursuant to the provision of Order 1,982 of the Board of Supervisors, approved, May 29th, 1888, at the office of the Board of Health.

20. Every master plumber, before he shall be allowed to be registered, shall give a bond to the State of California in the sum of five hundred dollars with two good and sufficient sureties, for the faithful discharge of his duties as plumber; which said bond shall be approved by and filed with the Board of Health.

21. All applications for registration as master or journeyman plumber shall be made by the party desirous of being registered; and said application shall be subscribed and sworn to by the party making the said application, on blanks to be provided by the Secretary of the Board of Health.

22. There shall be appointed by the Board of Health an Inspector of Plumbing and Drainage. He shall take and subscribe to an oath that he will faithfully perform the duties of his office, and shall, before entering upon his duties, execute a bond to the City and County of San Francisco, in the sum of five thousand dollars, with two good and sufficient sureties, conditioned for the faithful performance of the duties of his office, and for the benefit of persons aggrieved by his acts or neglect. Said bond shall be approved by and filed with the Board of Health.

23. The salary of the Inspector shall be fixed at one hundred and twenty-five dollars per month.

24. There shall be appointed by the Board of Health an Assistant Inspector of Plumbing and Drainage, to act under the orders of the Inspector of Plumbing and Drainage, and assist him in the fulfillment of his duties.

"SECTION 25. It shall not be lawful for any person to carry on business or labor as a master or journeyman plumber, in the City and County of San Francisco, until he shall have obtained from the Board of Health of said city and county a license authorizing him to carry on business or labor as such mechanic. A license so to do shall be issued only after a satisfactory examination by the Board of each applicant upon his qualification to conduct such business, or to so labor. All applications for license, and all licenses issued, shall state the name in full, age, nativity, and place of residence of the applicant or person so licensed. It shall be the duty of the Secretary of the Board of Health to keep a record of all such licenses issued, together with an alphabetical index of the same."

DUTIES OF INSPECTOR.

First. He shall be in attendance at the Health Office between the hours of 8.30 and 9.30 A. M. and 4 and 5 P. M., to receive plans of proposed plumbing and drainage, and to make appointments for the inspection of work in the course of construction.

Second. He shall number and file all plans and specifications accepted, and record the names of the owner and architect, and plumber, and location of work.

Third. He shall, upon being notified, examine all plumbing work before the same is covered up and concealed, and, if found to be in accordance with the Rules of the Board of Health, upon presentation of an accurate plan and specification of same by the plumber, shall issue a certificate to that effect. If, on examination of said work, he finds any violation of the rules of the Board of Health, he shall report the same to the Health Officer, with a note explaining the necessary corrections, and have it altered accordingly. Upon completion of any plumbing work he shall examine the same, and, if found to be in accordance with the Rules of the Board of Health, and the plans and specifications filed, he shall issue a final certificate.

Fourth. He must make a monthly report to the Board of Health of the number of plans and specifications received; the number approved and rejected; also stating the number of first and final examinations made, and where and by whom the rules have been violated, and such other matter as may be required by the Board of Health.

BOUND VOLUMES FOR 1888.

Owing to the demand for back numbers of this journal, the number of bound volumes we will have for purchasers in December will be very limited. Those desiring the same should engage them in advance. The price will be the same as for preceding years, \$2.50 each.

ESTABLISHED MARCH 17, 1860.

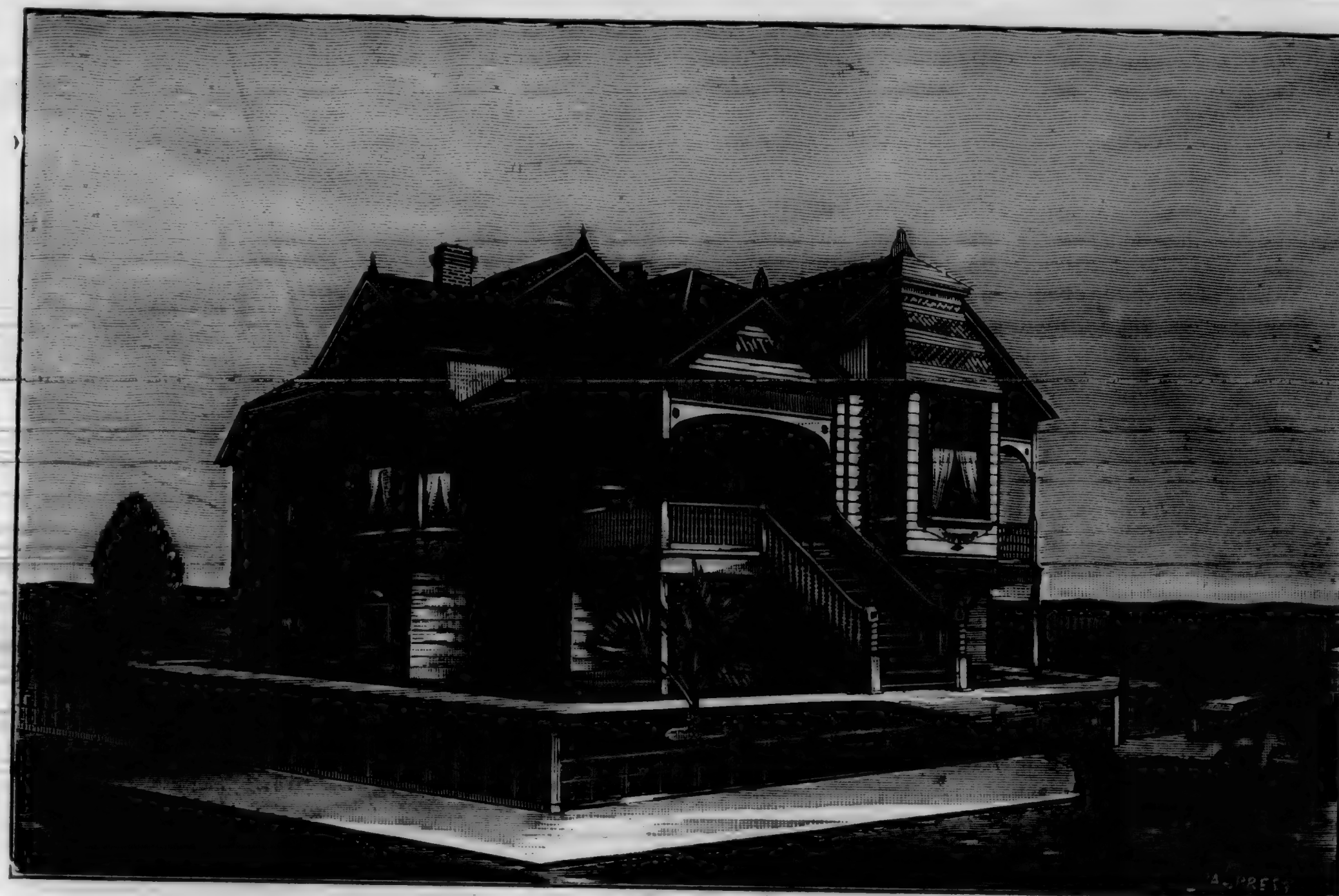
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Well up Heavenward.—28 Stories.

SCARCELY a day passes that does not bring to light some wonderful or strange proposition or development, and no man knoweth what to-morrow may bring forth.

The evolutions in all directions are ceaseless, rapid, and often stupendous and grand. There is to-day before the world of mankind, very many proposed or recently accomplished results which to have been suggested fifty years ago, would have subjected the parties advancing the ideas, to the suspicion of absolute lunacy, or serious mental derangement.

The latest in the building line is a proposition to erect a building in Minneapolis, Minn., *twenty-eight stories high*—four times the number of stories contained in the Palace Hotel in San Francisco, which when built, was considered a monster edifice. But with an addition to the Palace of the character suggested by the latest conceit—*twenty-eight stories*—the building, which when built, was in fact the largest hotel edifice in the world, would appear as but little more than an annex for kitchen purposes, dormitories for servants, chambermaids, porters and hired help.

Without discussing the merits or feasibility of the projected high edifice, it must be admitted that the designer's notions were very elevated, and that nine-tenths of the people of the United States will at first sight condemn the aspiring latitude of the architect in his attempt to utilize space so high above the level of terra firma. But it is a question whether this latest architectural adventure is any more startling and scare-crowish to the people of the present day than would have been the proposition to erect ten, twelve and thirteen story structures, made to the granddaughters of those who have since conceived and completed buildings in New York, Chicago, Boston and others of the older and the newer cities now assuming great commercial and business importance in parts of the continent which, but a generation or two ago, was known as the wild West, and the hunting ground for buffaloes and the home of the red man of the forest—buildings quadrupling the limits of height practiced in the earlier years of our nation's history.

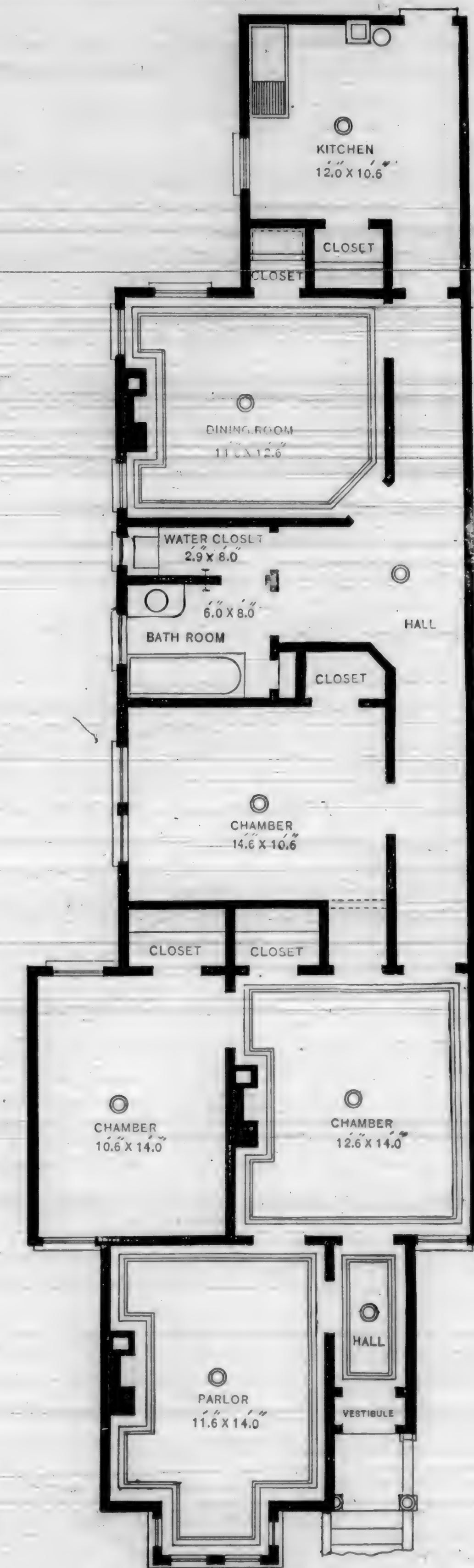
Even the immortal "Father of his country," if at the time he was quartered at the lower end of Broadway, N. Y., within sight of the Battery, opposite Bowling Green, in a building then of the larger type—where he was near being made a prisoner of war—been told that on that very site, before the year 1885, there would be a building erected twelve stories in height, and conveniently and comfortably occupied in all its stories, he would have laughed to scorn the folly of the presumptuous man who would have dared to predict such a result. Yet it is to-day an accomplished fact, and the "Washington Building" stands just there, as one of the magnificent structures of the commercial metropolis of America. Arguing from these premises, is it not possible that infants, if not well grown lads, or even young men of the present era, may yet see or participate in the erection of buildings even as high as twenty-eight stories? It is far-reaching toward the clouds, but other things seemingly as unreasonable a quarter of a century ago, are now demonstrated facts, and the science of architecture and building may yet achieve results not yet grasped, and the "mad men's" projects of to-day may be among the recognized utilities of the future.

Newspaper editors and correspondents may dip their pens deep into ink and write up fierce denunciations, nineteen-tenths of business committees resist for the present, all such mad-architectural libertinism, and laws even be passed prohibiting such construction; still the evolutions will roll on, and in time buildings approximating if not exceeding twenty-eight stories may no more be a questionable proposition, then are the numerous ten to thirteen story buildings of to-day, which are to be seen in all the progressive and great cities outside of San Francisco.

A SERIES OF "GEM" COTTAGES.

Next issue we will commence in this journal a series of "GEM" cottages. They will be prepared expressly for us by A. W. Putnam, a draughtsman recognized by all who know him, as possessing rare abilities as an original designer.

Now is the time to subscribe. Remaining numbers of this year given free to all new subscribers for 1889.



A STUDIED PLAN FOR A ONE-STORY COTTAGE.



There is no Paper or Journal on
the Pacific Coast that pretends to
give a Full Report of Build-
ing News, except the

CALIFORNIA Architect and Building News. CITY BUILDING NEWS.

Bush, west of Pierce, three two-story frame buildings; owner, Pardon A. Cook; architect, Wm. H. Wharf; contractor, O. E. White; amount, \$7,531; signed, September 14th; filed, September 15th; limit, 67 days. Payments: framed, \$1,400; brown coated, \$1,400; white coated, \$1,400; completed, \$1,431; \$1,900, 35 days.

Pine street, No. 520, repairs. Owner, Kong-Chow Association; architect, Townsend & Wyneken; contractor, Rhody Ringrose; amount, \$3,019; sureties, Wm. P. Dougherty and H. M. Peterson, \$5,000; signed, September 12th; filed, September 15th; limit, 35 days. Payments: completed, \$2,264; \$755, 35 days.

Page, southeast of Webster, two story frame building. Owner, Chas. B. Perkins; architect, R. H. White; contractor, Jas. Geary; amount, \$3,850; sureties, C. S. Holmes & W. A. Meeker; signed, September 18th; filed, September 22d; limit, 90 days. Payments: framed, \$775; brown coated, \$700; white coated, \$700; completed, \$700; \$975, 35 days.

Eddy street No. 1,916, additions, etc. Owner, P. A. Fortier; architect, P. A. Fortier; contractor, Wheeler & Burdick; amount, \$3,150; sureties, A. W. Starbird; signed, September 19th; filed, September 22d; limit, 100 days. Payments: studded, \$800; brown coated, \$800; white coated, \$749; \$801, 35 days.

Golden Gate Ave. and Polk, tin and galvanized iron work. Owner, H. Keenan; architect, C. J. I. Devlin; contractor, Jos. Forderer; amount, \$1,340; signed, August 20th; filed, September 21st. 75 per cent as work progresses; balance, 35 days.

Eddy street, between Jones and Leavenworth. Alterations. Owner, Annie K. Botsford; architect, T. J. Welsh; contractor, G. W. Hansbrough; amount, \$14,265; sureties, John F. Taylor, J. M. Manning; signed, September 14th; filed, September 17th; limit, 120 days. Payments: framed, \$2,500; brown coated, \$2,500; completed, \$5,565; \$3,700, 35 days.

Powell, between Post and Sutter, frame building. Owner, Mrs. A. M. Parrott; architect, Pissis & Moore; contractor, Wm. Langstaff; amount, \$7,390; sureties, E. P. Latson, F. H. Rosenbaum; signed, September 18th; filed, September 19th; limit, 70 days.

Payments: brick work of basement up, \$1,200; framed, \$1,200; brown coated, \$1,600 ready to paint, \$1,400; completed, \$1,400; \$1,850, 35 days.

Eddy street, No. 326, plumbing and contractor. Owner, G. W. Hansbrough; architect, T. J. Welsh; contractor, E. Kraus; amount, \$1,820; signed, September 20th; filed, September 21st.

Plumbing, \$455; brown mortar on, \$455; tubs and bowls set, \$455; completed, \$455; balance, 35 days.

Twenty-fifth, between Bryant and York, two-story frame building. Owner, F. Dooly; architect, M. J. Welch; contractor, R. Doyle & Son; amount, \$1,860; sureties, John McGuire, J. Wagner, \$1,860; signed, September 18th; filed, September 19th; limit, 65 days.

Payments: framed, \$500; brown coated, \$600; completed, \$745; \$615, 35 days.

Bush street, No. 220 to 226, alterations. Owner, Estate of C. D. O'Sullivan; architect, C. J. I. Devlin; contractor, C. P. and G. H. Moore; amount, \$5,259; sureties, C. S. Holmes, F. Joost, \$5,000; signed, September 12th; filed, September 19th; limit, 45 days.

Payments: iron girders, \$1,000; brown coated, \$1,800; completed, \$1,144; \$1,315, 35 days.

Francisco, west of Stockton, building; Owner, Annie Hare, contractor, R. Doyle & Son; amount, \$2,460; sureties, J. B. Coffin, Jno. McCarthy; signed, September 11th; filed, September 22d; limit, 70 days.

Payments: framed, \$465; 1st coat of mortar is on, \$465; completed, \$465; \$465, 35 days.

Turk, east of Franklin, frame building. Owner, J. Brown; architect, Salfield & Kohlberg; contractor, H. Rohling; amount, \$6,050; sureties, J. J. McKinnon and F. Joost, \$6,050; signed, September 11th; filed, September 13th; limit, 3 months.

Payments: framed, \$1,550; partitions set, \$1,000; brown coated, \$1,000; completed, \$1,000; \$1,500, 35 days or bills paid.

O'Farrell east of Laguna, building December 1st. Owner, Winifred & Margaret Gallagher; architect, J. J. Clark; contractor, Jno. G. Adams; amount, \$3,500, signed, September 15; filed, September 20. 75 per cent as work progresses; balance, 35 days.

Bush street, No. 226, cast iron work. Owner, Estate of C. D. O'Sullivan; architect, C. J. I. Devlin; contractor, J. Hendy Machine Works; amount, \$2,650; sureties, A. R. Wells, Jas. Patterson, \$2,000; limit, 40 days. Payments: completed, \$1,975; \$675, 35 days.

Russ street, No. 22, raise and move. Owner, A. and S. Simon; contractor, A. C. Rogers; amount, \$2,400; signed, August 4th; filed, September 13th. Payments: payment as work progresses.

Howard street and Tenth, wrought-iron work. Owner, Omnibus Cable Company; architect, Percy & Hamilton; contractor, C. Nutting & Son; amount, \$16,350; sureties, P. Crichton, Wm. Cronan, \$5,000; signed, September 13; filed, September 20; limit, 110 days.

75 per cent on 1st Saturday of month as the work progresses; balance 35 days.

Howard street and Tenth, cast iron work. Owner, Omnibus Cable Company; architect, Percy & Hamilton; contractor, O'Connell & Lewis; amount, \$11,145; sureties, Robt. Mitchell, J. Mahony, \$4,000; signed, September 13; filed, September 20; limit, 100 days.

75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Howard street and Tenth, artificial stone work. Owner, Omnibus Cable Company; architect, Percy & Hamilton; contractor, G. Goodman; amount, \$4,680; sureties, Robert Mitchell, J. Mahony, \$2,000; signed, September 13; filed, September 20; 75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Howard street and Tenth, stone work. Owner, Omnibus Cable Company; architect, Percy & Hamilton; contractor, Degan & Orford; amount, \$15,728; sureties, F. E. Knowles, Wm. Mathews, \$5,000; signed, September 13; filed, September 21, limit, 125 days.

75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Howard street and Tenth, brick work engine house. Owner, Omnibus Cable Company; architect, Percy & Hamilton; contractor, W. Burden; amount, 25,150; sureties, Robert Mitchell, C. A. Warren, \$10,000; signed, September 13; filed, September 20th; limit, 140 days.

75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Howard street and Tenth, carpenter, plumbing, and painting. Owner, Omnibus Cable Company; architect, Percy & Hamilton; contractor, Thomas H. Day; amount, \$28,200; sureties, J. F. Kennedy, and B. Joost; \$10,000; signed, September 13; filed, September 20; limit, 80 days.

75 per cent on 1st Saturday of month as work progresses; balance, 35 days.

Brannan, north west side First, one-story and basement, wine warehouse. Owner, Warehouse Land and Improvement Company; contractor, Richardson & Gale; amount, \$39,500; sureties, Schulze & Meeker, E. O. & J. G. Denning, \$13,200; signed, September 14; filed, September 21; limit, 120 days.

Payments: area walls built, \$7,800; side walk, iron and first joists in \$6,600; brick work to under side, of ceiling, joists done, \$3,850; fire walls built, roof done, tin and skylights, \$4,675; completed, \$445, 35 days.

Kisling, between 11th and 12th streets, frame building. Owner, Owen Carroll; architect, M. J. Welsh; contractor, T. Sullivan; amount, \$3,787; sureties, W. Thyarks, B. Joost; signed, September 15th; filed, September 18th; limit, 70 days.

Payments: framed, \$946.75; brown coated, \$946.75; completed, \$946.75; \$946.75, 35 days.

Oak and Broderick, two-story frame building. Owner, C. Sancken; architects, Copeland & Banks; contractor, Jno. Adams; amount, \$3,482; surety, B. Joost; signed, September 19; filed, September 22; limit, 120 days.

Payments: \$800, framed, \$1,200, brown coated; \$607, completed; \$975, balance, 35 days.

Fourteenth between Howard and Shotwell, two-story flat. Owner, Geo. Heyle; architect, Geo. Houston; contractor, Geo. Houston; amount, \$2,790, signed, September 17; filed, September 20; limit, 80 days. Payments: \$690; shingled, \$700; brown coated, \$700; windows in, \$700, 35 days.

Stewart, south of Market, three-story, basement brick. Owner, Gualala Mill Company; architect, C. I. Havens; contractor, Mahoney Bros.; amount, \$30,353; surety, C. S. Holmes; signed, September 18; filed, September 20; limit, 125 days.

75 per cent as work progresses; balance, 35 days.

Francisco west of Kearny, foundry and pattern shop. Owner, Joshua Hendy; architect, R. Chartrey; contractor, Thomas H. Day; amount, \$8,493; sureties, J. F. Kennedy, F. P. Lawson; signed, September 18; filed, September 19; limit, 90 days. 75 per cent on 1st of month as work progresses; balance, 35 days.

Van Ness and McAllister, alterations, plumbing, etc. Owner, John DeWitt Allen; architect, George Voelken; contractor, John Doherty; amount, \$1,825, signed, September 4th; filed, September, 15th; limit, 40 days. Payments: pipes in, \$900; completed, \$468; \$457, 35 days.

Hampshire, between 24th and 25th, building December 15th. Owner, Anton King; architect, H. Geilfus; contractor, J. F. Logan; amount, \$3,493; signed, September 15th; filed, September 15th. Payments: framed, \$500; partitioned, \$500; brown coated, yard in, \$550; inside finish on, \$550; completed, \$500; \$893, 35 days.

Jackson, east of Pierce, carpenter work. Owner, Robert Bruce; contractor, Wm. F. Kern; architect, Wm. F. Smith; amount, \$10,025; surety, O. W. Nordwell, signed, July 14; filed, September 12, limit, four months.

Payment: four equal payments as work progresses of \$1,875; balance, 35 days.

Golden Gate Ave. between Hyde and Larkin, two-story frame, stable. Owner, W. H. Carpenter & Son; architect, Wm. H. Armitage; contractor, Mead & Kennedy; amount, \$3,800; surety, J. P. McMurray \$2,000; signed, September 4; filed, September 12; limit, 60 days.

Payments: framed, \$750, brown coated, \$750; white coated \$600; 35 days.

Bush street, No. 226, stair work. Owner, Estate of C. D. O'Sullivan; architect, C. J. I. Devlin; contractors, J. R. Drew, F. McLaughlin; amount, \$1,180; sureties, H. C. Gray and C. C. Terrill, \$1,000, signed, September 5; filed, September 19; limit, 35 days.

Payment: treads and risers in place, \$450; completed, \$435; \$295, 35 days.

Sanchez, between Sixteenth and Seventeenth, two-story frame building. Owner, Jas. Warren; architect, Casper Zwielerlein; contractor, Casper Zwielerlein; amount, \$2,645; sureties, J. F. Kennedy; signed, September 14; filed, September 14; limit, 80 days. Payments: framed, \$600; brown coated, \$800; completed, \$645; balance 35 days.

Main, between Mission and Howard, two story frame building. Owner, Geo. H. Mixer; architect, Geo. H. Mixer; contractor, Jno. G. Day; amount, \$4,500; signed, September 13; filed, September 14; limit, 21 days.

Payments: framed, \$1,650; battened, \$1,650, completed, \$1,200, balance 35 days.

Waller near Buchanan, two story basement frame. Owner, Louisa Otto and Gottlob A. Mauerhaus; architect —; contractor, Rountree Bros.; cost, \$4,400; signed, Sept. 20, 1888; filed, Sept. 28, 1888; limit, 90 days; sureties, Jno. Coop and F. R. Latson; amount of bond, \$4,000.

1st payment, when framed, \$800; 2d, when enclosed, \$800; 3d, when brown coated, \$800; 4th, when completed, \$800; 5th, usual 35 days, \$200.

728 Fulton, building. Owner, Margaret McGinney; contractor, Geo. M. Salsbury; cost, \$1,800; signed, September 21st, 1888; filed, September 25th; limit, December 1st.

1st payment, when framed, \$450; 2d, building enclosed, \$450; 3d, when brown coated, \$450; balance, usual 35 days.

Oak, near Gough, building. Owner, Jno. Madden; architect, R. Warren; contractor, Charles Coady; \$1,275; limit, November 20th, 1888; signed, September 18th; filed, September 26th. 1st payment, when ready to paint, \$425; 2d, carpenter work done, \$425; 3d, usual 35 days, \$425.

215 Fell, in rear, frame shed. Owner, A. Larfargue; architect, B. E. Henriksen; contractor, Moore Bros.; cost, \$1,445; limit, October 29th; signed, September 22d; filed, September 24th.

1st payment, when building is completed, \$1,085; balance, usual 35 days, \$360.

Stewart, between Mission and Howard, one-story brick. Owner, S. Harris; architect, J. Marquis; contractor, R. Parker; cost, \$2,700; limit, 63 days; signed, September 26th; filed, September 27th.

1st payment, when walls are up, \$1,000; 2d, when completed, \$1,000; 3d, and balance, usual 35 days, \$700.

Waller, near Webster, one-story frame. Owner, Jno. Michel; architect, John & Zimmerman; contractor, J. Klein; cost, \$2,587; signed, September 25th; filed, September 27th; limit, December 8th.

1st payment, when framed, \$600; 2d, when rough coat is on, \$800; 3d, when ready to paint, \$537; balance, usual 35 days, \$650.

Filbert, near Jones, two-story and basement frame. Owner, Fred. Todd; architect, John & Zimmerman; contractor, A. Rohling; cost, \$3,900; limit, December 15th; signed, September 12th; filed, September 24th; sureties, J. J. McKinnon and F. Joost.

Fulton, near Franklin, two-story frame and basement. Owner, T. Kronenberg; architect, John & Zimmerman; contractor, Fuchs & Bucher; cost, \$8,096; limit, January 2d; signed, September 13th; filed, September 24th; sureties, W. Hume & Kroenecke.

Fuller, near First avenue, frame attic and basement. Owner, Sophie Henicke; architect, H. T. Bestor; contractor, R. P. Traxler; \$2,660; signed, September 26th; filed, September 27th; limit, 90 days. 1st payment, when framed, \$400; 2d, when rough coat is on, \$550; 3d, when windows are in, \$550; 4th, when completed, \$490; balance, usual 35 days, \$670; surety, C. A. Malm; amount of bond, \$900.

Castro, between 16th and 17th, building. Owner, Wm. J. McAllup; contractor and builder, J. A. Shepherd; cost, \$3,700;

signed, Sept. 27, 1888; filed, Sept. 27 1888; limit, Jan. 1, 1889. 1st payment, when framed, \$920; 2d, when brown mortared, \$950; 3d, when completed, \$950; 4th and balance, usual 35 days, \$950.

Eddy, between Polk and Van Ness avenue, frame building, painting contract. Owner, Geo. Haas; architect, J. H. Littlefield; contractor, Jos. Larsen; cost, \$720; signed, September 26th; filed, September 29th; limit, 16 days.

Payment, 75 per cent as work progresses.

Eddy, between Polk and Van Ness avenue, plumbing contract. Owner, Geo. Haas, architect, J. H. Littlefield; contractor, Sweeny & Kearns; cost, \$900; signed, September 26th; filed, September 29th; limit, 12 days.

Payments, 75 per cent as work progresses.

Twenty-sixth and Valencia, plumbing. Owner, A. E. Hecht; architect, H. C. Macy; contractors, Duffy Bros.; cost, \$1,770; limit, Nov. 10, 1888; signed, Sept. 16, 1888; filed, Sept. 27, 1888. When completed, \$1,770.

Church, between 23d and 24th, one-story cottage. Owner, Geo. A. Rice; architect, Schmidt & Shea; contractor, Martin & Maguire; cost, \$2200; limit, 90 days; signed, September 21st; filed, September 25th; surety, F. P. Latson.

1st payment, when building is framed, \$400; 2d, when brown coated, \$400; 3d, when white coated, \$400; 4th, when completed \$400; 5th, usual 35 days, \$600.

Elm Ave., between Van Ness and Franklin, building. Owner, Martin O'Dea; architect, Chas. I. Havens; contractor, Wm. Pluns; cost, \$5,870; signed, September 26th; filed, September 28th; limit, 90 days; sureties, F. & B. Joost.

1st payment, framed, \$1,000; 2d, brown coated, \$1,000; 3d, hard finished and outside primed, \$1,000; 4th, completed, \$1,170; 5th, usual 35 days, \$1,700.

Hartford, near 19th, building. Owner, M. Dolan; architect, J. J. Clark; contractor, R. O. Chandler; cost, \$3,140; limit, 90 days; signed, September 22d; filed, September 28th; sureties, E. Aigeltinger and C. A. Bennet.

1st, framed, \$750; 2d, brown coated, \$750; 3d, inside finish on, \$750; 4th, balance 35 days, \$890.

Sonoma, between Utah and Nebraska, one story car house and stable. Owner, Omnibus Cable Company; contractor, H. A. Conrad; cost, \$6,665; limit, 30 days; signed, September 29th; filed, October 1st; Payments, 75 per cent as work progresses.

Green near Laguna, one-story and basement frame. Owner, Mary Coghlan; architect, John & Zimmerman; contractor, Reichley & Vierhus; cost, \$1,900; limit, December 8th; signed, September 24th; filed, September 24th; surety, F. Joost.

1st payment, when frame is up, \$500; 2d, when rough coat is on, \$425; 3d, inside ready to paint, \$500; balance, usual 35 days, \$475.

Eddy, between Polk and Van Ness avenue, frame building. Owner, George Haas; architect, J. H. Littlefield, contractor, Jas. Logan; cost, \$9,378.

Payments at the rate of 75 per cent as work progresses; balance, usual 35 day

Linden Ave. in rear of 510 Fell, stable. J. Silverstein; architect, Townsend & Wyneken; contractor, R. Parker; cost, \$1,200; limit, five weeks; signed, September 29th; filed, October 1st. 1st payment, foundations in \$300; 2d, framed and roofed, \$300; 3d, completed, \$300, January 18, 1889.

Nineteenth, between Church and Sanchez frame building. Owner, Bridget Murphy; contractor, R. Sinnot; cost, \$2,000; signed, September 17th; filed, September 29th; limit, 75 days; surety, H. C. Smith. 1st payment, framed \$500; 2d, brown coated, \$500; 3d, inside ready to grain, \$500; 4th, usual 35 days, \$500.

Twenty-eighth, between Church and Sanchez frame building. Owner, J. Sullivan; architect, M. J. Welsh; contractor, K. Thaller; cost, \$1,700; signed, September 29th; filed, October 1st; limit, 65 days; sureties, C. Ewing and A. Black.

1st payment, roof on, \$300; 2d, brown coated, \$300; 3d, completed, \$400; 4th, balance 35 days, \$700.

Mission and Sullivan alley, three-story basement building. Owner, W. A. Aldrich; contractor, Richardson & Gale; cost, \$9,000; limit, 60 days; signed, September 20th; filed, October 5th.

Broderick, between Hayes and Fell, two-story and basement frame. Owner, E. W. Hartmann; architect, John & Zimmerman; contractor, J. G. Adams; cost, \$3,999; limit, January 1st, 1889; signed, September 28th; filed, October 6th.

1st payment, when frames are up, \$800; 2d, when building is enclosed, floors laid, partitions set, rough mortar on, \$1,200; 3d, when inside finish is ready for painter, \$1,000; 4th, after acceptance or releases given or usual 35 days, \$999.

Eighteenth near Sanchez, additions. Owner, Fleicher; cost, \$800.

Walla and Steiner, two-story frame. Owner, R. Reiman; architect, A. H. Bailey, Jr.; contractor, A. H. Bailey, Jr.; cost, \$3,000; limit, Dec. 15, 1888; signed, Sept. 15, 1888; filed, Oct. 4, 1888. 1st payment, when frame is up and building enclosed, \$1,100; 2d, when hard finished, \$1,000; balance at the completion of the building and the owner satisfied that all bills are paid.

Broderick, between Sutter and Bush, two-story frame. Owner, F. Leszynsky; architect, Wm. H. Armitage; contractor, Kincaid & Thompson; cost, \$3,000; limit, 70 days; signed, Sept. 18, 1888; filed, Oct. 5, 1888.

1st payment, rough frame up, \$600; 2d, brown mortar on, \$600; 3d, white coat on, \$450; 4th, finished and accepted, \$600; 5th, 35 days, or on production of receipted bills, \$750.

Scott near McAllister, one-story frame and basement. Owner, J. S. Antonelli; architect, J. Gash; contractor, John McCann; cost, \$2,500; limit, 60 days; signed, Sept. 29; filed, Oct. 3.

1st payment, when framing, rustic and roof boards are on, \$500; 2d, when brown coat of mortar is on, \$500; 3d, when white coat of mortar is on, \$500; 4th, when all inside work is completed and work accepted, \$375; 5th, 35 days after work is accepted, \$625.

Sacramento, between Larkin and Polk, two-story frame. Owner, L. A. Berteling; architect, M. J. Welsh; contractor, H. A. Conrad; cost, \$4,800; limit, 70 days; signed, Oct. 3; filed, Oct. 6, 1888.

1st payment, when frame is up, \$1,200; 2d, when brown coated, \$1,200; 3d, when finished and accepted, \$1,200; 5th, usual 35 days, \$1,200.

Fourteenth near Noe, additions; cost, \$1,500.

Grove near Lyon, one-story frame; cost, \$1,500.

Noe near Fourteenth, two-story frame. Owner, J. Stelling; cost, \$1,000.

Page near Schrader. Owner, Cook; builder, G. G. Gillespie; cost, \$2,000.

Sanchez near Eighteenth, one-story frame. Owner and builder, A. Klahn; cost, \$2,000.

Taylor near California, repairs; cost, \$800.

Octavia and Valjejo, four two-story frames. Owner and builder, W. F. Lewis; cost, \$15,000.

Spear near Howard, one-story frame. Owner, H. B. Schindler; cost, \$1,500.

Spear corner Mission, repairs. Owner, Schwerin; cost, \$1,500.

COUNTRY BUILDING NEWS.

LOS ANGELES.

TO BE ERECTED IMMEDIATELY.

J. B. Lankershim, three-story brick, Sixth and Front streets; two double houses Sixth and Front street.

J. F. Smith, lodging house, Olive and Fifth streets.

R. H. Leonard, engine house, Pine and Hill streets, and twenty-seven houses to cost when completed about \$500,000.

SAN JOSE.

A builder's contract has been filed in the Auditor's office between Jesse J. Hill, contractor, and Mrs. J. C. Martin for the construction of a two-story brick building on the east side of Second street between Santa Clara and San Fernando streets, consideration \$25,588.

Another contract has been filed between E. Strauss and Robert Summers, contractor, for the brick addition of a second story to a building on Second street; consideration \$5,187; to be completed on the 15th of December.

SAN DIEGO.

The plans of the new Consolidated National bank building are now almost completed in Comstock & Trotsche's office. Two stories will be added to the present building, and the whole structure will be remodeled. When completed it will be 50 x 90 feet in size and four stories in height, with a basement. Substantial materials will be used throughout, and in appearance the building will be one of the most elaborate and imposing structures in the city. There will be an elevator and all modern improvements. On the Fifth street front there will be a very elaborate ornamentation of terra cotta tiling and other stone. The main entrance,

on G street, will be very wide and imposing in appearance. The change in the arrangement of the banking room is almost completed. Bids are now being taken for the excavating and stone and iron work, and orders are being prepared, for such materials as will have to be imported. The work of construction will begin soon.

No bids have been received for the work on the Pauly-Gassen block, to be erected on the corner of Fourth and E streets. The work of preparing bids is necessarily slow because of the immense size of the structure. The bids are expected in a few days, however, and shortly hereafter the work of construction will begin.

Comstock & Trotsche have prepared plans for a neat two-story, ten room cottage, to be erected on K street, between Twenty-second and Twenty-third. D. W. Strong is the owner.

The United Presbyterians have had plans prepared for a new church building to be erected in Sherman's addition. Mr. Schroeder is the architect. The design is said to be one of the finest in the city, in some respects the very finest. The entire structure will cost about \$15,000. At present it is only proposed to build the lecture-room, at a cost of about \$2,500. This will be built so that the main building can be added to it later. Its size will be 27 x 53 feet. Rev. R. G. Wallace is pastor of this congregation.

During the last thirty days Building Inspector Thielen has granted permits for the erection of twenty-eight buildings, the cost of which will be \$681,035. The following is a complete list of the permits granted:

BUILDING PERMITS.

E. F. French, two-story frame dwelling, lot K, block 33, Middletown; \$2,500.

A. G. Nason, one-story five-room dwelling, Horton's addition; \$1,310.

Henry Timken, two-story and basement frame dwelling, Horton's addition; \$10,000.

Joseph Horpey, one-story brick store. Horton's addition; \$2,500.

Mrs. Emma J. Koehler, one-story five-room dwelling, Horton's addition; \$1,000.

Comstock & Trotsche, one-story frame schoolhouse, Mission Valley; \$1,300.

F. S. Jennings, two-story frame dwelling, New Roseville; \$3,000.

George H. Crippen, two-story frame dwelling, New Roseville; \$3,000.

F. E. Johnson, superintendent of the college of arts of university of Southern California on campus on University Heights; \$600,000.

B. Barnes, two-story frame dwelling, Horton's addition; \$2,500.

H. E. Fellow, two-story frame dwelling Horton's addition; \$3,000.

W. B. Woodward, two-story frame dwelling and barn, Horton's addition; \$5,000.

Central Market Company, two-story brick store and offices, 50x200 feet, Horton's addition; \$16,000.

John Allyn, three-story brick building, 50x100 feet, Horton's addition; \$16,000.

Rev. R. G. Wallace, frame church, Sherman's addition; \$2,500.

RIVERSIDE.

The contract for building the residence of F. T. Field has been let to L. C. Waldman for \$1,219. Work will be commenced at once.

SAN BERNARDINO.

Judge Rolfe will build an \$8,000 house. Goff & Leyfe will prepare plans.

SACRAMENTO.

E. A. Boyer has the contract to erect State Printing office warehouses, \$8,464.

TACOMA, W. T.

Architect C. N. Daniels has charge of A. Parker's brick building, W. M. Master-ton is the contractor. Cost \$11,000.

DISINCORPORATING.

The Pine Manufacturing Company has applied to the Superior Court to be judicially disincorporated. The company dates as a corporation from May 31, 1883. It started with a capital stock of \$200,000, in 2,000 shares, of which 1,755 shares have been issued. At a recent meeting of the stockholders, it was resolved by a vote of 1,000 shares to disincorporate. The petition sets forth that all liabilities have been satisfied. The present Directors are: E. B. Dean, W. J. Adams, G. W. Watson, A. D. Moore, C. S. Holmes, E. W. Bushnell, E. M. Harrick, Benjamin Pendleton, J. Knowland, A. A. Jackson and W. H. Talbot.

List of Members of the Builders' Association of California

330 PINE STREET, ROOMS 11 & 12.

Ackerman, C. H.,	215 Kearny.
Adams, J. G.,	407 Broderick.
Anderson Bros.,	1209 Market.
Bateman Bros.,	S. W. Post and Scott.
Binet, Jos. L.,	325 Fair Oaks.
Blake, John,	1138 17th.
Bray, Henry T.,	1133 Shotwell.
Brennan Bros.,	618 Eddy.
Bruce, John,	2407 Howard.
Buckley, Frank,	1111 Devisadero.
Burpee & Hudson,	836 29th street Oakland.
Burrell, A.,	22 California.
Chisholm, Chris	330 Pine.
Chisholm, Dan,	110 Chattanooga.
Christon, P.,	109 Baker, bet Page Oak.
Christy, Chas.,	828 Kirkham Oakland.
Classen, J. C.,	232 Francisco.
Comary, Wm. T.,	804 Hayes.
Conrad, H. A.,	625 California.
Chandler, R. O.,	1210 Pierce.
Day, J. G.,	San Diego.
Day, Thos. H.,	1012 Devisadero.
Doyle, R. and Son,	2810 Howard.
Dryer, Bernard,	4 Collingwood.
Dunn, J. J.,	615 Jessie.
Dunabee, C. E.,	417 Ridley.
Edwards, E. W.,	116 Langton.
Elam, Thomas,	511 Sanchez.
Ellis, B. F.,	999 Chestnut.
Farrell & Bell,	828 Union.
Fish, J. W.,	836 Valley.
Fitzpatrick, A. G.,	411 Twenty-second.
Fletcher, W. M.,	Los Angeles.
Geary, James,	2324 Sutter.
Gillespie, G. G.,	1503 Devisadero.
Gonyeau, J. B.,	33 Hardy.
Gorman, M. J.,	527 Octavia.
Grant, John T.,	22 Turk.
Gray & Stover,	1310 21st.
Greene, E. B.,	34 Hawthorne.
Greene, S. T.,	San Diego.
Giffin, P.,	20 Russ.
Hoffmann, Victor Jr.,	515 4th.
Houston, Geo.,	2068 Market.
Hatch, H. E.,	1717 Chaste, Oakland.
Hurlbut, R. P.,	115 California avenue.
Irwin, James,	908 16th.
Ingerson & Gore,	971 Broadway, Oakland.

Jackson, A.,	12 Middle.
Keenan, Hugh,	219 Scott.
Kent, S. H.,	711 Leavenworth.
Kern, F. W.,	118 Fair Oaks.
Kincaid & Thompson,	730 Seventeenth.
Klahn, Aug.,	5 Chenery.
Klatt, F.,	814 Twenty-first.
Klein, Jacob, 24	Lilly avenue.
Kreger, Wm. B.,	801 Guerrero.
Lang, Geo. R., E. 14th St. & 14th Ave.,	Oakland.
Leonard, Jos. A.,	Alameda.
Langstaff, Wm.,	617 Jessie.
Lynch, M. C.,	28 Stanley Place.
Mahony Bros.,	307 Van Ness.
Maher, J. W.,	105 Precita avenue.
MacDonald, Allen,	1303 Buchanan.
Martin & Maguire,	133 Gough.
McCann, Richard,	217 Waller.
McElroy, A.,	373 Jessie.
McInerney, James,	Hancock and Noe.
McKay, Jas. H.,	124 Main.
Mead, W. H.,	246 Minna.
Meerdy Bros.,	Church, bet 17th and 18th.
Miller, Adam,	23d and Bryant, 316 Kearney.
Moffit, Thos.,	Victoria.
Moore Bros.,	252 Octavia and 1 Russ.
Norton, A.,	1331 Ellis.
Parker, R.,	527 Grove.
Plums, Wm.,	3109 Sacramento.
Quinn, Charles,	133 Oak.
Rebman, J.,	Los Angeles.
Reichley & Vierhus,	1910 Market.
Riddell, Thos. C.,	16 Twelfth.
Robertson, John,	San Rafael.
Rohling, Henry,	14 Collingwood.
Rountree Bros.,	919 1/2 Oak.
Sanchez, R. P.,	653 Capp.
Steinman, F. V.,	423 Bush.
Simpson, R. E.,	326 Telegraph Ave., Oakland.
Sinnott, Richard,	1321 Guerrero.
Smilie, Robt.,	1125 E. Third Av. East Oakland.
Smith, James W.,	1220 Eddy.
Sullivan, Timothy,	20 Laskie.
Taubman & Armstrong,	3109 Mission.
Terrill, Chas. C.,	617 Seventeenth.
Thompson & Moar,	338 Golden Gate Av.
Townsend, H.,	Alameda.
Waterbury, C. S.,	1322 Scott.
Wharf, Wm. H.,	Green and Laguna.
White, O. E.,	879 Seventeenth.
Wilcox, J. R.,	608 Willow Av.
Williams, F. A.,	545 Natoma.
Willis, A. A.,	30 Diamond.
Worden, S. G.,	1013 Valencia.
Zwierlein & Pavel,	421 Bush.

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ARCHITECTS

Have promised, with the new year, to send us each month an article, and, where necessary, illustrations for same.

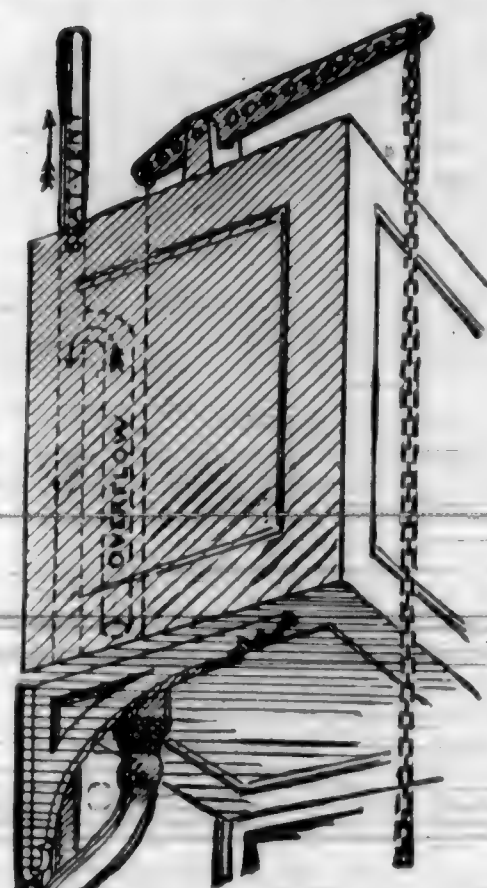
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Carpenters of the Bible.

Though the trade is not definitely mentioned in Scripture prior to the time of Noah, yet it is clear that carpentering work had been effected centuries before. Noah could not have constructed the ark of gopher wood and made it so correct as to dimensions; he could not have joined the pieces together; he could not have formed a window and door such as would open and close, without some knowledge of carpentering and some acquaintance with the tools of a carpenter. Moreover the tools must have been in existence and in use prior to this time, which of course suggests that carpentering must have been practiced in the patriarchal times. Amid all the changes which occur in the history of varied handicraft, it is interesting to find that the same trade implements as are used to-day were in full use in the childhood of the world. The carpenter about to begin work selects a piece of timber which he calls a plank, or a slightly thinner piece which he calls a board. Such are the phrases used concerning the tabernacle and the temple. God said, "Thou shalt make boards for the Tabernacle of shittim wood. Ten cubits shall be the length of a board and a cubit and a half shall be the breadth of one board." Then in the first book of Kings we find Solomon built the walls of the temple with "boards of cedar," and covered the floor with "planks of fir." In order to shape the plank or board, the carpenter uses a saw; and such a tool was known to and employed by the workers in the early times, for we read of the "hewed stones" being "sawed with saws" for the foundation of Solomon's temple. To fashion the wood according to the needed purpose, the carpenter must have at hand his rule, his line, his plane and his compass. And so Isaiah the prophet says: "The carpenter stretches out his rule; he fitteth it straight and he marketh it out with a line; he fitteth it with planes and he marketh it out with a compass." Very often the carpenter has to join various pieces of wood by what he terms a mortise and tenon, that is to say, the mortise is a hollow place or socket in one piece of timber, into which the tenon or projecting piece, cut to exact measurement in the other piece, is intended to fit. But those are God-used terms. The Almighty, in giving the Israelites full directions for the construction of the Tabernacle, said: "Two tenons shall there be in one board, set in order one against another; thus thou shalt make for all the boards of the Tabernacle. And thou shalt make forty sockets of silver under the twenty boards, two sockets under one board for its two tenons and two sockets under another board for its two tenons."—Wood Worker.

INDUSTRY.

John Richards has started a new journal devoted to science, mechanic art and the industrial interests of the Pacific Coast. Its pages are well illustrated with all the various patterns of machinery, and in this branch it is the only journal published on the coast. All the illustrations are made by an improved process and show very distinctly all the various details. Editorially, it excels in its particular line, any of our contemporaries this side of Chicago. It is published at the low price of \$1.50 per annum. Address Industrial Publishing Co., 40 California street.



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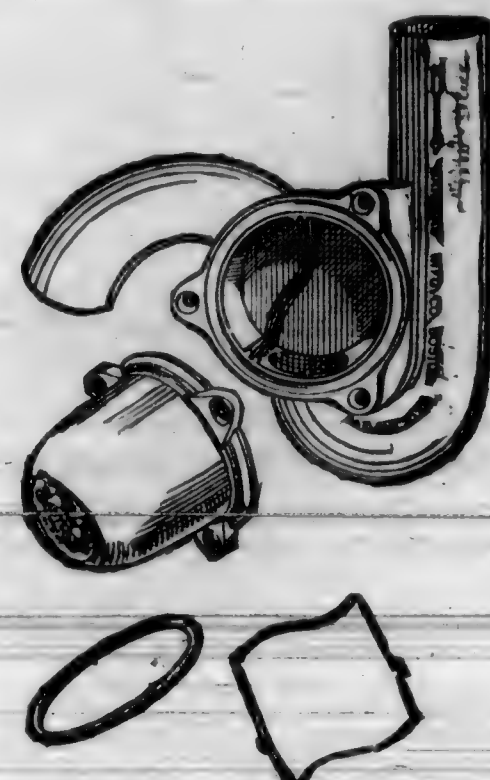
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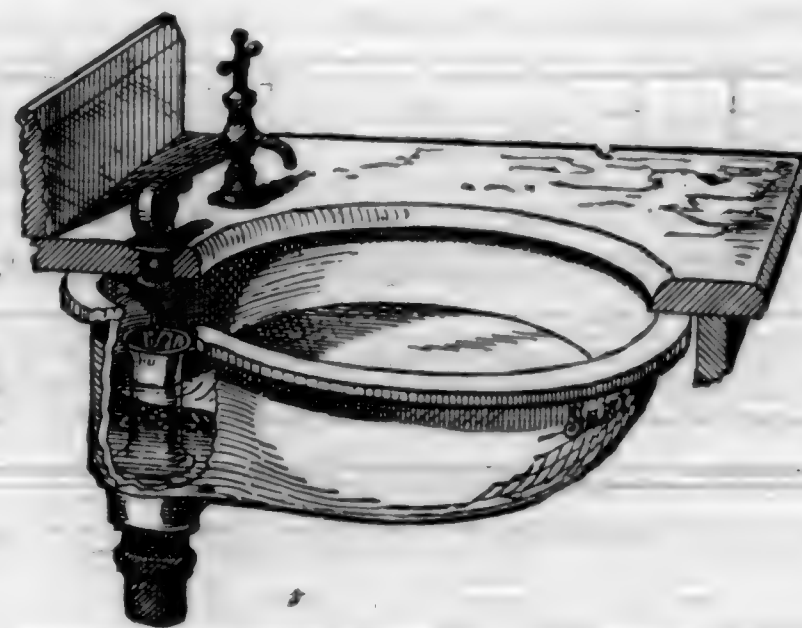


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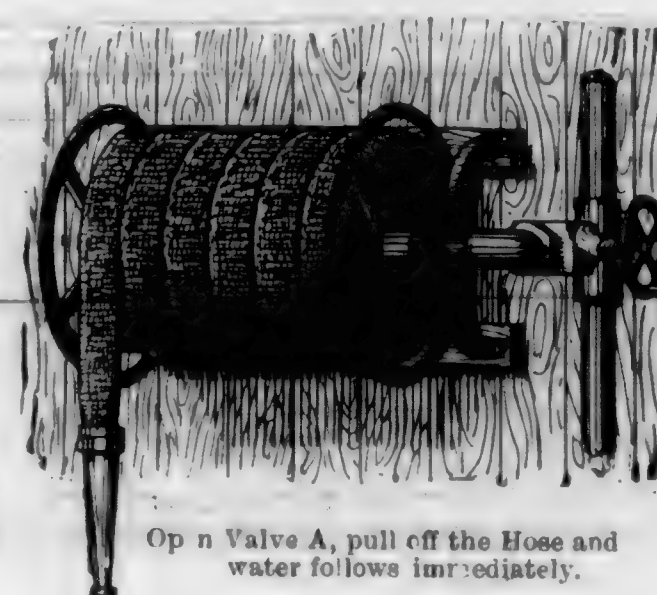
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THE CALIFORNIA ARCHITECT AND BUILDING NEWS

VOLUME IX

ENTERED AT POST-OFFICE, SAN FRANCISCO, AS SECOND-CLASS MAIL MATTER. ESTABLISHED JANUARY, 1879.

NUMBER 11

NOW IN ITS TENTH YEAR!

THE California Architect and Building News.

ESTABLISHED JANUARY, 1879.

Official Organ of the San Francisco Chapter American Institute
of Architects.

TERMS PER ANNUM, - - - \$2.00 IN ADVANCE

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inches in width.
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SAN FRANCISCO, NOV. 15, 1888.

Should Editors Charge for Information?

A lawyer, when asked to plead a cause, demands his fee before he opens his persuasive mouth. You may hang and go to the naughty one before he will give you his legal service gratis. If one desires to know what investments are good and likely to be profitable, the broker who advises him is quite sure to charge a commission for making the purchase. Why, then, should an editor be expected to advocate all sorts of public projects *pro bona publico*? The contractors for improvements make money out of them. Why should they not pay the editors who present their arguments to the public? It is not considered derogatory for the highest lawyer in the land to appear before the city council and advocate the granting of a franchise; but the editor who charges money for doing the same thing is assailed with cries of a "subsidized press." We are not saying that the cry is unjust, but we do ask where the difference is between that which the lawyer is praised for doing and that for which the editor is denounced. The man from whom the lawyer asks a fee proceeds to draw his check; the man from whom the editor asks pay cries "blackmail." Yet both do the selfsame thing. Why is there one code for the Bar and another for the Press?—Sel.

San Francisco Chapter American Institute of Architects.

The regular meetings of the Chapter were held on November 2d and 9th, President, G. H. Sanders in the Chair.

Present: Sanders, Cuthbertson, Wolfe, J. E.; Laver, C. J.; Bestor, Daley, Gash, Pissis, Moore, Percy, Curtis, Whittemore, Wright, Wolfe, G. H.

C. H. Hasty was elected a student member.

Report was received from committee to whom was referred the communication from the New City Hall Commissioners. It was as follows:

To the San Francisco Chapter of the American Institute of Architects:—Your Committee appointed at the last regular meeting to consider the resolutions of the New City Hall Commissioners in reference to a new design for the proposed tower, beg leave to report as follows:

GENTLEMEN:—In accepting the difficult task of reporting on the proposed tower of the New City Hall, it was not expected that the Chapter of Architects would be called upon immediately afterwards to give its opinion on a sketch which purports to be the expression of the ideas suggested by our report.

We believe that we had examined the whole matter thoroughly and that we had covered every point in question. It would not be advisable for us to pass judgment on the sketch submitted, because the problem admits of very many solutions which come into the province of the architect to determine.

We still hold the opinion that it would be better and more practical to erect the tower in the form which seems naturally to be indicated by the circular foundations which are to support it, and although as we have before stated, we admit the possibility of constructing under the existing conditions the square tower to an indefinite height, and notwithstanding we might be disposed to admire it as an engineering feat, we feel that good architecture is more interested in that which is most appropriate and true, both in intent and construction.

Respectfully submitted,

ALBERT PISSIS,
JAMES E. WOLFE,
W. J. CUTHBERTSON,
JOHN WRIGHT,

Committee.

After a lengthy discussion, the report was unanimously adopted. It was also ordered that a copy of same be sent to City Hall Commissioners signed by the President and Secretary.

The President stated that two weeks ago, a meeting was held by the students to consider the advisability of organizing an association distinct from the Chapter. Said association to be composed entirely of students and draughtsmen. Details were discussed and a plan of operations decided upon. Another meeting will soon be held.

Proposition was received from C. Schulze to become a fellow member.

Acknowledgment of Courtesies Rendered.

We have received from the editor of *Building*, published in New York city, the advance sheets containing the full account of the proceedings of the late meeting of the *American Institute of Architects*. We regret our inability to more than give but a reminder that such has been received. Those of our architects who would be pleased to read the full report, can not do better than to send after a copy of *Building* containing the proceedings of the Institute.

We are contemplating a large increase in the number of pages in this journal in our January issue; then we will be able to give all such reports in full.

We want 500 more subscribers in order to do so. Will you kindly help us with your subscription?

An Extra Edition.

For the past two months we have largely increased the number of our monthly issue. In December we guarantee to print 5,000 extra copies, which will be sent to parties all over the Coast who are interested in building matters.

THE CITY HALL TOWER.

This bone of contention has been hushed for the time being, in the great political strifes and huzzas that have ruled the hour during the past month. The recently prepared plan of circular tower submitted to the Commissioners, was sent to the Chapter of Architects for its judgment thereon. But for like reasons the committee from the Chapter to whom the matter was referred have not hurried up their report, but will likely submit the same before this appears in print. It is to be regretted that this feature of the City Hall should have drifted off into a sort of separate affair from the general construction, to meet the conflicts and antagonisms that have ensued by reason of its semi-isolation. Had the issues all been covered by the original plans, so as not to admit the cavellings and questions that have arisen through it having been made to assume an individual position, it would have been a great relief to the architect, as then his defense would have been impregnable in carrying out just what the original plans indicated. As far as present circular constructions go to establish anything, it is that of a circular tower, and the issues that have caused so much angry discussion and personalities, and such intense annoyance to Mr. Laver, rests in the suggestion of a square tower upon a circular base. Had the square proposition been provided for and prevailed from the foundation and upward by the original plans, the Chapter of Architects if called upon would then consistently have sustained its erection, leaving the weight as the only questionable issue, which, if it had been referred to the Chapter, would likely have been acquiesced in as practically possible, or perhaps recommended as proper and feasible. The architectural effect of the square construction received favorable notice in the first report from the Chapter, and all other things being equal, it is not at all likely that the Chapter would have suggested anything not in harmony with the square tower proposition.

FOUNDATIONS IN INTERIOR TOWNS.

WOODLAND, Yolo Co., Cal.

EDITOR CALIFORNIA ARCHITECT: It is a very common occurrence in interior towns to see what was intended to be a real good substantial brick building settle and crack after a few years standing, sometimes enough to render it insecure. Of course it must be caused by an insecure foundation. Will the ARCHITECT or some of its contributors please answer the following? What would be the best foundation for brick buildings on the alluvial soil of the California valleys, consisting generally of a light sandy loam from, say, five to twelve feet deep, resting on a gravel bed, where water is generally found as soon as the gravel is reached, sometimes before? Where concrete is used in foundations on such a bottom, what are the proper proportions of concrete, sand and coarse gravel? Can a reliable concrete be made by using the gravel as it comes from the bed of a creek ranging all the way from fine sand to gravel stones as large as ducks eggs and continually changing the proportions of coarse to fine?

The answers to the above are as follows: The principal cause of buildings settling and cracking, both in interior towns and elsewhere is, that the foundations are too limited in spread—i. e. the width of footings are not made broad enough to carry the weight of construction placed upon them. As to how wide they should be, there is no rule that will apply in all cases. The architect or builder must satisfy himself as to the nature and character of the formation of the ground, and determine the necessities of the case by calculation and good judgment. The footings that would be ample in one case, may be entirely insufficient in another. Where the formation is a rock bed, footings of any size is immaterial, as no width of same can add to the permanency of the natural base. Then as departure from this occurs, the deficiencies in the solidity of the substratas must be provided for by suitable sized footings and foundations. The erection of a brick building upon the waters of the Bay of San Francisco, is possible provided a float of sufficient capacity is provided; hence the possibilities run all the way from the hardest of known formations—rock, to the least resistant—water. The interims between these extremes are so diversified, that no general rule can apply.

It is safe to say that in nearly every case of settlement and cracking, the defect might have been avoided by broader and better foundation work. This proposition is clearly illustrated

in numerous foundations in San Francisco, where planking of sufficient extent has been placed on soft mud, twenty to seventy-five or more feet in depth, and but little or no settling occurred; while if there had been lack of spread of foundations, the reverse would have been the case.

As to "what would be the best foundation for brick buildings on alluvial soil, etc., there can be nothing better than brick, provided sufficient spread is observed in the footings, and the "off sets" not made too large. Properly composed concrete is also good, with the above "if." The proportions of cement and gravel used in concrete work varies according to circumstances and the judgment of the architect, from one to six for very good work, and one to eight in cases where stronger work than those proportions will make, are not necessary. The latter is more the rule than the former. While the "gravel from creek beds, ranging all the way from stones as large as ducks eggs to fine sand," may be utilized, the freer from fine sand the better, and the rougher the gravel the better will the work be. Coarse sand and rough gravel, such as broken granite or rock makes by far the stronger concrete.

Another difficulty often intervenes, where the conditions restrict the construction so that no footings can be placed beyond the plumb lines of the wall, making it imperative to work the projection all on one side. Sometimes coterminal owners refuse one another the privilege of lapping the lines of their lots with the footings. In everyone of such cases where the ground is not entirely reliable, or there is not counter balancing constructions on the adjoining lot, sinkage and cracking is almost certain.

THE BUNDY RADIATORS.

Notice of Change of Place of Business.

After an occupancy of years in the present location, the agent of the "BUNDY RADIATOR" was compelled to hunt up larger headquarters; and not only was the press of business so great as to compel the change to be made, but it also necessitated the taking of a partner to attend to the numerous orders pouring in from all quarters. For a great many years Mr. C. D. Harvey has been alone fighting his way upward and onward, first with the old Hot Water System of Heating that bears his name, but lately as agent of the Celebrated "BUNDY STEAM AND HOT WATER RADIATORS."

In order to thoroughly introduce the Radiators in every part of the country this side of the Rocky Mountains, Mr. Harvey has associated himself with W. H. H. Graves, and hereafter the firm name will be Harvey & Graves.

They have secured quarters in the store immediately opposite the old place, and hereafter all orders may be sent to No. 29 New Montgomery street, corner Jessie. Being in one corner of the Grand Hotel, and immediately opposite Wells, Fargo & Co.'s new building, the situation could not be improved.

Here the firm will have displayed a magnificent selection of Harvey hot water radiators and boilers, and Bundy's direct steam or hot water radiators, Bundy's Triumph, for steam or hot water, the Bundy Elite, for hot water or steam, and the Bundy corner direct, column direct, circular direct, angle indirect, horizontal indirect, and Climax indirect radiators. Also, the Bundy hot-closet, dining room radiator, the latter a most useful and highly ornamental contrivance for disseminating warmth throughout the dining room, while at the same time affording a very convenient mode of securing an equable degree of heat for meats, vegetables and other food which may be placed within it.

The new firm will be pleased to have all interested to call and examine their manufactures, and will prove to all the decided superiority of their productions.

HARVEY & GRAVES,

29 New Montgomery Street.

Messrs. E. C. Stearns & Co., of Syracuse, N. Y., report a very gratifying increase in their export trade during the past four months, and mention that the outlook for the balance of the year is very favorable.

Among others, they mention recent shipments of the celebrated "Silent" Saw Vises, Wood Clamps, etc., to Glasgow; Bench Drills to Northampton, England, and Aspinwall, Panama, and to the United States of Columbia.

The New Town of Newman and its Building Prospects.

AMONG the many towns located and laid out by surveys in this State during the past decade, there are few, if any, whose initial prospects have been brighter or more promising than the town of Newman, Stanislaus Co. Up to April of the present year, the site of the town was a field of growing alfalfa, without the least sign of community life. On the 25th of that month, the first auction sale of lots occurred, and the prices obtained at once established the high favor in which the prospective town was held.

Since then Mr. S. Newman—Sol. Wangenheim & Co.—have erected a brick building 50x115 feet, including the private office construction at the rear. The building is two stories high, besides a splendid cellar 50x100 feet, 9 feet high in the clear. The store is handsomely fitted with shelves, counters, and all the adjuncts necessary for the transaction of a general merchandise business, comprehending all manner of goods, wares, implements, etc., required in all the various departments of field, farm and domestic life. This, the pioneer store of the new town, will compare favorably in external and internal appearances and completeness of appointments, with the finest, outside the commercial cities of the State, and very much surpassing the best in most of the older inland towns, having all the advantages of an assured, established future, and lying upon the main lines of railroad transit.

Messrs. A. Cahen & Son have also about completed a one-story brick store, 50x80 feet, with a fine cellar, for the transaction of a general merchandise business. Although not so large as that of Mr. Newman's, it will hold rank with any similar size structure of like character in the State, and the firm will enter into fearless competition for the trade of the valley.

Besides these, there are some fifty other stores, shops, cottages and dwellings erected, and the busy hands of mechanics are daily employed in the continued erection of others, so that within one year from the first cry of "going"—"going"—"gone," there will be one hundred or more constructions erected upon the alfalfa field of six months ago. In addition to all this, the erection of a fine hotel, a church, schoolhouse and society hall is engrossing general attention, and in all probability will be well under way, if not completed, by the next annual celebration of our nation's anniversary day.

The location of the town has been judiciously selected in the "west side" of the San Joaquin Valley, 3 miles westerly from the old point of interest and business—Hill's Ferry, which is entirely absorbed by the new town—37 miles southeast from Tracy on the main line of the S. P. overland, and 120 miles from San Francisco. At present a branch of the S. P. R. terminates at Newman with large depot facilities and with surveys and road bed a long distance beyond this point, looking to the conceded fact that as soon as practical, the iron horse of the S. P. overland will speed its way across the continent through the town of Newman.

Its prestige as the pioneer town of the "West Side," establishes for it a future that cannot be compromised by any competing town that may be laid out on the same line, as ere another move shall have been made in town sites, Newman, with its many natural advantages and resources will have secured a permanency that cannot be easily shaken; while the enterprise of its citizens, the liberal investments made in lots and buildings by far-seeing and intelligent men, will establish it as the metropolis town of the valley, and a principal shipping point for grain, fruits and other products of the soil, and wool, cattle, sheep, hogs, etc., raised in the valley by the thousands.

The present magnificent irrigating canal of seventy miles in length, running down the valley, with others now contemplated nearer the foot hills, and the inexhaustible supply of artesian well water that can be reached at a depth of twenty-five to seventy-five feet everywhere, with possible repetition of flowing wells such as that now supplying the R. R. works, fixes the destinies of this section for water beyond the caprice of light rains and dry seasons.

Another material feature of interest is found in the fact that the large land owners are seriously considering the advisability of dividing up their thousands of acres, and founding "colonies," which has been so successfully done in other parts of the state, which will gather in near proximity to the new town, almost as many families as there are at present individuals within the same compass, so that from any point of view, Newman and its environments are bright with excellent prospects for the near future and for all time.

COLLAPSE IN LUMBER.

THE collapse in lumber is instructive as showing the normal evolution of the trust system. When the southern boom led to an enormous increase in the demand for lumber, some eighteen months ago, a number of lumber companies and individuals engaged in the lumber business formed a combination, or as we should say now, a trust, to regulate production and fix a cast-iron schedule of prices. The scheme was at first highly successful. The boom at the south was so vigorous that people seemed to care little what they paid for lumber so long as they got it, and for several months lumber sold on the basis of \$22.50 for rough boards. The trust seemed so strong that its promoters actually incorporated it. It was to be a joy forever.

After a time, the demand for lumber began to fall off, and the inquiry for lumber for building purposes grew less furious. The trust found the demand for its goods becoming slack. Prices were marked down to the parity of \$20 for rough boards. As usually happens when markets decline, accusations of cheating began to be bandied among the members of the trust. Quarrels broke out, and so much dissension ensued that, some weeks ago, an application was made to dissolve the corporation. This seems to have been regarded as a signal that every company must take care of itself, and cutting became the order of the day. The trust found itself undersold all round. This went on until lately when the trust accepted the situation, offered cargoes at \$14, and, it is said, actually made sales at \$12.50. A general *saute qui pent* ensued.

Members of the trust assure us that the panic is a mere trick, and that when certain jarring elements have been reconciled the old prices will be restored and the compact will be found as ironclad as ever. But this is not the way the thing usually works. There is a law which governs these matters. First, competition, leading to cut-throat wars; then, combination and extortionate prices; then collapse of the combination, resulting from a reduced demand and treachery among the confederates; and then, open competition again, which is regulated by the extinction of the feeblest among the competitors. It works in a circle, and seldom varies from the regular programme.

That California has been injured by the operations of the lumber trust is too plain to need demonstration. It is very difficult to say what is the normal cost of rough lumber in this market. Dealers are going round declaring that \$15 is less than the cost of production. But people rarely know how cheaply they can produce till they try. Some of the companies may perhaps be unable to produce lumber for less than \$15, but others again, managed with more skill, may make a profit by turning out rough boards at \$12.50. At any rate, it will be well for them to see what they can do. The cheaper lumber can be bought the more houses and barns will be built, and the more fences put up. Any combination which tends to increase the cost of building is detrimental to the public interest, and its collapse should be a matter of general congratulation.

Well-Earned Laurels.

For many years the "GARLAND SEWER GAS TRAP" has been before the public. With each succeeding year the confidence of the public has been strengthened as to its true merits, and to-day it is acknowledged as the one in most general use. No better evidence of its efficiency can be had than that contained in the following:

TO ALL WHOM IT MAY CONCERN:—About four years ago I had one of the "GARLAND TRAPS" put in my office, where it has been in constant use and has given entire satisfaction. I was greatly annoyed by both sewer gas and back water until I had this trap put in, since which time there has been no trouble whatever. I consider my case a particularly severe test case of the superiority of this trap, and after using it four years, heartily endorse it as the only good and reliable trap in the market.

DR. C. O. DEAN,
126 Kearny St., S. F.

Many of the leading architects of the city specify these traps to the exclusion of every other make. The Oakland Board of Health give it a strong recommendation.

Remember, the "GARLAND TRAP" is warranted as a perfect preventive of sewer gas.



Gem Cottage No. 1.

THE accompanying illustrations represent the first of a series of cottages designed to meet the increasing popular demand for "Artistic homes" at a moderate outlay of capital.

It shall be my aim in these studies, while keeping in mind the chief desideratum sought after by that class of readers of the ARCHITECT whom I seek to aid in the perplexing problem of rearing tasteful homes at a minimum cost, to not lose sight of the fact that with the proper application of those scientific principles upon which rests the art of architecture, viz: strength, utility and beauty, there may be combined a structure both practical inexpensive and graceful in appearance. The manifest appreciation of good design by the great mass of people is both a recognized and gratifying fact among the architectural profession, and no where is their tact and ingenuity more taxed than

in the production of a moderate priced dwelling combining all the requisites which their esthetic tastes would dictate.

The country is flooded with cheap so-called architectural publications, whose pages are filled with gaudily colored chromes purporting to be the "Beau Ideal" of architectural loveliness, while combining solid practical construction, but a close scrutiny of general arrangements and proposed manner of construction combined with a very "brief study" of that mysterious "edict," the "specification," from which no deviation must be made to accomplish the "grand whole," cause from over the face of a legitimate limb of the profession a deep blush combined with a smile of pity and derision.

The Gem Cottage No. 1 is designed for a one-story structure to be erected on a narrow city or village lot, being but twenty feet in width, exclusive of veranda. The entrance is placed in its present position that access to the interior may be direct with as little consumption of room as possible. The door is of liberal size with the upper panel glazed with some neat pattern of figured glass to give light to the vestibule, also over which is placed a transom for ventilation. Entrance may be had from the vestibule into both parlor and living room with ample space provided for a hat rack. The parlor is furnished with an abundance of light and ventilation from the triplet window, over which is a designed transom to be in ornamental glass of tasteful pattern and which may be hung to open if so desired.

The alcove may be very prettily draped, wherein may be located the piano or if needful a folding bed perchance the command to be "fruitful and multiply" has been strictly adhered to. If the family be small the folding doors can be pushed com-

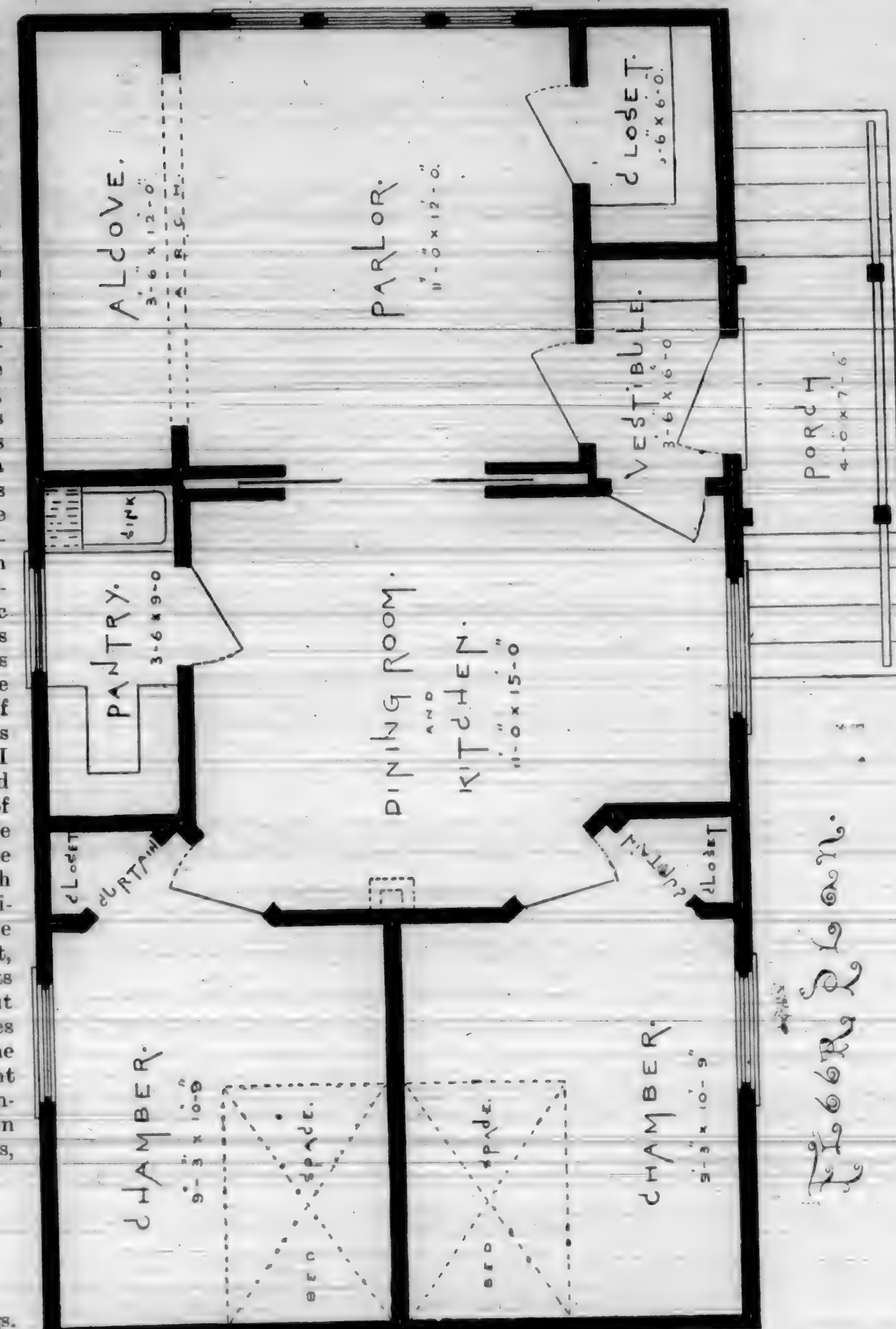
pletely back and the opening tastefully draped with some inexpensive material which will add a feeling of grace and comfort not otherwise attainable. The main living room is of liberal size and well lighted from a large window, while over each single door in the building has been placed a transom for ventilation and to give symmetry to the whole. Instead of a brick chimney as shown, terra cotta may be substituted which will reduce cost and be quite as good, the same in either case resting on brackets thirty inches below ceiling line. The pantry is provided with ample light and with all necessary shelving under which can be arranged floor chest drawers, etc., as taste would dictate. The sink is located herein that it may be as much secluded from view as possible, however, in the most convenient position withal. The two chambers are each provided with a closet and for the door is substituted drapery, which both economizes space and lends a tasteful appearance. In regard to construction if erected in a cold climate, would advise first to sheath the exterior with

matched material over which place a good quantity of felt paper covering same with first quality lap siding, the bill of quantities however, include only drop siding or more commonly designated "rustic," the usual material employed in California for that purpose. The floor is to be double the first, being of surfaced parallel material, over which lay one of first quality, soft pine, as the rooms will be presumably all carpeted and tacks may be much more easily removed from such material than from the customary pines used for that purpose. I would suggest a layer of asbestos paper between the floors, but not the common building paper, from the fact that it soon molds and rots from the water leaking through the cracks if often scrubbed. I would suggest a neat pilaster finish with corner blocks and plinths something after the East-lake style. In the matter of painting, particular good taste should be exercised in the selection of colors, as a vast deal depends on harmony in procuring an artistic and pleasing effect in a building of this character, and three shades with judicious handling could be used to good purpose on the exterior, not forgetting the roof if it be only in the line of economy, as it is a great protection to the shingles. I would suggest that the interior be finished with hard oil in natural wood, be it of proper quality, as it is the most durable finish and may be cleaned with little trouble and will usually harmonize with almost any interior decoration or furniture. In the quality of material, the adage that the best is always the cheapest, is particularly true in reference to paints and oils, as the difference in cost is but slight. The appended bill of quantities will be found ample to complete the building properly, and from the present price of material and labor in San Francisco, this cottage can be completed in first-class style, using only good materials, for not to exceed \$1,000.

A. W. PUTNAM.

Bill of Materials.

16 feet of chimney, 4x12 inch flue.
22 8-inch brick piers with 16-inch footings.
40 2x8 inch joist, 20 feet long, also from which will be formed sills.
148 2x4 inch studding, 14 feet long, for exterior and wall plates.
100 2x4 inch studding, 12 feet long, for interior.
30 2x4 inch studding, 24 feet long, for ceiling joist.
36 2x4 inch studding, 16 feet long, for rafters.
1,200 feet of rough lumber for roof boarding.
12,000 shingles. 750 feet surfaced lumber for 1st floor.
900 feet matched flooring.
310 feet beaded ceiling. 1,800 feet rustic.
150 feet lineal 4 1/2 inch crown moulding.
150 feet lineal 4x4 inch fascia. 150 feet lineal, 2-inch bed moulding.
30 feet lineal, 2 1/2 inch ridge roll.
250 1/2x12 inch dressed lumber for cornice.
100 feet lineal, 1 1/2x5 inches, for corner boards.
155 feet lineal, 1 1/2x8 inches, dressed for water table and door casing.
175 feet lineal, 1 1/2x5 inches, dressed for lower base and ridge boards.
2 chamfered posts, 4x4 inches, 10 feet long for veranda.
2 chamfered posts, 10 feet long for veranda.
50 feet, 1 1/2x12 inches, for veranda treads.
35 feet, 1x7 inches, for veranda risers.
100 feet lumber for gable and veranda finish.
150 feet lumber for pantry and closet shelving, drawers, etc.
3 window frames, 2 feet 9 1/2 inches by 7 feet 1 inch.
1 window frame, 3 feet 4 inches by 7 feet 1 inch.
1 mullion window frame, 7 feet by 8 feet 5 inches.
280 feet of dressed lumber for above frames.
1 exterior door frame, 2 feet 10 inches by 7 feet, 20-inch transom.
6 interior door frames, 2 feet 8 inches by 7 feet, 16-inch transom.
1 interior sliding door frame, 5 feet 6 inches by 9 feet.
310 feet 1 1/2 inch material for above frames.
1 exterior door, 2 feet 10 inches by 7 feet, 1 1/2 inch, upper panel glazed.
6 interior doors 2 feet 8 inches by 7 feet, 1 1/2 inch.
1 pair sliding doors, 2 feet 9 inches by 9 feet, 1 1/2 inch, all above 6 panels P. G.



6 interior transoms, glazed, 21 oz glass, 16x32 inches.
1 exterior transom, glazed, 21 oz glass, 20x34 inches.
3 pairs sash, 1 1/2 inches, glazed, 21 oz glass, 2 feet 9 1/2 inches, by 7 feet 1 inch.
1 pair sash, 1 1/2 inches, glazed, 21 oz glass, 3 feet 4 inches by 7 feet 1 inch.
1 pair sash, 1 1/2 inches, glazed, 21 oz glass, 3 feet 4 inches by 6 feet 5 inches.
2 pairs sash, 1 1/2 inches, glazed, 21 oz glass, 1 foot 2 inches by 6 feet 5 inches.
2 mullion transom sash, glazed, with ornamental glass, 1 foot 2 inches by 1 foot 8 inches.
1 mullion transom sash, glazed, with ornamental glass, 1 foot 8 inches by 3 feet 4 inches.
614 feet readed casing, 3/8 inch.
255 feet 10 inch moulded base.
255 feet lineal, quarter round at base.
10 feet seasoned oak for threshold exterior door and drip board capping sink.
54 corner blocks. 42 plinth blocks.
7 pairs Hill's sliding blinds, four fold.
1 enameled steel sink, 16x24 inches. 95 fat shingle gutter.
32 sheets 4-lb sheet lead for capping windows and flashing chimney.
450 lbs nails.
1 mortice lock, night lock attachment exterior door.
6 mortice locks.
7 pair 1/4 inch loose pin butts.
Trimnings for sliding doors, flush finger pulls, lock, etc.
1 set Ives' sliding door hangers. 7 pair transom centers.
7 sets Woolensack transom lifts. 7 sash locks, Ives' patent.
14 flush sash lifts. 28 sash weights.
175 feet Silver Lake sash cord.
7 rubber tipped door stops. 2 1/2 dozen coat hooks.
1 spring catch for sink door. 8 flush drawer pulls.
355 yards exterior painting, 445 yards plastering.

Practical Plane and Solid Geometry.

II.

BY ARTHUR SEYMOUR JENNINGS.

Written especially for the CALIFORNIA ARCHITECT AND BUILDING NEWS.

(Copyright.)

THE Sector.—This is an instrument, which although familiar in appearance, is not generally valued for practical use. The general form of the instrument is shown in figure (1) and consists essentially of a rule having marked upon it a number of scales radiating to a common centre. These lines have their uses in the solution of various problems relating to trigonometry. The ordinary draftsman, however, will only have occasion to use two of them, namely those marked respectively (L) and (POL). The line marked (L) is called the line of lines and is used to determine the length of the fourth proportional to three given lines. The manner in which this is done will be understood on reference to figure (1) which represents the sector having marked upon it the two lines in question. The

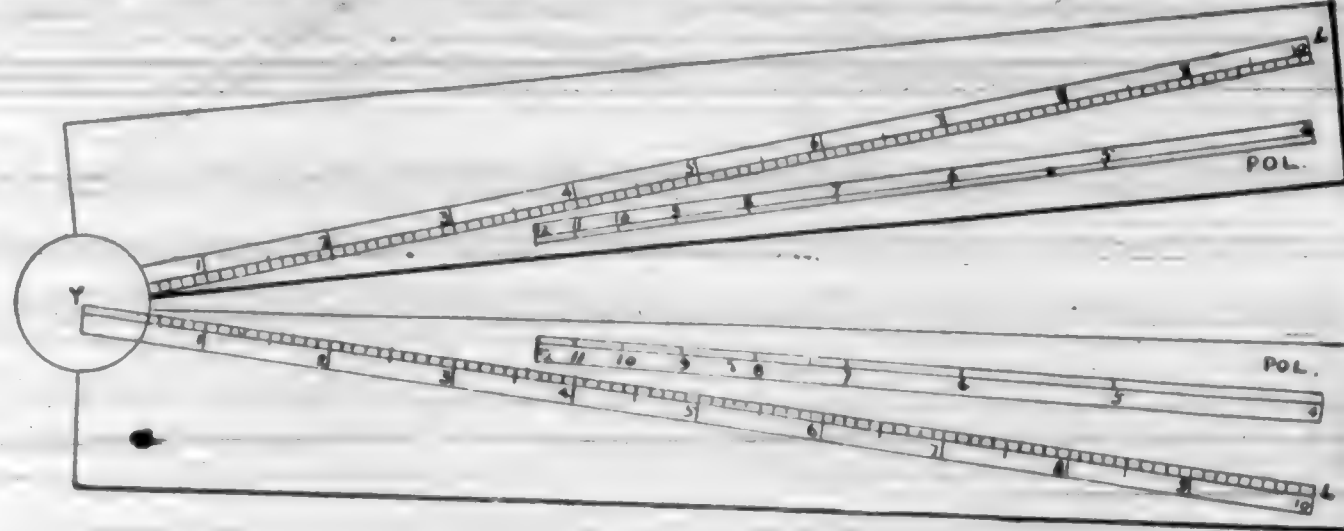


Fig. 1. The Sector.

length of the first line which we will call A is taken in a pair of dividers, and the sector is opened so that the distance from points marked LL is exactly equal to this distance. Now, without altering the sector take the length of the second line (B) in the dividers and measure across from one line to another finding the exact length from any figure on one leg to the same figure on the other. Suppose this to occur at the figure 7. The legs of the

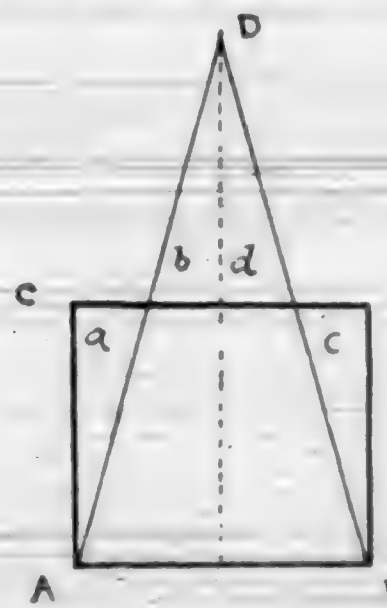


Fig. 4. Isosceles Triangle and Rectangle of Equal Area.

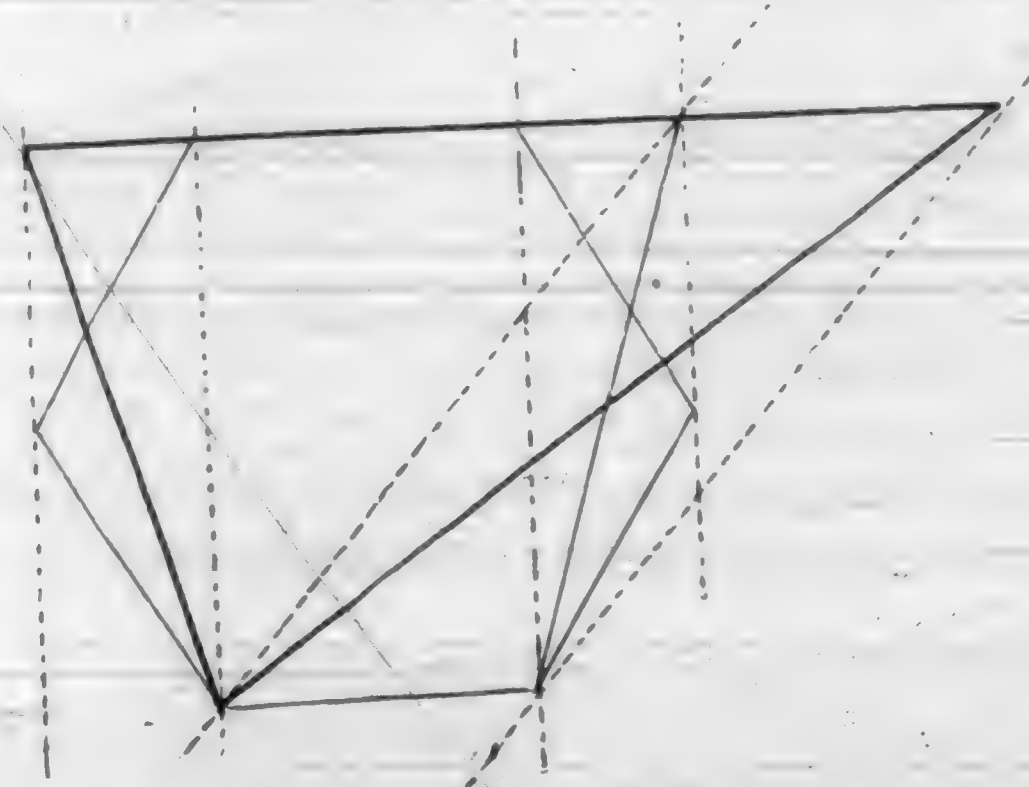


Fig. 3. Hexagon and Triangle of Equal Area.

sector are now altered until the distance between the points LL is equal to the length of the third line (C). The fourth proportional required is ascertained in the case given by measuring from figures 7 to 7 under the new position of the instrument.

Perhaps a more useful purpose of the sector is in the construction of polygons which were referred to in our last paper. When the circumscribing circle is given the sector is opened until the distance upon the line marked (POL) from the figure 10 to 10 exactly equals the radius and the length of the side of polygon is found by measuring from any figure on one leg to the corresponding figure on the other. The figure must, in every case, correspond with the number of sides in the required polygon. To illustrate the use in this case the octagon in the last paper was drawn, and it will be found that when the distance on the sector from the points 10 to C is equal to the radius of the circumscribed circle, that the length of the line AB is precisely the same as the distance between the points marked 8 and 8 on the sector.

The student having mastered the use of this instrument will do well to learn the solution of problems relating to the construction of triangles and regular polygons from given data.

Areas of Plane Figures.—There are few more important problems in practical geometry than those relating to the areas of plane figures, for not only are they of much service in the carrying out of ordinary work, but upon them depends to a great

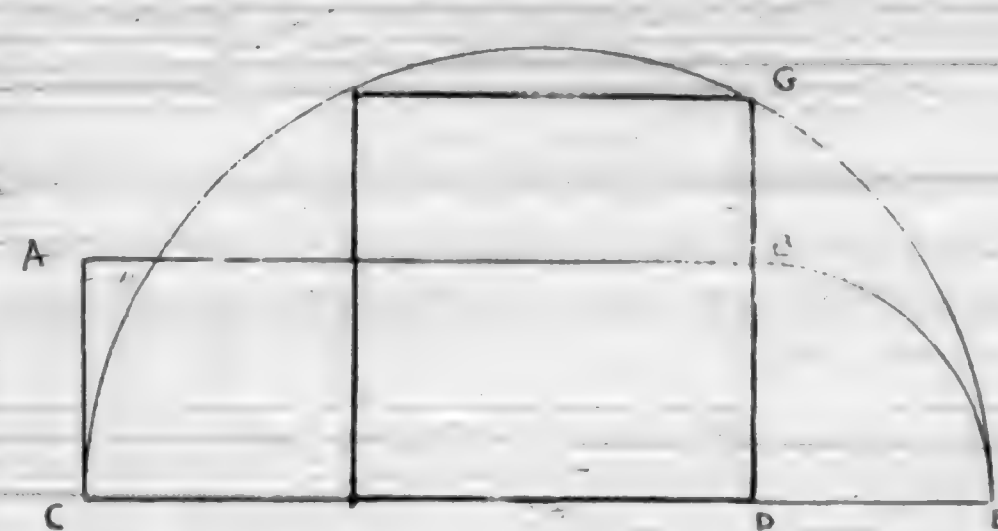


Fig. 7. Square and Rectangle of Equal Area.

extent the solution of many problems of particular interest. We will first consider the construction of different geometrical figures of equal area, thus, for example to make a triangle equal in area to a polygon or a square, to a given rectangle or rhomboid. The outline ABCD figure (2) represents a certain area and it is desired to find a triangle of equal area. By area, of course, is meant superficies, that is so many square inches or feet. The student may appreciate the qualities of area by supposing that the lines ABCD shown in figure (2) confine a number of small shot which are placed within them in such a way that, although they completely cover the area, no one shot rests upon another. It will be seen that if we change the form of the figure and get as a result an equal covering of the space confined by the shot, that the area will be the same. Our immediate object now is to find a triangle of equal area to the outline ABCD. This problem depends for its solution upon the 35th and 36th propositions of Euclid, book (I) which say that parallelograms and triangles upon the same or equal bases and between the same parallels are equal in area. If we draw a line through DB in figure (2) shown dotted, it will cut off from the main outline, the triangle ABD. Now, by the proposition just given, any triangle upon the base BD and between the same parallels will be of equal area. We therefore draw a line through A parallel to BD and extend the line DC to E, drawing a second line back to B which gives us the triangle EBC, equal in area to the four-sided figure ABCD.

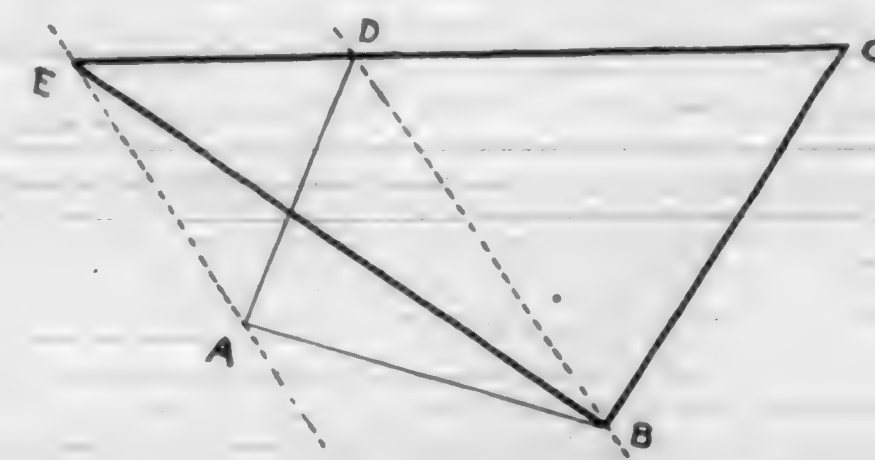


Fig. 2. Reduction of Four-sided Figure to Triangle.

That the areas are equal is proven by the fact that the triangle EBD is equal to the triangle ABD.

We have dwelt upon the solution of this particular problem, not so much because it is very difficult in the case before us, so much as because it is necessary in working out a large number of other problems. By it any figure bounded by right lines may be reduced to a triangle of equal area, and the method is exactly the same as that described, excepting that triangles are cut off

piece by piece, until the outline is reduced to its required form. Figure (3) shows a hexagon, represented in thin lines, reduced to the triangle represented in thick lines by means of the parallels shown dotted.

Having obtained a triangle equal in area to any given figure, we now go a step further and find a rectangle equal to a triangle. This is simple. A line is raised at each end of the base of the triangle and line drawn parallel to the base through a point exactly half way up the perpendicular height of the triangle. The application of this solution is shown in figures 4, 5 and 6, as applied to isosceles, scalene and a right angle triangle respectively. Referring to figure (4) it will be plain that the rectangle ABCD is equal to the triangle EBD because the triangular space a is equal to b and c is equal to d.



Fig. 6. Rightangle Triangle and Rectangle.

To obtain a square equal in area to a rectangle, we proceed as follows.—Draw a rectangle as that shown in figure (7) marked ABCD. Extend the line CD indefinitely. With centre D radius DB describe an arc cutting this line in E. Now bisect the line CE in the point F, and with radius FE describe a semi-circle: Extend the line DB until it reaches the arc at G when GD will be one side of the square, equal in area to the rectangle ABCD, and the construction of a square is, of course, simple. We have now shown how any figure bounded by right lines may be reduced in form, first to a triangle, then to a rectangle and then to a square of equal area. In our next paper we will give further problems on this interesting branch of practical geometry.

(To be continued.)

Building in the City of Mexico.

A PAPER was recently read on this subject, before the Washington Chapter of American Institute of Architects, from which we make these interesting extracts:

Picturesque effects in architectural compositions are not much appreciated in so absorbingly picturesque a country as Mexico. Though the ornamentation often partakes of the *bizarre*, the general dispositions in the city work accentuate repose and harmony, and despise little tricks for producing sensational effects.

The building stones of Mexico City, the art, industrial and commercial center of the republic, are of trachytic origin, i. e. species of lava composed of vitreous feldspar in the body. All these materials have very little transverse strength, and are mostly used in short pieces. An ordinary window-sill is composed of two or three pieces, and all lintels are formed of straight arches.

The bricks or "ladrillos" are 12x6x4 inches and cost about eighteen dollars per thousand. For whole walls they are very rarely used; face bricks are not seen, and the characteristic brick-architecture does not exist.

Not much is to be said of the wood-work in the better class of houses in Mexico. There is plenty of lumber in the country, but it grows in lumber belts, difficult of access and hundreds of miles distant from each other. Cheap means of communication are not developed, since the entire table-land is deficient in navigable rivers or canals. Even the Rio Grande is navigable for not more than one hundred miles up the coast, and so are the comparatively few other rivers.

The floors of the buildings are laid similar to ours; their roofs are flat, and constructed by counter-ceiling or sheathing the rafters. On the boards a compacted layer of stiff clay, about seven inches thick, is put, and upon this bricks are laid in, and grouted with mortar. The brick pavement is banked up slanting against the side walls, so as to form easily a water-tight joint. This mode of construction would not prove water-tight in cases where the rafters are partly supported by interior partitions of wood, which shrink, compress and hence result in fissures and cracks, such as destroy the rigidity of the heavy covering materials.

In the huge bull-rings and similar structures, sound and strong construction-lumber is observed; but whilst ebony, rosewood, mahogany, cedar and ironwood (*lignum vitae*) are important staples for export from the lower country along the coast, a medium class of lumber for interior finish in buildings is evidently scarce. The heavy, molded and carved entrance doors of first-class buildings show very inferior material. Hardwood finish is very rarely applied; fine yellow pine and hard-wood partitions in stores are even imported from New Orleans. In the old houses, including even the National palaces, only the side walls are plastered; for even all flat ceilings muslin is tightly stretched under the floor-joists and carefully decorated, so as not to betray its flimsy origin. This is most likely a tradition which has outlived the adobe house, with its clay roof, which was liable to leak if not frequently inspected. The arched ceilings of the churches, of course, were always plastered, and in costlier modern houses plastered ceilings are seen also.

Our general contractors are not known in Mexico. There is a class of men called masters. Whoever has any work to do engages the services of a master, and on Saturday he hands to the owner a pay-roll of the mechanics and laborers, bills for material bought, etc., for settlement.

In enterprises of more importance architects are engaged who then employ the master and become responsible for him and his doings.

Those members of our trades-unions who are jealous of our work performed by machinery could, with profit to themselves, observe the workings of a system and country where machines do but exceptionally compete with handwork, and note rates of wages obtained under such circumstances in Mexico City.

Foreman of masons gets \$1.25 for a day of nine hours, and works along with his gang.

Stonemasons or bricklayers get 75 cents for a day of nine hours.

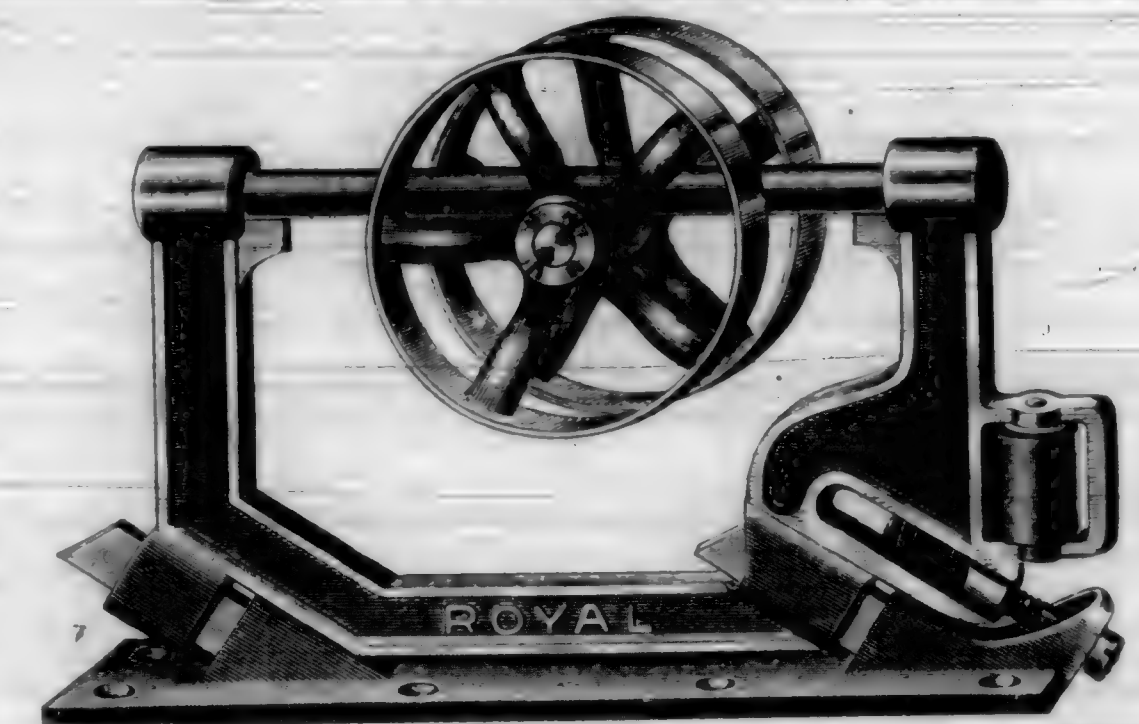
Hod-carriers get 44 cents for a day of nine hours.

Laborers get 31 to 37 cents for a day of nine hours.

These wages are paid in silver coin, of which a dollar, or "peso" is worth about 75 cents of our coin, which is based upon a gold standard.

Little activity prevails at present in the erection of new public buildings, since there is still a liberal supply of abandoned deserted and confiscated convents, which are reconstructed for secular purposes, a process in the course of which many odd features have to be improvised from sheer necessity.

The Royal Sliding Door Hanger.



The "Royal," illustrated in this issue, is a new Sliding Door Hanger, just introduced in the market by E. C. Stearns & Co., Syracuse, N. Y. This novel device for hanging doors properly belongs to the class of anti-friction or rider bar hangers.

Pertaining to the "Royal" are these especially commendable features: The wheels have no flanges which would cut and wear the wood track, but are made with a broad flat face. The axles and rider bar are constructed of round steel. The pins whereon the hanger slides, which permit perpendicular adjustment, are of flat steel, allowing a reduction in width of a casing to a minimum. It is secured by screws to the top edge of the door, which dispenses with any cutting or fitting in order to accommodate the adjusting screw.

The addition of the new "Royal" to the extensive line of hangers hitherto offered by E. C. Stearns & Co. gives a completeness to their variety, which, always being in stock, must prove equal to any and every demand of the trade.

A MODEL FIRE ENGINE HOUSE.

WE give in this issue perspective and floor plans of a fire engine house designed by Chas. E. Leeds & Co., architects, of New York City.

It is adapted for many of the small towns and villages throughout the country, and will be found suitable for an engine, hook and ladder, hose or chemical company. The beauty and appropriateness of the design we feel will be appreciated at once by our readers and be adopted as the model fire engine house, for it seems to us that when the cost for building such a structure as shown is taken into consideration, it will be a very difficult matter to design so handsome and complete a building for the purpose intended without increasing the cost very much more than the figures estimated by the architect for the design in question.

The design as shown is for a building 20 feet in width by 40 feet in depth, two stories in height, ground excavated under en-



tire building. The dimensions as given may of course be varied materially to suit individual wants. For instance, there may be a demand for a building to accommodate a hook and ladder truck, the sitting room on first floor in this case could be dispensed with without in any manner affecting any of the other general arrangements. Again, if it was desired to afford accommodations for hook and ladder and engine side by side, the additional width can readily be secured without disturbing any other feature. In some cases the upper floor may have to be left unfinished or it may be necessary to devote the entire floor to sleeping accommodations. The library in that case being used as the officers' quarters, and has a desk and one of the new "America" Mantel Folding Beds; or again, where a steam fire engine is used it may be deemed advisable to devote the rear portion of the first floor to stable purposes. A variety of instances for individual uses will undoubtedly present themselves to our readers, and we might say here that the architects would be glad to correspond with any parties seriously considering the erection of a fire building, and will be pleased to give further information when desired.

When the engine house is to be used for a steam fire engine and it is desired to keep the water hot in the boiler of the engine, the Silsby Combined Engine House and Fire Engine Heater is to be used—with this apparatus the water can be kept hot in the boiler and the house also heated by means of steam heat. There is but one fire to be looked after and it can be placed on the same floor with the engine or in the cellar if preferred. It is automatic in every respect, and any desired pressure can be maintained in the engine boiler, from boiling point up to twenty-five pounds of steam.

The general arrangement as given below has been carefully

studied, and the result we can say is a great success. On the first floor is the apparatus room having closets, desk and two wash basins, and in the rear of it a sitting or meeting room connected by sliding doors, cut glass panels with representations of emblems of the fire department. Sitting room to have one of Fuller & Warren Co.'s "Splendid" fire-place heaters connected with registers in the library and parlor. Dumb waiter on this floor to be 4x2, and of Tilman's Anti-Friction pattern.

For houses built in places where a fire alarm telegraph is in use a switch-board is supplied and placed over the desk in the engine room and connected with the electrical apparatus on said board by a Standard underground cable, same as used in the cities of New York, Philadelphia and Washington. Over the desk in this room is placed an Edison Pressure Recording Gauge connected with the street water mains.

In front of the building is the hose drying tower, entered by a door from the street, making it unnecessary to drag the wet

and dirty hose into the engine house—the hose being raised to the top of the tower by firemen standing in the street. In addition to the large double doors in front is a small door connecting with vestibule, from which there is an entrance to the apparatus room and also to the second story.

The second story consists of a parlor or billiard room, library and bath room, all well lighted. Bath room to be fitted with bath tub. Water closet to be McShane's "Royal" closet with cherry seat and copper lined tank complete. The water closet on first floor to be McShane's "Gem" closet complete with ash paneled copper lined tank. Drainage to consist of a 4 inch drainage system screwed together complete in place, as manufactured by the Durham House Drainage

Company of New York. The wrought iron drain to be run four feet outside foundation wall.

Extending above the roof is a bell-tower so arranged as to give out the full tone of the bell when struck. The balcony in front with gable finish above crowned by a flag staff add much to the handsome appearance of the front.

The basement has a kitchen and workshop in the rear and a cellar in front. Kitchen to have a Fuller & Warren Co.'s No. 85 Diamond Range. Two McShane's No. 6 Crown Laundry Tubs, ash top, with painted iron standards and front strips. Workshop to have one of Gunn's tool cabinet work benches made by the Miller's Falls Company.

Chimney to be built as shown, all joints to be well filled. Parts exposed to view to be faced with selected hard brick, chimney to be capped with blue stone in one piece with flue openings cut out.

All timber to be of good sound spruce, first and second tier of floor beams to be 3x8, placed 16 inches from centers. Rafters 2x6, placed 12 inch on centers; sills, posts, plates and ties 4x7;

door and window studs of hemlock 3x4; door studs to be doubled; all partitions throughout to be 2x4 hemlock 16 inches on centers. Both tiers of floor beams to be well bridged.

The outside studding after covering with double ply "Sanitary Parchment" to be finished with Northrop & Co.'s sheet iron siding applied direct to studding; inside of wall to be filled with Terra Cotta Lumber, all partitions to be same material covered with Straw Lumber, joints to be covered with 2-inch moulding. All ceilings to be of Northrop & Co.'s sheet iron, as shown and according to details; roof to be covered with Northrop & Co.'s sheet iron roofing.

Floors throughout to be laid with first quality 1 1/8 inch thick mill worked white pine floor plank, not to exceed over 5 inches wide with close joints.

Interior door and window architraves to be 5 inches wide of moulded plaster finish with base and corner blocks. All interior doors to have Hermacite door knobs and excrecheons.

All windows to trim to floor with moulded panel backs under sills. All windows to be fitted with Willer's sliding blinds of the latest pattern with bronze hardware. Sashes to be operated with Pullman sash balances instead of weights and to be secured by the Timby burglar proof fasteners. Sashes throughout to be 2 inches thick; glass throughout to be first quality American sheet glass. Halls on first and second stories, and library and parlor to be wainscoted with "Lincrusta Walton" as shown and according to details.

Exterior to be painted with H. W. John's Liquid Paint. Interior with H. W. John's Abestos Fire Proof Paint.

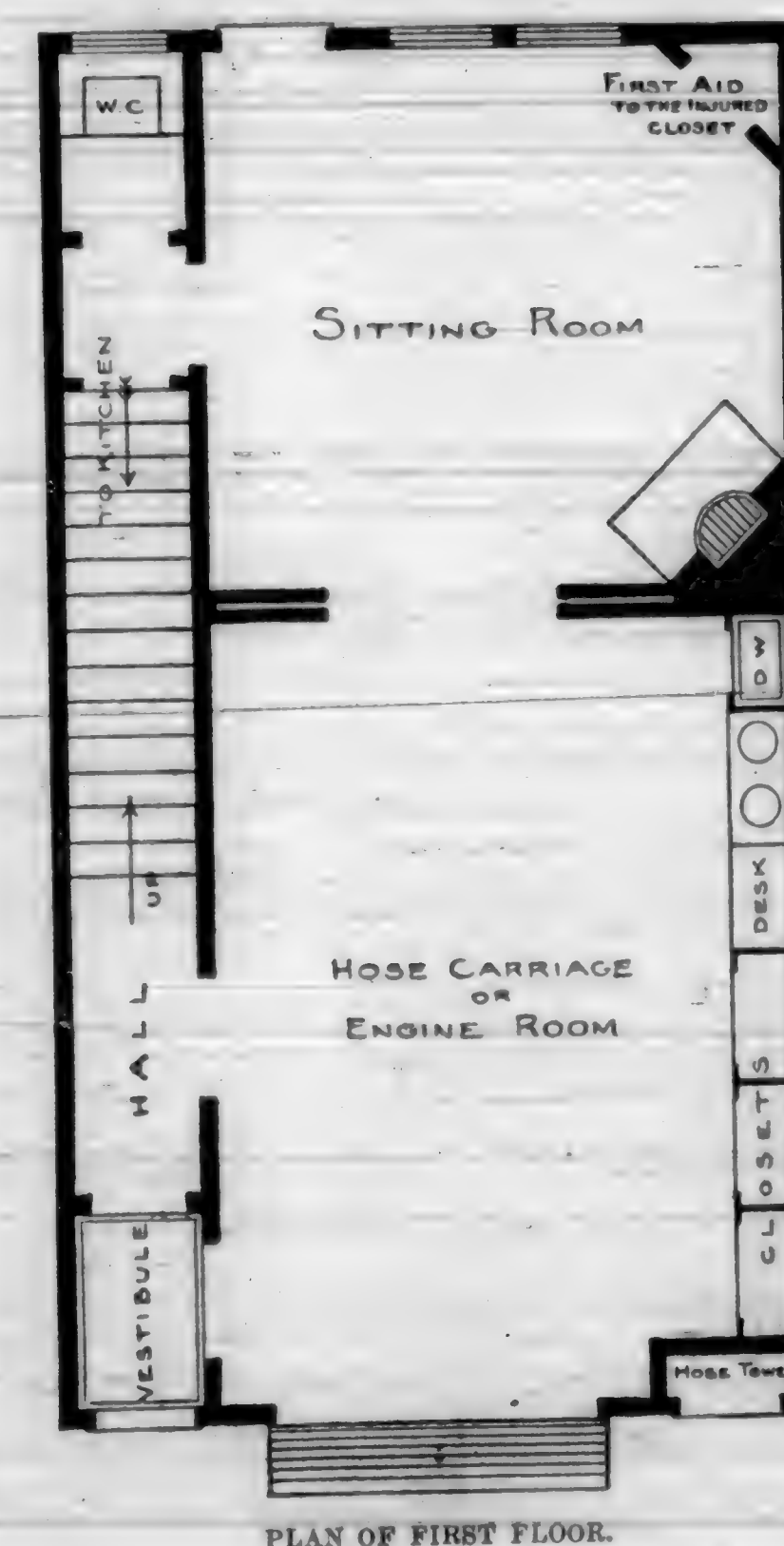
All doors to be double faced, outside double doors to be 2 1/2 inches thick; all others 1 1/2 inch thick; outside double doors to be provided with "Garden City" engine house spring hinges, especially constructed for throwing the doors open.

All doors to have heavy mortise locks of Niles' patent. Sliding doors to be hung on Warner's hangers. Closets to be supplied with Jayne & Crosby's new departure wardrobe hooks.

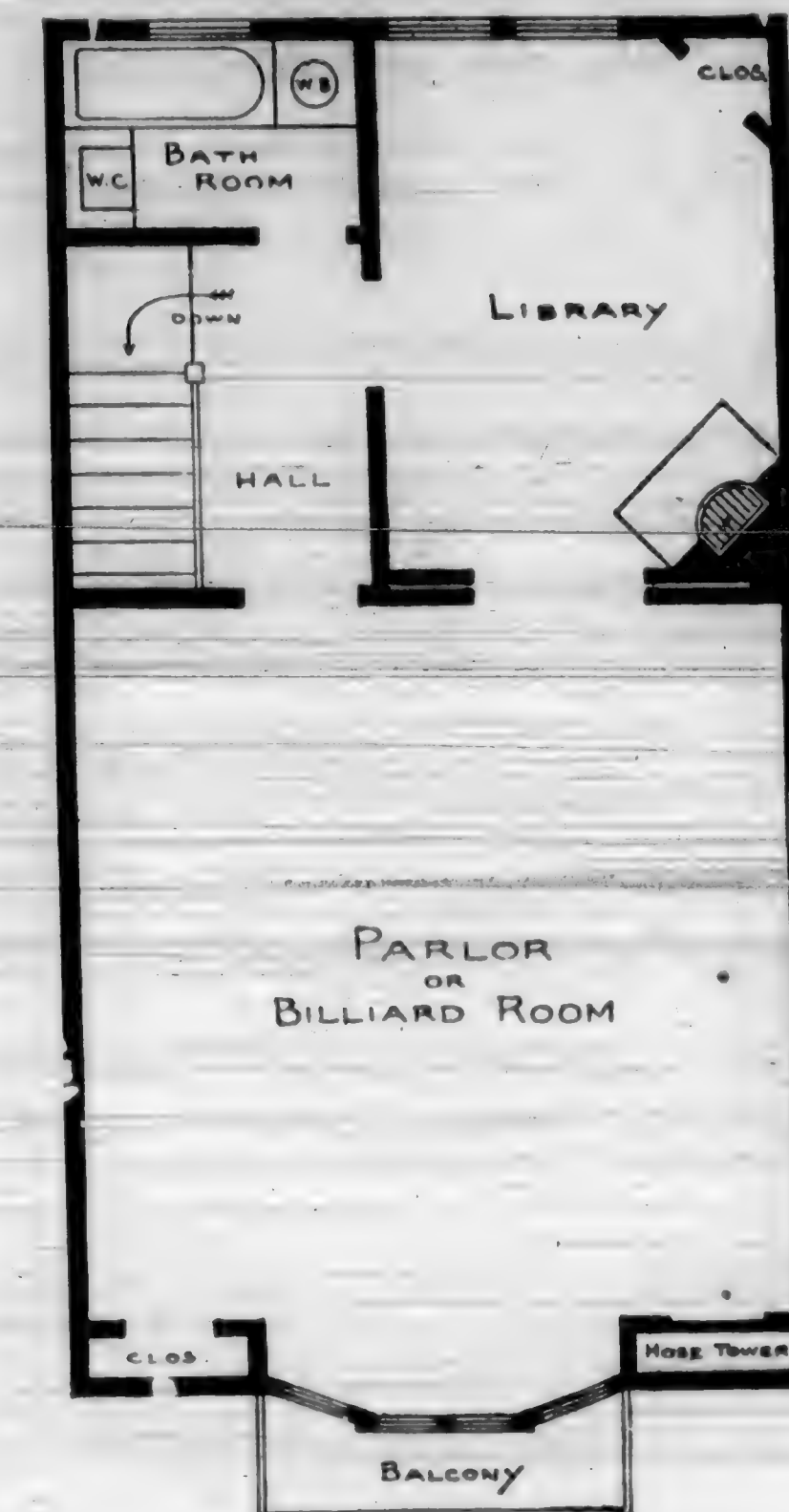
Stairs from first to second floors, with 1 1/4 stringers and treads, and 3/4 risers, treads to be of yellow pine; stairs to have 3x4 hand rail and 2-inch turn balusters, all to be of nicely grained ash.

In front of the building, to be used when the large double doors are open, is provided a Bostwick folding gate.

Bell tower to have one of Miller's steel amalgam bells, No. 8, 710 pounds, with tolling attachment and rigged so that it can be rung from the inside of house or from the street.



PLAN OF FIRST FLOOR.



PLAN OF SECOND FLOOR.

Gas fixtures in most prominent places and where mostly used to have the Matchless gas burners, and to be connected with the front door so as to be automatically lighted on opening the same. Mantels in sitting room and library to be E. J. Johnson's emblematical slate mantels.

By the use of the iron sidings, ceiling and roofing and Terra Cotta Lumber in side walls and partitions, a building can be constructed that will not be as liable to take fire from outside sources as the ordinary brick or frame building.

Building complete as shown will cost about two thousand dollars—if without tower two hundred dollars less, and if of only one story about one thousand dollars.

[N. B. These prices are those for which the building can be erected in New York City. They are not applicable to San Francisco. Cost here would be about double those given.

ED. ARCHITECT.]

The Lumbermen of the United States.

In the *Northwestern Lumberman* of October 20th appears a list of those engaged in the manufacture or handling of lumber in the states of Kentucky and West Virginia. The list includes owners and operators of saw, shingle, stave and heading, and planing mills, sash and door factories and box factories; also the names of all wholesale, retail and commission dealers in lumber, timber and logs. By a convenient system of reference marks the above classification is indicated; and also in case of mills and factories the approximate daily capacity, the power used and whether or not dry kiln and logging railways are employed. The *Lumberman*, which is published at Chicago, promises to continue the publication of these valuable lists in regular issues of the paper until inside of a year the round of the United States shall be made. This is a bold and costly undertaking and should be appreciated by all interested in any way in the lumber industry of the country.

In next issue we will present No. 2 of the series of GEM COTTAGES. These unique designs are prepared especially for this journal and it is our intention to copyright the same.

ART, AND THE NEW BUILDING ERA.

THE recent material fall in the price of lumber is giving a fresh impulse to building. In the suburban districts and in the country generally wood will be employed in the construction of dwellings and other edifices for a long time to come. It will hold the first place in this respect, because it is a cheaper and more satisfactory material. Nine-tenths of those who build are not concerned so much about permanence as about an immediate improvement. The material can be put upon the ground quickly. The carpenters run up the frame and cover it; the planing mill men cut out the window and door-frames and the "ornamental" work. The masons make a short job of the foundations, chimneys and such plastering as is required. The man, under pressure, has a house built for him in from sixty to ninety days. He is pleased with this rapidity of execution. In a single week the frame of a house will be set up and covered. If the average citizen in town or country wants a house at all, he wants it very much. He will frequently pay a premium for rapid construction. He may not get the best results. But the immediate want is met and that generally takes the precedence of all considerations of permanence.

Structures less than twenty years old are frequently moved on to cheaper lots in the suburbs. They have had their day, or rather, have served the temporary purpose of the original owner. The house which fills the blank will be more elaborate. But some day, if it is not burned, the same fate may overtake it. This is one of the few countries of the world where dwellings may be seen every month in this process of transition. The old anti-Revolutionary houses of the Eastern States could not be moved. They had immense oak frames and were anchored with great stone chimneys on foundations planted in the cellars. But in these days, houses travel along some of the streets with chimneys upright and with hardly a fracture of the stuccoed walls.

A better art has been applied to the construction of modern wooden houses. This is especially noted in suburban districts. At points where the lines of the city become obscure and the country begins, rural taste has been applied to house construction. If it is not always the best, it is a great improvement over the dreary box-like structures which for a time prevailed. Just now the tendency is to push the picturesque in suburban construction to extremes. The tameness of uniformity is well broken up. Something of dignity and repose are sacrificed in the numerous angles, gables, facades, porticos and trimmings. There are "fads" in picturesque construction and painting. A few years ago nearly all the new suburban houses in some districts went into half mourning—that is, they were painted in sombre lead color, in which lamp black or some kindred pigment had the first place. This tone suggested grief, sorrow, disappointment, clouds charged with the coming storm. It went out of favor because it was never supported by the canons of good taste. A soft cream color had preceded the half mourning. It harmonized well with the clays found everywhere, and with the creamy tones of much of the sandstone which was being uncovered in many parts of the State. Then came a season of terra cotta reds and pink browns.

"John," said a Quaker to his son, who was sporting a flamingo vest, "what is the color of that waistcoat thou hast on?" "That," said young hopeful, "is a kind of fiery drab." Some of the colors now applied externally to suburban dwellings range from dull terra cotta to "fiery drab." The last extreme is not good. A house should not suggest a volcano or the danger of a sudden burst of flame. Violent or inflammatory colors never

suggest repose. There has been one positive gain in art applied to house construction in this; paint applied to interiors has been very much restricted. In many houses of recent construction, not one-eighth of the interior has been touched with a paint brush. The tones of native woods are superior to anything which can be done in pigments.

But the most striking evidence of the new building era is seen in the stone fronts now given to some of the most costly buildings in the city. Enough has been accomplished in this direction to make it certain that stone is hereafter to be used for such purposes in this city very extensively. These sand-stones shade off into rich browns and drabs. There is enough of this material within reasonable distance to build a large city—more than will be required for all building purposes during the next half century. The granite is a little more remote. But it goes well with the new era of construction that there has recently been discovered an unlimited wealth of the best material which has ever entered into the construction of modern cities.

School-House Ventilation.

One of the most difficult problems presented to the architect in the erection of school buildings, is the subject of ventilation. To prepare vents for the ingress of pure air and the egress of foul air without creating a draught, and causing an incessant coughing among the scholars, is a problem, the solution of which has caused much study. Happily, the system devised by Mr. P. Abrahamson of this city, remedies the difficulty mentioned. In the Kate and Fillmore streets public school—lately finished—his system has been given a perfect trial. The Board of Education, the architect, teachers, scholars, all are delighted with the successful results. In five other school buildings has the system been introduced and such is its success that the Masonic Halls in Woodland and Napa, the Orphan Asylum at San Rafael and many of our most prominent interior buildings are supplied with the ABRAHAMSON VENTILATOR, and one and all unite in praising its merits as the best known system of ventilation yet introduced.

A Decision of Importance to Owners of Houses.

A few weeks ago Attorneys Nagle & Nagle brought suit in the Superior Court for Olive J. Wickes against Catharine Chenot to abate a water nuisance and to recover damages. Plaintiff is the owner of the house and lot 917 Valencia street, and the defendant owns a house and lot adjoining. The eaves of the latter house project some six inches over plaintiff's land and the rain water therefrom was the nuisance complained of.

Judge Wallace filed a decree in the case to-day, ordering the defendant to abate the nuisance and to remove all projections over and upon plaintiff's premises. H. Eichoff, attorney for the defendant, pleaded the statute of limitations, because the action was not sooner brought. Judge Wallace held that the statute of limitations did not apply, for the reason that plaintiff is entitled to undisturbed possession of her property. The defendant was further perpetually enjoined from constructing a roof, gutter, eaves, trough or other projections over or upon plaintiff's land, and to construct her house so that rain water will not flow from the roof upon plaintiff's land.

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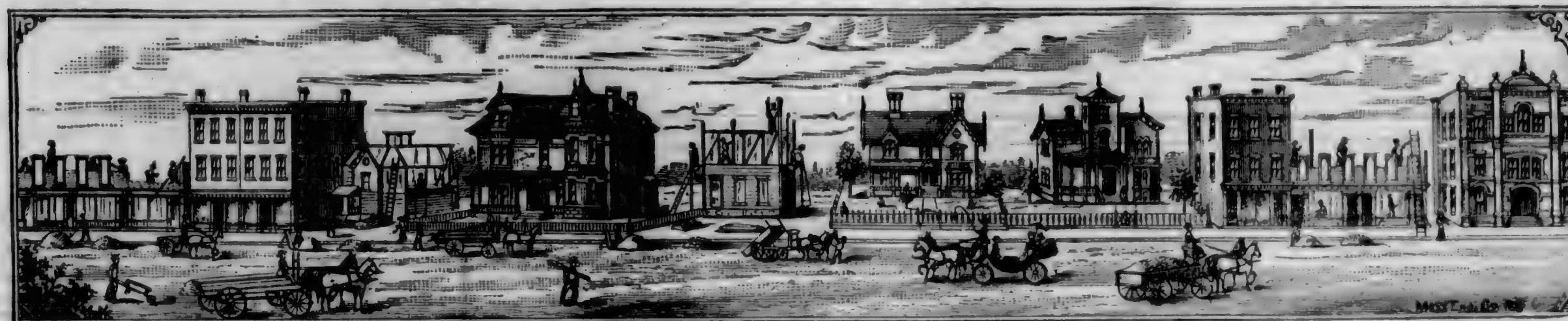
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CITY BUILDING NEWS.

There is no Paper or Journal on the Pacific Coast that pretends to give a Full Report of Building News, except the

CALIFORNIA Architect and Building News.

Army Avenue near Dolores, six one-story frame. Owner and builder, J. C. Weir; cost, \$12,000.

Beaver near Noe, two-story frame. Owner, F. D. Bouvard; contractor, Hyde; cost, \$4,500.

Beaver near Noe, two-story frame. Owner, A. H. Flood; days' work; cost, \$5,500.

Baker near Halght, additions. Owner, Mrs. Von Noble; contractor, E. Watts; cost, \$1,500.

Capp near 25th, two two-story frame; cost, \$4,500.

Capp near 21st, two-story frame. Owner, J. W. Salter; architect, H. Geilfus; contractor, F. Klatt; cost, \$3,225; signed, Nov. 1; filed, Nov. 3; limit, 80 days. Payment, framed, \$483; partitioned, \$483; brown coat, \$483; inside finished, \$483; completed, \$483; balance, \$810, 35 days.

Collingwood near 19th, one-story frame. Owner, Bateman; cost, \$1,700.

California, between Laguna and Octavia, two-story frame. Owner, W. E. Brown; contractor, Knight & Littlefield; architect, J. C. Matthews & Co.; cost, \$7,994; signed, October 8, 1888; filed, October 11, 1888; limit, February 15, 1889. 1st: 75 per cent. as work progresses; 2d, usual 35 days, balance.

Clay, between Webster and Buchanan, two two-story frame. Owner and builder, Chas. Hinkle; cost, \$12,000.

Clay, No. 1213, additions. Cost, \$1,000.

Devisadero and Sutter, two-story frame. Owner, A. Kopankiewicz; architect, H. Geilfus; contractor, Jno. Bruce; cost, \$2,228; limit, 65 days; signed, Oct. 12, 1888; filed Oct. 15, 1888. 1st payment, partitions set, \$415; 2d, yard work done, \$415; 3d, inside finish on, \$425; 4th, completed, \$425; 5th, usual 35 days, \$558.

E. Scott, st. building. Owner, D. Saunderson; architect, R. K. Daley; contractors, Martin & Maguire; cost, \$3,450; limit, Jan. 18, 1889; signed, Oct. 15, 1888; filed, Oct. 16, 1888; sureties, J. W. Weason.

1st payment, sheathing done, \$862 50; 2d, brown coated, \$550; 3d, completed, \$862 50; 4th, usual 35 days, \$862 50.

Ellis and Jones, painting. Owner, Mrs. A. C. Luhrs; architect, Pissis & Moore; contractor, Lynch & Armstrong; cost, \$1,549; limit 130 days; signed, October 18th; filed, October 23d.

1st payment, half done, \$600; 2d, completed, \$549; 3d, usual 35 days, \$400.

Ellis and Jones, plumbing etc. Owner, Mrs. A. E. Luhrs; architect, Pissis and Moore; contractor, Sweeney & Kearns; cost, \$2,274; limit, 130 days; signed, October 18th; filed, October 23d.

1st payment, rough pipes in, \$900; 2d, completed, \$800; 3d, usual 35 days, \$574.

Ellis and Jones, carpenter work for residence. Owner, Mrs. A. E. Luhrs; architect, Pissis & Moore; contractor, Moore Bros.; cost, \$33,400; limit, 130 days; signed, October 18th; filed, October 23d; sureties, C. F. Holmes, F. Joost; bond, \$8,000.

1st payment, brick foundation, \$4,000; 2d, framed, \$5,000; 3d, first plaster on, \$5,000; 4th, inside plastered, \$5,000; 5th, ready to paint, \$5,000; 6th, completed, \$1,000; 7th, usual 35 days, \$8,400.

Ellis, corner Devisadero, 1½-story additions; owner, Morse & Co.; cost, \$800.

Elgin Park near Herrman, two-story frame. Owner, B. Joost; contractor, McCann & Riddell; cost, \$4,500.

Fourteenth and Harrison streets, two-story frame. Owner, Henry Meyer; architect, Salfeld & Kohlberg; contractor, Fuchs & Bucher; cost, \$5,150; signed, October 5th; filed, October 13th; limit, 90 days; sureties, O. Rohrbacher and M. Schawb; amount of bond, \$5,000.

1st payment, frame completed \$1,500; 2d, when rough coat of mortar is on, \$1,200; 3d, when completed, \$1,300; 4th, balance usual 35 days, \$1,150.

Folsom near Second, grading. Owner, Boyd & Davis; architect, J. M. Curtis; contractor, J. Kelso; cost, \$15,500; signed, October 10th; filed, October 11th; limit, February 1st; sureties, John Daly and Abner Doble; amount of bond, \$8,000.

1st payment, when half finished, one-fourth; 2d, when three-quarters finished, one-fourth; 3d, when completed, one-fourth; balance, usual 35 days.

Fulton, near Broderick, one-story frame. Owner and builder, J. Elliott; cost, \$1,000.

Folsom, corner 26th, improvements. Contractor, J. Haaf; cost, \$800.

Fourteenth near Sanchez, two-story frame. Owner, Hannah Maharan; architect, R. H. White; contractor, Rountree Bros.; cost, \$4,500.

Fillmore near Pacific, additions. Owner, J. T. Trainer; architects, Percy & Hamilton; days' work; cost, \$1,500.

Fulton between Webster and Fillmore, two-story frame. Owner, Mrs. J. F. O'Neil; architect, Thos. Welsh; contractor, C. Laherty; amount, \$4,400; surety, Mrs. A. J. Hansen; filed, October 30th; signed, October 29th; limit, 100 days.

Payments: enclosed, \$1,100; brown mortar on, \$1,100; completed \$1,100; \$1,100 35 days.

Fourteenth and Sanchez, two-story frame. Owner, Hannah Maharan; architect, R. H. White; contractor, Rountree Bros.; cost, \$4,300; limit, 90 days; signed October 24th, filed, October 25th; sureties, F. P. Latson, W. A. Meeker.

1st payment, roofed, \$900; 2d, brown coated, \$800; 3d, inside primed, \$700; 4th, completed, \$815; 5th usual 35 days, \$1,085.

Fifteenth near Market, additions; cost, \$600.

Fourteenth near Market, two-story frame; cost, \$600.

Guerrero and Thirteenth, additions. Owner, Marie P. Comte; contractor, I. Wells; cost, \$1,350; signed, October 9th; filed, October 11th; limit, November 20th.

1st payment, when roof is completed, \$500; 2d, when building is completed, \$350; 3d, usual 35 days, \$500.

Golden Gate Ave. and Baker, two-story frame. Owner, L. G. Schord; architect, B. E. Henriksen; contractor Moore Bros. cost, \$3,700; signed, October 5th, filed, October 11th; limit 70 days; securities, J. W. Fountain, F. Joost; amount of bond, \$3,700.

1st payment, roofed, \$694; 2d, outside finish on, \$694; 3d, sashes hung, \$694; 4th, trimmings on, \$694; 5th, usual 35 days, \$924.

Guerrero, between 17th and 18th, building. Owner, Thos. McNulty; architect, M. J. Welsh; contractors Veitch & McDonald; cost, \$4,200; limit 80 days; signed, Oct. 23d; filed, October 25th; sureties, Smith & Kelly, Hare & Co, bond, \$4,000.

1st payment, framed, \$1,000; 2d, brown coated, \$1,000; 3d, completed, \$1,000; 4th, usual 35 days, \$1,200.

Grand Hotel, artificial stone tiles. Owner, Estate of Wm. Sharon; contractor, P. H. Jackson & Co., \$5,341; signed, August 28th; filed, October 22d.

Payment: 75 per cent. as work progresses; balance, usual 35 days.

Guerrero, between 17th and 18th, two-story frame. Owner, Thomas McNulty; architect, M. J. Welsh; contractor, Veitch & McDonald; cost, \$4,500.

Hickory Avenue and Webster street, two-story frame. Architect, J. T. Kidd; contractor, Kincaid & Thompson; cost, \$4,000; limit, 130 days; signed, October 12th; filed, October 16th; sureties, J. F. Kennedy.

1st payment, framed, \$750; 2d, ready to plaster, \$750; 3d, sashes glazed, \$750; 4th, completed, \$750; 5th, usual 35 days, \$1,000.

Henry, near Castro, one-story frame. Owner, W. White; cost, \$1,500.

Hayes near Webster, two-story frame; architect and builder, G. Knopf; cost, \$3,500.

Harrison, between 4th and 5th; grading, stone work, etc. Owner, Chas. Harley; architect, Armitage; contractor, Jacob Haaf; cost, \$2,375; signed, October 18th; filed, October 25th.

Payments: 75 per cent. as work progresses.

Howard and Washington avenue, painting. Owner, Gesellschaft Teutonia; architect, Geilfuss; contractor, John Quadt; cost, \$1,100; limit, 15 days after carpenter work is done; signed, August 16th; filed, October 15th.

1st payment, 75 per cent. as work progresses; 2d, balance, usual 35 days.

Howard and 40th, excavation and brick work, etc. Owner, Omnibus Cable Co.; architects, Percy & Hamilton; contractor, Wilson Burden; cost, \$14,500; limit, 60 days; signed, October 25th; filed, October 27th; sureties, C. A. Warren, Robert Mitchell. bond, \$15,000.

Payments: 75 per cent. on 1st each month as work progresses; balance, usual 35 days.

Howard between 24th and 25th, two-story and basement. Owner, James and Anne Renwick; architect, John Cash; contractor, Allen McDonald; cost, \$3,850; limit, 90 days; signed, October 12th; filed, October 17th; sureties, F. P. Latson, M. O'Hare.

1st payment, boarded, \$500; 2d, brown coated, \$600; 3d, white coated, \$500; 4th, wainscoted, \$600; 5th, completed, \$687.50; 6th, usual 35 days, \$962.50.

Herrman and Elgin Park, four two-story frame. Owner, B. Joost; contractor, McCann & Riddell; cost, \$18,000.

Jessie, between 18th and 19th, building. Owner, Wm. Kennedy; architect, M. J. Welsh; contractor, F. Nelson; cost, \$1,500; signed, October 10th; filed, October 11th; limit, 65 days; sureties, Jno. Nelson and Wm. C. Hamerton.

1st payment, roofed, \$300; 2d, first coat mortar on, \$400; 3d, completed, \$100; 4th, usual 35 days, \$400.

Kearny and Geary, marble and tile work. Owner, M. H. De Young; architect, Burnham & Root; contractor, Wm. Black; cost, \$21,700; limit, October 1, 1889; signed, October 24, 1888; filed, October 24, 1888.

Payments: 75 per cent. as work progresses; balance in usual 35 days.

Kearny and Geary, fire roofing. Owner, M. H. De Young; architect, Burnham & Root; contractor, Gladding, McBean & Co.; cost, \$36,500; limit, 60 days; signed, October 24; filed, October 24.

Payments: 75 per cent. as work progresses; balance, usual 35 days.

Kearny and Geary, plumbing, etc. Owner, M. H. De Young; architect, Burnham & Root; contractor, Duffy Bros; cost, \$16,750; limit, 60 days after plastering; signed, October 24th; filed, October 24th.

Payments: 75 per cent. as work progresses on 27th of each month; balance, usual 35 days.

Kearny and Geary, mason work on granite building. Owner, M. H. De Young; architect, Burnham & Root; contractor, John McCarthy; cost, \$55,000; limit, 180 days; signed, October 24th; filed, October 24th.

Payment: 75 per cent. as work progresses; balance, usual 35 days.

Kearny and Geary, terra cotta work. Owner, M. H. De Young; architect, Burnham & Root; contractor, Gladding, McBean & Co.; cost, \$10,500; limit, six days after mason done; signed, October 24; filed, October 24th.

Payments: 75 per cent. as work progresses; balance, usual 35 days.

Kentucky, between Solano and Butte, building. Owner, Robert Day; architect, T. J. Welsh; contractor, C. E. Dunshee; cost, \$1,500; limit, 45 days; signed, October 16th; filed, October 16th.

1st payment, brown coated, \$550; 2d, completed, \$550; 3d, usual 35 days, \$440.

Liberty and Guerrero, two cottages. Owner, D. W. Parkhurst; architect, A. J. Barnett; contractor, Brennan Bros; amount, \$9,100; signed, November 1; filed, Nov. 3d; sureties J. J. McKinnon, F. P. Latson; limit 100 days.

Payments: 75 per cent. as work progresses; balance 35 days.

Laidley and Bartlett, one-story frame. Owner, Kate Drachbar; architect, G. H. Miller; contractor, H. Rohling; cost, \$1575; signed, October 24th; filed, October 29th; sureties, J. J. McKinnon, F. Joost; limit, 60 days.

Payments: framed \$375; brown mortar on, \$350; complete, \$450; balance, \$400 usual 35 days.

Lloyd near Scott, one-story frame. Owner, Michael McGurk; cost, \$1,000.

Lyon, corner Geary, one-story additions. Owner, Walsh; contractor, M. J. Eagan; cost, \$3,000.

Lilly Avenue near Gough, additions; cost, \$1,500.

Larkin, between Fulton and Ash avenue; five-story stone and brick building. Owner, Alvinza Hayward; architects, Percy & Hamilton; masons, Richardson & Gale; carpenters, Gray & Stover; plumbers, Duffy Bros.; plasterer, Dunlop; cost, \$150,000.

Market, corner 16th, additions to Trinity M. E. Church; cost, \$1,000.

Main between Howard and Mission, brick building. Owner, Whyte & DeRome;

architect, Pissis & Moore; contractor, E. R. Shain; amount, \$12,520; signed, October 25th; filed, November 3d; sureties, J. G. Davis, F. Williams; limit, 80 days.

Payments: foundations in, \$1,500; walls to 1st ceiling, \$2,500; walls to roof trusses, \$2,300; roofed and floored, \$2,000; completed, \$1,090; balance \$3,130, 35 days.

Main and Howard, mason work for foundry. Contractor, J. Wagner; architect, Wm. F. Smith; owner, Marshutz & Cantrell; cost, \$5,111; signed, October 15th; filed, October 20th.

Payments: three payments of \$1,244; balance in usual 35 days.

Main and Howard, carpenter work. Owner, Marshutz & Cantrell; architect, Wm. F. Smith; contractor, F. W. Kern; cost, \$4,530; limit, 60 days; signed, October 15th; filed, October 20th; surety, O. W. Nordwell.

Payments: two equal payments; 25 per cent. on or before 35 days.

McAllister and Webster, alterations, etc. Owner, Peter Dean; architect, J. E. Wolfe; contractor, S. Buzzell; cost, \$2,578; limit, December 22d; signed, October 15th; filed, October 18th; sureties, Jno. Tuttle; bond, \$1,000.

1st payment, underpinned, \$600; 2d, roofed, \$400; 3d, brown coated, \$500; 4th, completed, \$433; 5th, usual 35 days, \$645.

512 Pine, alterations to roof. Owner, Kong Chong Association; contractor, R. Ringrose; cost, \$460; signed, October 10th; filed, October 25th.

1st payment, materials delivered, \$300; 2d, completed, \$160.

Pine and Octavia streets, plumbing, etc., Owner, S. Wenban; contractor, R. Rice; architect, Pissis & Moore; cost, \$2,095; signed, October 5th; filed, October 11th; limit, 100 days.

1st payment, rough pipes in, \$870; 2d, when completed, \$700; 3d, usual 35 days, \$525.

Pine and Octavia streets, painting. Owner, S. Wenban; contractor, Lynch & Armstrong; architect, Pissis & Moore; cost, \$1,117; signed, October 5th; filed, October 11th, 1888; limit, 100 days.

1st payment, half done, \$400; 2d, completed, \$430; 3d, usual 35 days, \$287.

Post near Baker, three one-story frame; Owner, Chris. Buckley; architect, A. Laver; contractor, J. J. Dunn; cost, \$8,000.

Sutter, bet. Powell and Mason, barn. Owner, Abbie M. Parrott; architect, Pissis & Moore; contractor, Wm. Langstaff; cost, \$5,750; limit, 70 days; signed, October 22d; filed, October 26th; sureties, F. H. Rosenbaum; F. P. Latson.

1st payment, brick foundation in, \$1,000; 2d, framed \$1000; 3d, brown coat \$1000; 4th, ready to paint, \$1000; 5th, completed \$300; 6th, usual 35 days, \$1,450.

Stevenson, bet. First and Second. Owner, Wm. Sharp; architect, Wm. F. Smith; contractor C. K. Worrell; cost, \$5,899; limit, 70 days; signed, October 12th; filed, October 16th; sureties, B. M. and G. McBean.

3 equal payments, \$1,474.50; balance on or before 35 days after date.

Sevenson, between First and Second, carpenter work. Owner, Wm. Sharp; architect, Wm. F. Smith; contractor, F. W. Kern; cost, \$2,680; limit, 70 days; signed, October 12th; filed, October 16th; sureties, O. W. Wordell.

1st payment, 1st floor joists, \$1,000; 2d, completed, \$1000; 3d, balance, usual 35 days.

Shotwell, between 17th and 18th, two-story frame. Owner, D. Nichols; architect and contractor, Geo. J. Doering; amount, \$3,200; signed, October 20th; filed, October 30th.

Payments: framed, \$700; roofed, \$700; brown mortar on, \$700; completed, \$700; balance \$400, usual 35 days.

Seventeenth between Howard and Mission, one-story frame. Owner, J. J. Cochran; architect and contractor, P. Lynch; amount, \$1,747; signed, October 23; filed, November 2d; limit, 70 days.

Payments: one-fourth when framed; one-fourth brown coated; one-fourth completed; one-fourth, 35 days.

Sutter and Buchanan, two flats. Owner, Sarah Sherman; architect, J. H. Littlefield; contractor, Moore Bros; cost, \$5,688; limit, March 10th, 1889; signed, October 26th; filed, October 29th; sureties, J. F. Kennedy, F. Joost.

Payments: 37 per cent. as work progresses; 63 per cent. on completion if no liens.

G. V. Daniels has painting contract on above; amount \$474. Fritz & Kean has plumbing contract; amount, \$678.

Schrader near Page, two two-story frame. Owner, M. Joost; contractor, Hinkle Bros; cost, \$7,500.

Sanchez near 25th, two two-story frame. Owner and builder, F. C. Kleebauer; cost, \$5,500.

Sanchez, corner 26th, additions; cost, \$600.

Sanchez near 23d, additions; cost, \$1,600.

Twenty-third and Castro streets, two-story frame. Owner, Hannah M. Roberts; architect, W. H. Armitage; contractor, Gray & Stover; cost, \$3,400; signed, September 28th; filed, October 12th; limit, 90 days; sureties, J. Wagner and J. F. Kennedy; amount of bond, \$3,000.

1st payment, framed, \$850; 2d, brown coated, \$850; 3d, completed, \$850; 4th, usual 35 days, \$850.

Twenty-fourth and Castro, one-story frame. Owner, Fannie S. Downing; architect, A. Klahn; contractor, August Klahn; cost, \$2,890; limit, 90 days; signed, October 26th; filed, October 26th.

1st payment, framed, \$950; 2d, brown coated, \$950; 3d, completed and bills paid, \$990.

Twenty-third and Chattanooga, one-story. Owner, J. M. Matthews and wife; architect, Chas. R. Wilson; contractor, John Wilson; cost, \$2,792; limit, 75 days; signed, October 26th; filed, October 26th.

1st payment, framed, \$698; 2d, brown coated, \$698; 3d, completed, \$698; 4th, usual 35 days, \$698.

Twenty-second between Harrison and Alameda, building. Owner, Catharine McCoy; contractor, C. F. Cody; architect, M. J. Welsh; cost, \$3,800; signed, October 8th; filed, October 11th; limit, 70 days; security, F. P. Latson.

1st payment, roofed, \$950; 2d, first coat of mortar on, \$950; 3d, completed, \$950; 4th, usual 35 days, \$950.

Sevenson, between First and Second, carpenter work. Owner, Wm. Sharp; architect, Wm. F. Smith; contractor, F. W. Kern; cost, \$2,680; limit, 70 days; signed, October 12th; filed, October 16th; sureties, O. W. Wordell.

1st payment, 1st floor joists, \$1,000; 2d, completed, \$1000; 3d, balance, usual 35 days.

Shotwell, between 17th and 18th, two-story frame. Owner, D. Nichols; architect and contractor, Geo. J. Doering; amount, \$3,200; signed, October 20th; filed, October 30th.

Payments: framed, \$700; roofed, \$700; brown mortar on, \$700; completed, \$700; balance \$400, usual 35 days.

Seventeenth between Howard and Mission, one-story frame. Owner, J. J. Cochran; architect and contractor, P. Lynch; amount, \$1,747; signed, October 23; filed, November 2d; limit, 70 days.

Payments: one-fourth when framed; one-fourth brown coated; one-fourth completed; one-fourth, 35 days.

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1st payment, framed, \$850; 2d, brown coated, \$850; 3d, completed, \$850; 4th, usual 35 days, \$850.

Twenty-fourth and Castro, one-story frame. Owner, Fannie S. Downing; architect, A. Klahn; contractor, August Klahn; cost, \$2,890; limit, 90 days; signed, October 26th; filed, October 26th.

1st payment, framed, \$950; 2d, brown coated, \$950; 3d, completed and bills paid, \$990.

Twenty-third and Chattanooga, one-story. Owner, J. M. Matthews and wife; architect, Chas. R. Wilson; contractor, John Wilson; cost, \$2,792; limit, 75 days; signed, October 26th; filed, October 26th.

1st payment, framed, \$698; 2d, brown coated, \$698; 3d, completed, \$698; 4th, usual 35 days, \$698.

Twenty-second between Harrison and Alameda, building. Owner, Catharine McCoy; contractor, C. F. Cody; architect, M. J. Welsh; cost, \$3,800; signed, October 8th; filed, October 11th; limit, 70 days; security, F. P. Latson.

1st payment, roofed, \$950; 2d, first coat of mortar on, \$950; 3d, completed, \$950; 4th, usual 35 days, \$950.

Union and Polk streets, one-story frame. Owner, D. C. Delaney; architect, B. E. Henricksen; contractor, Robt. Curry; cost, \$1,630; signed, October 11th; filed, October 13th; limit, 60 days; sureties, F. L. Rosecrans & D. Dodge; amount of bond, \$1,630.

1st payment, rustic on and roofed, \$305; 2d, when rough coat is on, \$305; 3d, sash hung, \$305; 4th, trimmings on, \$305; 5th, balance usual 35 days, \$410.

Vallejo and Jones, three one-story frame. Owner, David P. Marshall; architect, Wooster; contractor, J. B. Gonyeau; amount, \$7,920; surety, C. Hansen; signed, October 24th; filed, November 1; limit, 90 days.

Payments: framed, \$1,980; mortar on, \$1,980; completed, \$1,980; balance, \$1,980 35 days.

Van Ness Ave. and McAllister streets, plastering. Owner, John de W. Allen; cost, \$2,000; signed, October 8th, filed, October 11th; limit, 30 days.

1st payment, brown mortared, \$800; 2d, when completed, \$700; 3d, usual 35 days, \$500.

Webster and Haight, building. Owner, A. N. Levy; architect, A. J. Barnett; contractor, Rountree Bros; cost, \$5,575; limit, 120 days; signed, October 16th, filed, October 20th; sureties, Thos. Richardson, John Coot; bond, \$3,000.

1st payment, roofed, \$1,300; 2d, brown coated, \$1,000; 3d, white coated, \$700; 4th, completed, \$1,175; 5th, usual 35 days, \$1,400.

Washington and Webster, eight two-story frame. Owner and builder, Chas. Hinkle; cost, \$50,000.

Sixteenth near Market, additions; cost, \$1,500.

Sixteenth near Castro, two story frame. Owner, W. Carver; contractor, Hyde; cost, \$4,500.

W. W. Camron is erecting for Mrs. Warner a seven room cottage on Caledonia avenue, near Telegraph avenue, at a cost of \$4,500.

P. J. Brophy has under way a cottage on Magnolia street, near Tenth.

A. W. Pattiana & Co. are building a two-story house on McPherson street.

P. Wensore has in course of construction two cottages on Tenth street, near Adeline.

Pierce & Rost are putting up for rent ten cottages on Poplar street, near Eighteenth.

John Kizer is erecting for himself a new cottage on Fifth street, between Webster and Harrison streets.

H. Dirichson is erecting a cottage on Fortieth and Adeline streets.

Park Fellows has begun the erection of a large two-story house on Webster, near Merriam street.

W. H. Weilbye has three modern cottages building on West street, near Thirty-ninth street.

EAST OAKLAND.

A. W. Pattiani & Co. have the contract for building for W. Murdock a residence on Seventh avenue near East Fourteenth street, to cost \$2,059.

Tooling & Moore are building for S. D. Wright a cottage on Twelfth avenue, near East Fourteenth street, for \$4,949. C. Mau is the architect.

J. R. Sheehan is having a residence built in East Oakland. J. A. Eastman is the contractor, and the price without painting or mantles is \$1,210. J. J. and T. D. Newson are the architects.

Mr. Vincent is erecting two cottages for rent on Park avenue, near the cotton mills.

ALAMEDA.

Work has been commenced upon a residence for Charles I. Hermann, on Alameda avenue, between Chestnut and Willow streets. It will be two stories in height. The cost will be about \$4,500. J. A. Leonard is the architect.

J. B. Oggswell has contracted to build for Julius Genrich and Charles Clundt four one-story cottages on the north side of Versailles avenue between Morse and Central avenue. Cost, \$5,800.

FORT BRAGG.

Chas. A. Page, who has recently returned from a trip through Mendocino county, reports everything booming at Fort Bragg. A lumber mill employing five hundred men will soon be in operation there. New houses are being erected in every direction and the prospects of the town are good.

LIVERMORE.

All the carpenters are very busy at present.

John Beck is improving his property by the addition of a large stable.

The contract for the erection of Philip Anspacher's new cottage, corner of L street and Cottage avenue, has been let to Captain A. J. Palmer of this place.

BERKELEY.

Professor Rising is having a foundation laid under his house on Alston way.

W. D. Matthews of San Francisco has made preparations to erect, for rental, a small cottage on Sixth street and Bancroft way.

A. H. Broad is at work on plans for a theater which he proposes to build in the town in the near future.

Adolph Frankee has built on the south side of Elm street, between Telegraph avenue and Grove street, a handsome residence for himself at a cost of about \$10,000.

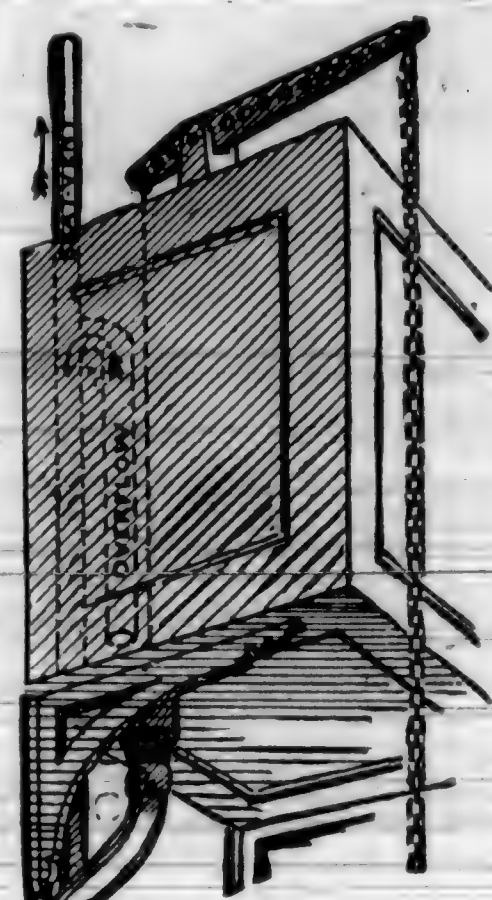
Pierce & Rush are building for T. P. Sheller a residence on Piedmont avenue, near Moss avenue, that will cost \$2,445.

Smith & Lake have the contract for the new residence of E. C. Loftus on Magnolia street, near Tenth. The cost will be \$3,450.

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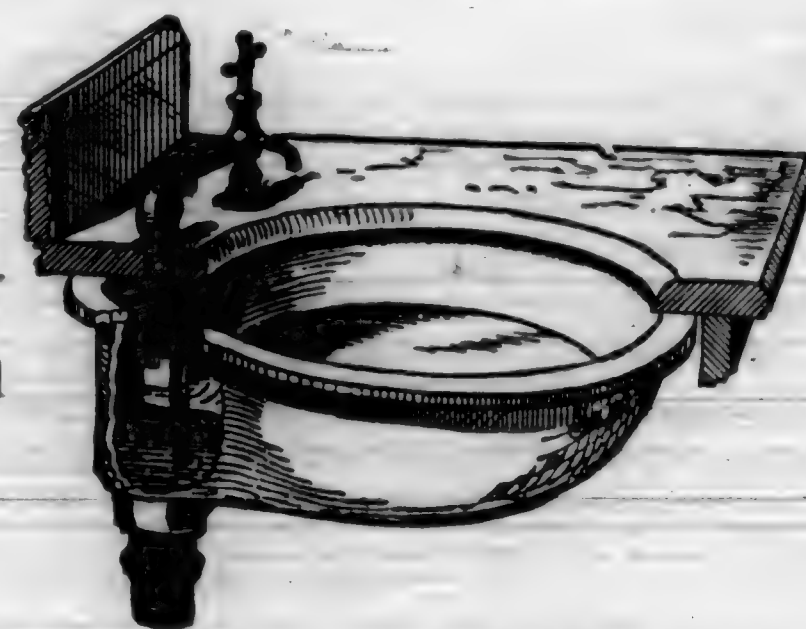
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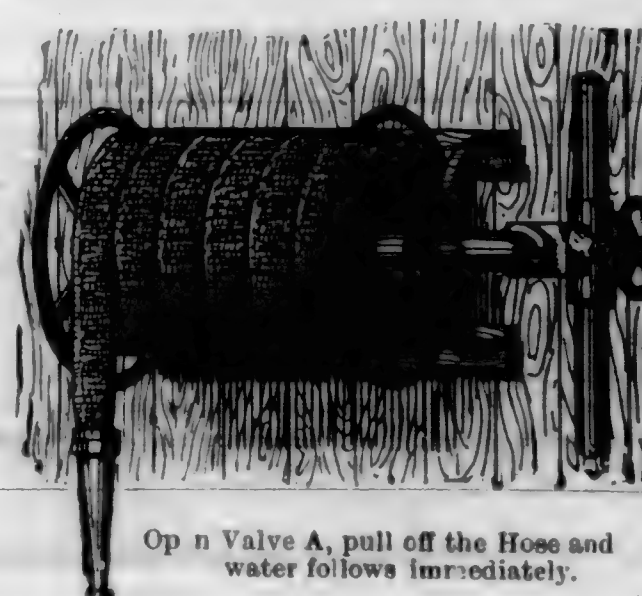
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WM. J. LANDERS, General Agent Guardian Assurance Co., of Lon
don Offices, cor. California and Sansome Street.
JAMES LAWLER, Judge of Police Judge's Court No. 2.

D. J. MURPHY, Judge of the Superior Court.
A. K. STEVENS, Secretary of Sutter Street Railroad Co. (Cable Line)
J. J. GROOM, Court Room Clerk, Department No. 12. Superior Court.
W. E. DARGIE, Oakland Tribune.
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Building Contracts.

Judge Hunt's Recent Decision.

A decision of interest to building contractors and men furnishing material was lately rendered by Judge Hunt in the case of John R. Kelly vs. S. Daus. The action was by sub-contractors and men furnishing building material to enforce their liens. It appears that Daus contracted with F. C. Adams to erect a dwelling. The work was begun at about 7 o'clock in the morning of August 1st, but the contract for the erection of the building was not filed in the Recorder's office until a little after 11 o'clock of that day. The law provides that contracts of this character, where the amount to be paid exceeds \$1,000, must be filed in the Recorder's office before the work is commenced. In this case the contract referred to certain plans and specifications which were made a part thereof. But the plans and specifications were not filed in the Recorder's office with the contract.

Judge Hunt said the Supreme Court recently held that unless the plans and specifications are filed with the contract the law is not complied with, and the sub-contractors and material men may enforce their liens for the amounts due them against the owner of the building, notwithstanding he may have paid the contractor the full amount of the contract price.

Judge Hunt stated that he was constrained to follow this decision of the Supreme Court and would accordingly hold that the owner of the building was liable to the sub-contractors and material men for the amount of their demands. He further held that when either party to the building contract file the same on the day the work is commenced the law is substantially complied with, as the law never regards fractions of a day except where the priority of liens is involved, or questions arise under the Registry law.

Judgment was rendered in favor of plaintiff for \$691, although there was but \$332 due on the contract.

(Legal text in full of the Supreme Court decision referred to above.)

HOLLAND vs. WILSON. (NO. 12,078.)

Supreme Court of California, June 7, 1888.

MECHANICS' LIENS.—FILING CLAIM.—SPECIFICATIONS REFERRED TO IN CONTRACT. Under a contract to erect a building "conformable to the drawings and specifications made" the drawings and specifications are a part of the contract, and should be filed under Code Civil Proc., Cal., Section 1183, regarding mechanics' liens, providing that "all such contracts shall be * * * filed in the office of the County Recorder."

PURADING—ANSWER—SUFFICIENCY OF AVERMENTS.

In an answer for work and materials furnished for the erection of a building, where defendant sets up a special contract for its erection according to certain plans and specifications, an averment in the answer as to filing the contract in the Recorder's office, that the said agreement was filed in the office of the County Recorder, as required by Code Civil Proc. Cal., Sec. 1183, is not an averment that the plans and specifications were filed.

IN BANK—Appeal from Superior Court, San Diego County; John D. Works, Judge.

This was an action by J. C. Holland against Warren Wilson on the common counts for work and materials furnished by the plaintiff to the defendant. The defendant, in the third paragraph of his answer, set forth a special contract, made a part of the answer, and alleged non-performance thereof by plaintiff, to defendant's damage. The special contract provided, among other things, that the plaintiff should erect the building, conformable to the drawings and specifications made by C. E. Sanger, and signed by the parties, within the time aforesaid, in a good workmanlike and substantial manner, to the satisfaction and under the direction of the said C. E. Sanger, architect, * * * and also shall and will find and provide such good, proper and sufficient materials, of all kinds whatsoever, as shall be proper and sufficient for completing and finishing all the said brick-laying and plastering and other works of said building mentioned in the brick-layer's specifications." Code Civil Proc. Cal., Sec. 1183, regarding the liens of mechanics and others upon real property, provides, as to contracts between the owner of the land and his contractor, that "all such contracts shall be in writing when the amount agreed to be paid thereunder exceeds one thousand dollars, and shall be subscribed by the parties thereto, and shall, before the work is commenced, be filed in the office of the County Recorder of the county, or city and county, where the property is situated, who shall receive one dollar for such filing; otherwise they shall be wholly void, and no recovery shall be had thereon by either party thereto; and in such case the labor done and materials furnished by all persons aforesaid, except the contractor, shall be deemed to have been done and furnished at the personal

instance of the owner and they shall have a lien for the value thereof." The answer of defendant regarding the filing alleged "that before the work therein mentioned was commenced, to wit, on or about the 5th day of March, A. D. 1886, the said agreement was filed in the office of the County Recorder of San Diego county, State of California, in the county where the said property is situated." The plaintiff demurred to the third paragraph and the demurrer was sustained. Trial was had with jury waived, and judgment was entered for the plaintiff, from which the defendant appeals.

M. A. Luce, for appellant; Collier & Collier for respondent.

Thornton J.—We think the Court below ruled correctly in sustaining the demurrer to the portion of the answer numbered 3. The "plans and specifications" referred to in the agreement were a part of the contract, and should have been filed in the Recorder's office, under Sec. 1183, Code Civil Proc. The averment as to filing is insufficient in failing to show that the plans and specifications were filed. Judgment affirmed.

We concur—Searls, C. J.; Sharpstein, J.; McFarland, J.; McKinstry, J.; Patterson, J.

Sec. 1183 of the Civil Code referred to in Supreme Court decision:

SECTION 1. Section one thousand one hundred and eighty-three of the Code of Civil Procedure is hereby amended so as to read as follows:

1183. Mechanics, material men, contractors, sub-contractors, artisans, architects, machinists, builders, miners, and all persons and laborers of every class, performing labor upon or furnishing materials to be used in the construction, alteration, or repair, either in whole or in part, of any building, wharf, bridge, ditch, flume, aqueduct, tunnel, fence, machinery, railroad, wagon road, or other structure, shall have a lien upon the property upon which they have bestowed labor, or furnished materials, for the value of such labor done and materials furnished, whether at the instance of the owner, or of any other person acting by his authority, or under him, as co-contractor or otherwise; and any person who performs labor upon any mining claim or claims, has a lien upon the same, and the works owned and used by the owners for reducing the ores from such mining claim or claims, for the work or labor done, or materials furnished by each respectively, whether done or furnished at the instance of the owner of the building or other improvement, or his agent; and every contractor, sub-contractor, architect, builder, or other person having charge of any mining, or of the construction, alteration, or repair, either in whole or in part, of any building or other improvement, as aforesaid, shall be held to be the agent of the owner, for purposes of this chapter. In case of a contract for the work between the owner and his contractor, the lien shall extend to the entire contract price, and such contract shall operate as a lien in favor of all persons except the contractor, to the extent of the whole contract price; and after all such liens are satisfied, then as a lien for any balance of the contract price in favor of the contractor. All such contracts shall be in writing, when the amount agreed to be paid thereunder exceeds one thousand dollars, and shall be subscribed by the parties thereto, and shall, before the work is commenced, be filed in the office of the County Recorder of the county, or city and county, where the property is situated, who shall receive one dollar for such filing; otherwise they shall be wholly void, and no recovery shall be had thereon by either party thereto; and in such case, the labor done and materials furnished by all persons aforesaid, except the contractor, shall be deemed to have been done and furnished at the personal instance of the owner, and they shall have a lien for the value thereof.

SEC. 2. Section one thousand one hundred and eighty-four of the Code of Civil Procedure is hereby amended so as to read as follows:

1184. No part of the contract price shall, by the terms of any such contract, be made payable, nor shall the same, or any part thereof, be paid in advance of the commencement of the work; but the contract price shall, by the terms of the contract, be made payable in installments, at specified times, after the commencement of the work, or on the completion of specified portions of the work, or on the completion of the whole work; provided, that at least twenty-five per cent of the whole contract price shall be made payable at least thirty-five days after the final completion of the work and contract. No payment made prior to the time when the same is due under the terms and conditions of the contract, shall be valid for the purpose of defeating, diminishing, or discharging any lien in favor of any person, except the contractor, but as to such liens, such payment shall be deemed as if not made, and shall be applicable to such liens, notwithstanding the contractor to whom it was paid may thereafter abandon his contract, or be or become indebted to the owner in any amount, for damages or otherwise, for non-performance of his contract or otherwise. As to all liens, except that of the contractor, the whole contract price shall be payable in money, and shall not be diminished by any prior or subsequent indebtedness, offset, or counter-claim in favor of the owner and against the contractor; no alteration of any such contract shall affect any lien acquired under the provisions of this chapter. All such contract and alterations thereof as do not conform substantially to the provisions of this section shall be wholly void, and no recovery shall be had thereon by either party thereto; and in such case the labor done and materials furnished by all persons, except the contractor, shall be deemed to have been done and furnished at the personal instance of the owner, and they shall have a lien for the value thereof. Any of the persons mentioned in section eleven hundred and eighty-three, except the contractor, may, at any time, give to the owner a written notice that they have performed labor or furnished materials, or both, to the contractor, or other person acting by authority of the owner, or that they have agreed to do so, stating in general terms the kind of labor and materials, and the name of the person to or for whom the same was done or furnished, or both, and the amount in value, as near as may be, of that already done or furnished, or both, and of the whole agreed to be done or furnished, or both. Such notice may be given by delivering the same to the owner personally, or by leaving it at his residence or place of business, with some person in charge; or by delivering it to his architect, or leaving it at their residence or place of business, with some person in charge; or by posting it in a conspicuous place upon the mining claim, building, wharf, ditch, flume, aqueduct, tunnel, fence, machinery, railroad, wagon road, or other structure. No such notice shall be invalid by reason of any defect of form; provided, it is sufficient to inform the owner of the substantial matters herein provided for. Upon such notice being given, it shall be the duty of the owner to, and he shall, withhold from his contractor, or from any other person acting under such owner, and to whom by said notice the said labor or materials, or both, have been furnished or agreed to be furnished, all money due or that may become due to such contractor, or other person, or sufficient of such money to answer

such claim, and any lien that may be filed therefor, for record, under this chapter, including costs and counsel fees provided for in this chapter, until such notice is by writing withdrawn; and all money paid thereafter by the owner to the contractor, or such other person, while such notice is in force, shall, for the purposes of all liens of all persons, except that of the contractor, be deemed a payment prior to the time the same was due, within the meaning of and subject to the provisions of this section.

SAN FRANCISCO CHAPTER AMERICAN INSTITUTE OF ARCHITECTS.

An Important Meeting.

The Chapter held its regular meeting on Friday evening, Dec. 7th, Vice President W. P. Moore in the Chair.

Present: W. P. Moore, A. Pissis, E. Kollofrath, J. M. Curtis, J. J. Clark, W. J. Cuthbertson, J. E. Wolfe, H. T. Bestor, G. H. Sanders, Seth Babson, John Gash, C. H. Hasty, G. H. Wolfe.

Henry A. Schulze was elected a member as Fellow.

The following communication was received from the Architectural League:

SAN FRANCISCO, December 1, 1888.

To the Officers and Members of the San Francisco Chapter, American Institute of Architects:

GENTLEMEN:—At a meeting of the San Francisco Architectural League, held on December 1, 1888, it was resolved "to petition the members of the San Francisco Chapter, American Institute of Architects, acting as principals, to close their offices on Saturday at 3 P. M. that the draughtsmen and students working in their offices, may participate in the classes now being organized for Saturday afternoon by the League," viz: water colors, mathematics and building construction.

Hoping you will consider this petition favorably, we are, gentlemen,

Respectfully yours,

S. W. HEMENWAY,

Secretary.

GEO. M. SANDERS,

President.

J. F. WIELAND.

A. BORRADAILE.

L. D. DEANE.

L. S. STONE.

R. M. TURNER.

Board of Directors.

An animated discussion ensued in regard to the request made in said communication.

Mr. Cuthbertson offered the following motion:—That a resolution be adopted by this Chapter, that the Architects of the Chapter close their various offices at 3 P. M. in accordance with the communication read. Seconded.

Mr. Babson moved to amend the motion as follows:—That all draughtsmen and students be permitted to leave the various offices of members of the Chapter, at 3 P. M. on Saturday afternoon for the purpose of attending the classes being formed by the Architectural League to give instruction in water colors, mathematics and building construction.

J. E. Wolfe was heartily in favor of the movement provided the students would embrace the opportunity offered to attend the classes and not spend the time in going fishing or other amusements.

To which Mr. Cuthbertson replied that he was as much in favor of, and thought architects were as much entitled to rest as lawyers, even if fishing excursions were organized. If the law was general, architects would take pride in closing at the hour named.

Mr. Sanders said that the opportunity should be given to all to join to attend the classes, or else it would be of little use to start the same. He read articles from the By-Laws about being adopted by the League. (By-Laws will be published in full when adopted. Ed.)

The amendment was then put by the Chair and carried. The original motion as amended was then carried by a decided majority.

A vote of thanks was tendered the retiring Treasurer, J. J. Clark, for the able and courteous manner he attended his duties during the term.

The following communication was received from the "Builders' Association."

SAN FRANCISCO, December 7, 1888.

To the San Francisco Chapter of the American Institute of Architects.

GENTLEMEN:—I am requested to ask you to appoint a committee of three to confer with a similar committee from this Association in regard to drafting a memorandum to be filed as a record in the Recorder's office in connection with contracts, etc. Said memorandum to be paid for and printed by this Association.

Hoping to hear from you at an early date in regard to the above,

I remain yours, etc.,

J. W. MAHER,

Secretary.

On motion the same was referred to a committee consisting of Fellows Babson, Wolfe J. E., and Cuthbertson.

Mr. Bestor thought it would be well for the Chapter to appoint a committee to act with similar committees from the Builders' Association and the Lumbermen's Association and endeavor to obtain needed changes in the Lien Law.

An active discussion was then indulged in regarding the Lien Law. The committee above named was granted power, in addition to their other duties, to bring up the subject of the Lien Law before the committee of the Builders' Association.

A communication was received from M. A. Edwards in regard to the late competition for statuary mentioned in the Lick Trust, etc. The Secretary was instructed to answer the same by quotations from the By-laws.

Several copies of the proceedings of the 21st Convention of the American Institute of Architects were distributed to the members present, the same having been forwarded by A. J. Bloor of that society. Adjourned.



THE COURTS TO DECIDE A MIXED PROBLEM.

Question of Responsibility.

When the First National Bank of San Francisco began the work of constructing its new building on the northwest corner of Bush and Sansome streets, notice was given to A. Avilegra, the owner of the brick building adjoining on the north side, of intention to excavate to the depth of fourteen feet for a foundation for the bank building and for him to secure his building from falling into the excavation. Mr. Avilegra paid no attention to the notice and the bank was compelled, for self-protection, to provide at its own expense against danger from the adjoining building. Lloyd & Wood on behalf of the bank, have instituted suit to recover \$1,400 from Avilegra the amount expended to prevent his building from falling. This is a question of interest to contractors and property owners.

FIRST NATIONAL BANK BUILDING.

Description of the Structure.

The corner-stone of the First National Bank building on the northwest corner of Sansome and Bush streets, was laid on Nov. 20th. The building site is 46 feet 6 inches by 67 feet, corner Sansome and Bush, having on its rear a street 20 feet wide. The building will be six stories in height, in addition to the basement, which is eleven feet high, and will be partly arranged for the purposes of a safe deposit vault. The bank will occupy the first story and will be elegantly fitted up with plate glass and burnished brass, polished and carved mahogany, with tile floors and tasteful fresco decorations.

The five upper stories will be divided into offices and made accessible by an elevator and stairway rising from the Sansome street entrance. The exterior of the building will be constructed of pressed brick and Fresno granite (the lately discovered and beautiful stone from the San Joaquin valley). The basement and principal story will be wholly of this material, and the upper stories are designed with such an admixture of the two materials as to bring out the beauties of each. The first story is arranged with a series of semi-circular arches on short coupled columns, with heavily molded bases and richly carved caps. The entrance is composed of a projecting porch with appropriate insignia, comprising two large bears, an eagle and a boldly carved and inscribed shield.

This building promises to be an architectural ornament to San Francisco. Messrs. Wright & Sanders are the architects.