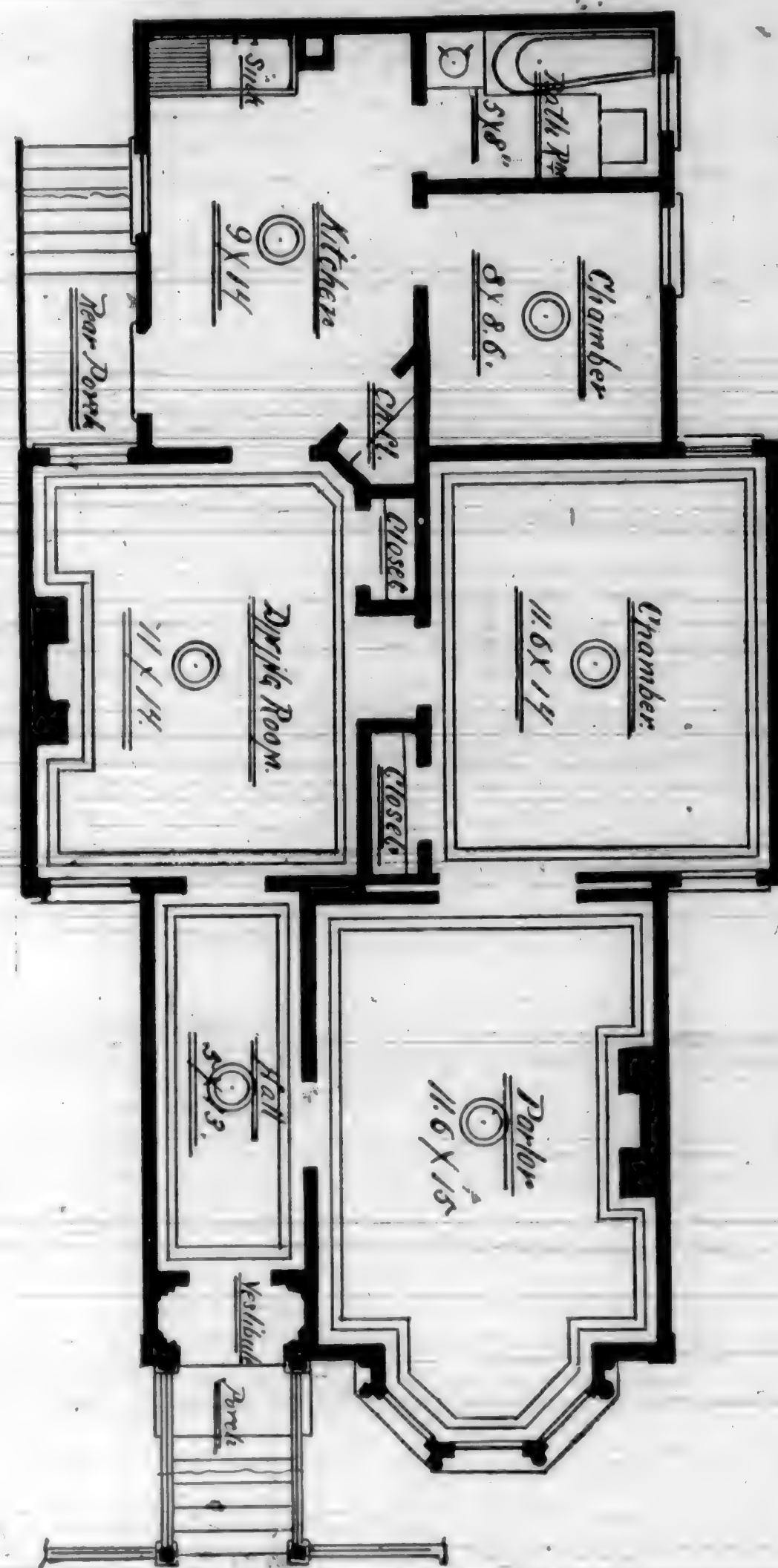




PLAN FOR ONE-STORY BUILDING.

Bookless Homes.

WE form judgments of men from little things about their houses, of which the owner, perhaps, never thinks. Flowers about a rich man's house may signify only that he has a good gardener, or that he has refined neighbors, and does what he sees them do. But men are not accustomed to buy books unless they want them. If, on visiting the dwelling of a man of slender means, we find he contents himself with cheap carpets and very plain furniture, in order that he may buy books, he rises at once in our esteem. Books are not made for furniture, but there is nothing else that so beautifully furnishes a house. The plainest row of books that cloth or paper ever cover, is more significant of refinement than the most elaborately carved *etagere* or sideboard.

Give us a house furnished with books rather than costly furniture. Both, if you can, but books at any rate. To spend several days in a friend's house, and hunger for something to read, while you are treading on costly carpets, and sitting on luxurious chairs, and sleeping upon down, is as if one were bribing your body for the sake of cheating your mind.

Books are the windows through which the soul looks out. A house without books is like a room without windows. No man has a right to bring up his children without surrounding them with books, if he has the means to buy them. It is a wrong to his family. Children learn to read by being in the presence of books. The love of knowledge comes with reading and grows upon it. And the love of knowledge, in a young mind, is almost a warrant against the inferior excitement of passion and vices.

Let us pity those poor rich men who live barrenly in bookless houses. Let us congratulate the poor, that in our day books are so cheap that a man may every year add a hundred volumes to his library, for the low price of what his tobacco and his beer

would cost him. Among the earliest ambitions to be excited in clerks, workmen, journeymen, and, indeed, among all that are struggling up in life from nothing to something, is that of owning, and constantly adding to, a library of good books. A little library, growing larger every year, is an honorable part of a young man's history. It is a man's duty to buy books. A library is not a luxury, but one of the necessities of life.

THE color of old oak is pleasant for bed-chamber woodwork, and in north rooms terra cotta paper of an old pink shade is pleasing; and in south rooms olive green of a middling dark and golden shade. Tint ceiling, pale, soft olive green.

THERE is no absolute need of painting zinc work, for exposing it to the atmosphere has the effect of coating it with a thin film of oxide, which protects it from the future action of the air as effectually as paint.

Assignments of Wages.

SINCE the law requiring the assignments of wages to be recorded in the cities and towns of the State went into effect, the number of such assignments is believed to have been more than doubled in this city. In September, sixty-five deeds of assignment of wages were recorded at the city hall, and thus far this month the record is twenty-nine. There is firm conviction that the new law operates as an inducement to fraud. Women appear at the city hall almost every day, and, with tears in their eyes, complain that men who have been boarding with them have assigned their wages, and upon application to the employers for assistance in collecting the board bills, they have copies of the deeds of assignment thrust in their faces and are told that there is no redress; they must place the bills on the profit and loss account. One case is known of, where the employe assigned her wages to a perfect stranger, to whom she did not owe a penny, and for the purpose of defrauding a boarding mistress who had been more than ordinarily obliging. The assignee, upon learning the particulars of the case, immediately collected the entire wages due the woman and paid them to the boarding mistress. That there are parallel cases is quite probable, especially when wages are assigned to small liquor dealers, as they frequently have been.—*Providence Journal*.

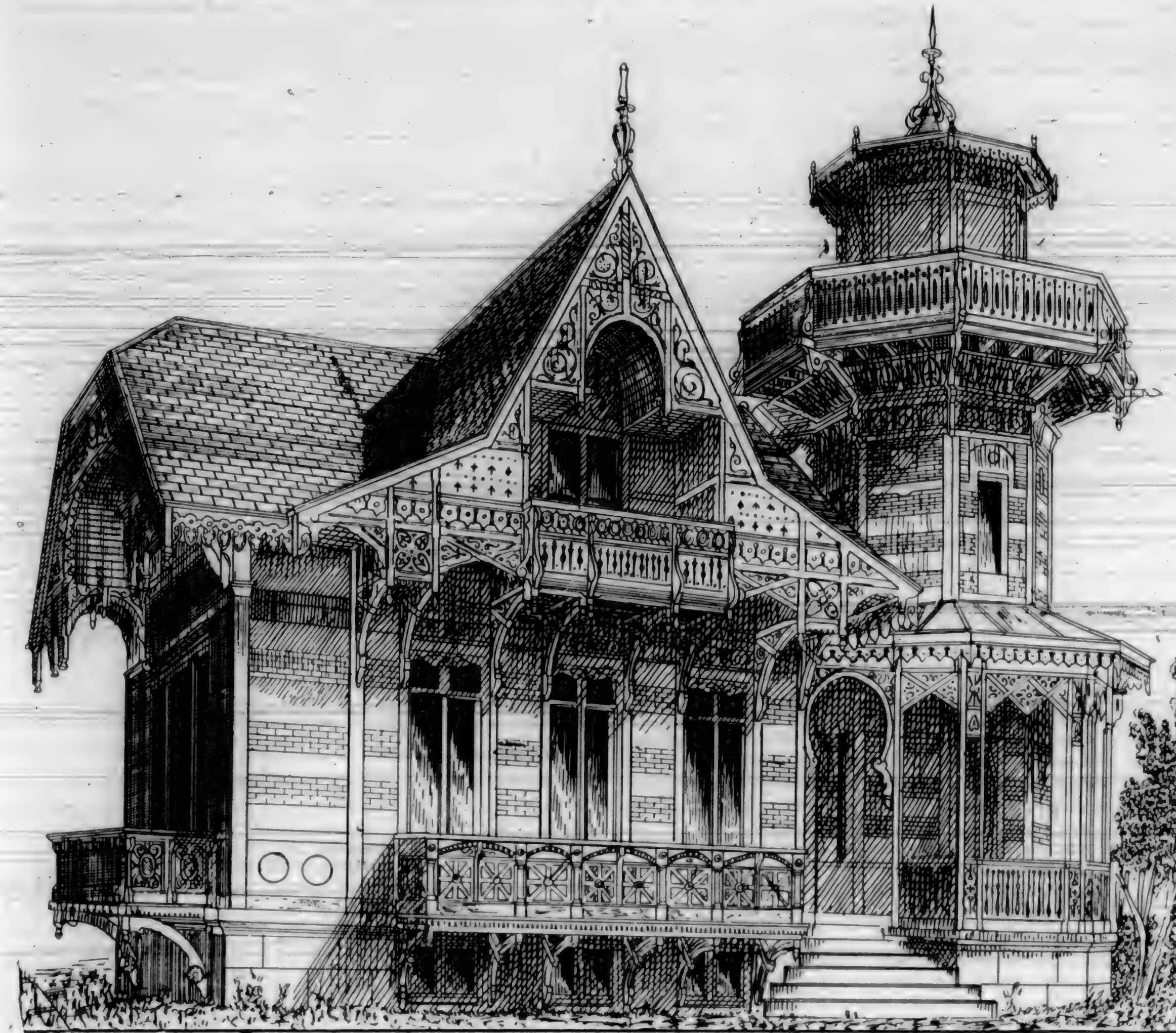
A Good Old Idea.

THAT the eight-hour movement is not a modern idea may be learned from the verse which appeared on a banner carried at a workmen's demonstration in England between 1815 and 1820:

Eight hours of work,
Eight hours of play,
Eight hours of sleep,
Eight shillings a day.

SOME time since, says the *Building News*, United States Architect Clark suspended a plummet line from the interior of the dome of the Capitol building at Washington, and it was found, by actual measurement, that the lead swung over a space of four and one-half inches, making a total dip from the perpendicular of eight and one-half inches. This movement involves the entire dome, and to some slight extent the entire structure, and is caused by the alternate contraction and expansion due to the action of the sun upon the material of which the building is composed. No doubt the principal part of the motion is due to the more ready expansion of the iron of which the dome is constructed; but similar experiments at Bunker Hill Monument show that a structure built entirely of stone and mortar is also similarly affected by the sun's action. It has been very properly said that by this motion the statue of the Goddess of Liberty, upon the summit of the dome, daily courtesies to the rising sun, and salutes him in a like manner as he sinks to rest, but without the formality of turning herself around.

SOME workmen who are dissatisfied with the social conditions and affairs generally in this country, think that no benefits accrue to them from protection. It is a mistake, and none would find it out quicker than the workmen themselves, should the import duty be taken off. For instance, does any one suppose, taking the iron trade as a sample, that there could be a difference of \$3.50 more per ton paid for puddling here than in England, unless there was a duty put on the foreign article into which much iron enters? In other words, the price per ton for puddling in England is \$1.50 (six shillings and threepence) as against \$5.00 per ton here and in the West, and the iron workers here are in a very great measure indebted to a protective tariff for it.



DESIGN FOR A COUNTRY SEAT.

The Builders' Agreement.

THE organization of labor and the attempt of labor organizations to prescribe the terms and conditions of employment, leads necessarily to the organization of employers, and counter agreements as to terms and conditions. The most specific and important agreement so far made by employers is that entered into by members of the Master Builders' Association of Boston, on October 4, which is obtaining the signatures of other master builders throughout New England, and will go into effect on April 1, 1887. Its five articles relate to the method of payment, the hours of labor, a protecting clause in contracts in relation to strikes, improper interferences with business by workmen, and arbitration. Most of the rules agreed upon are meritorious, showing a disposition to make reasonable concessions, while maintaining rights that some of the demands of the labor organizations would subvert; in one or two particulars ground has been taken that is of doubtful expediency. The method of payment, after April 1, is to be by the hour, except for piece-work and in contracts by the year. The experiment of working but nine hours a day is to be fairly tried for one year, unless the workmen engage in a strike. The protecting clause in contracts, which architects and real estate owners have signified their willingness to grant, will relieve the builders of obligation to complete work at a specified time if their operations are interrupted by strikes. This will deprive strikers of a great advantage that they have often had. The "improper interferences" by workmen, which the agreement condemns as "unfair and intolerable," are strikes and threats to strike because certain other workmen are employed, because certain workmen are discharged, because certain stock is used or not used, because more than a certain number of apprentices are taken on, and for other equally untenable reasons. The agreement binds the builders promptly to discharge workmen who engage in such interferences, and to

prosecute all conspiracies. The fifth article recognizes the right of employes to be heard individually or through a spokesman on any grievance, and promises arbitration as a remedy. All these are sound principles. The questionable part of the agreement, and the one that will probably make trouble, is the refusal to recognize the trade union or other labor organization, in any way. The labor organization has the same justification as the employers' organization, and it has come to stay. It is far wiser, to adopt the discriminating policy of recognizing such of its acts and demands as are just, and refusing to yield those that are wrong or mistaken, than to attempt to ignore it.—*Work and Wages*.

Economy in Fuel.

ONE of the most difficult things to teach a girl is economy in fuel. Nothing seems to satisfy but a continual piling on of coal. As soon as a little gas has been burned off, a vigorous shaking and raking out of ashes follows; then the stove filled anew, touching and lifting the covers, which soon become red hot, and the process is repeated from morning till night. Teach her, in order to obtain and secure a good draft, the coal ought never to be above the lining; and in this connection I am reminded of another practice which seems to come to kitchen girls by intuition or handed down by tradition; that is, to put sad irons, or flat-irons, as generally called, on the stove over the hottest fire hours before use, consequently they are ruined, for if once heated to redness, will ever after retain heat but a short time, and lose their smoothness, too. I would rather lend almost anything else to a neighbor than a flat-iron. In ironing, have two holders to use alternately, thereby lessening the heat of the hand, and insuring a greater degree of comfort.

THE workman that makes the most noise will be often found doing the least work, and doing it badly.

EVERY ARCHITECT and CONTRACTOR ON the PACIFIC SLOPE SHOULD CONTRIBUTE

AN ARTICLE OR FURNISH US A SKETCH FOR PUBLICATION IN OUR JANUARY NUMBER.

Art and Architecture.

(Special for this Journal. By F. HILLERT, Architect and Mechanical Engineer.)

XXXVII. DECLINE.

BUT has the time of an art period passed over and away from a people? Then to them of it remained a certain possession. Not as if the genius of large masters could be inherited to posterity, but its successors gain and retain some of the power and force over moulding and forming, and since the same by the former was raised to a high grade of perfection, they found themselves in possession of advanced technical means, which they could with ease use and handle. The high spirit, the daring flight of fantasy, and the truth of working of those whose technical means once served for the noblest formation, are passed from hence, and the successors are unable to replace its defects.

Instead of the clapping of the wings of a genius is now the miserable fluttering of a checkered creature, which nibbles to-day here, and to-morrow there. In such a way decline of art begins to set in; it is the third grade of each developing epoch, and fulfills the last possibility of the relation of the spirit and form to each other, namely, that the same brilliancy and splendor cover a poor idea, that the form, so to say, overreaches the spirit. The pretending aspect of such works of art by the emptiness and want of spirit repulses every finer sentiment, each trained and cultivated eye unresistingly, and fills with that uncomfortable which everywhere spread shallowness creates. An affected and beautiful shaped woman dazzles many, but the one who can read in her spiritless eye the hollowness of her mind, will turn with displeasure from her. A Don Quixote, with a martial beard, clad in a brightly polished armor, will always find people who take him to be a true hero and knight, when, in reality, he is only a silly coxcomb. In art such works corrupt the less trained and inexperienced the easiest; then the form is pleasant, and through her to comprehend her meager spirit, is, in fact, no small difficulty. Anyway we always will see human figures and forms, always architecture and ornaments, but they are beings without soul, life, and individuality, embellishments of exaggerated form and false application.

That the decline must progressively increase, is only the sequence of the general laws of nature; and that a conscious, energetic will can work to oppose it, is a fact hardly wanting the proof. But where the same is not powerful enough, the evil increases and spreads, as an avalanche, with increasing force, so that at last, instead of a cure, a total extermination, either by force or its own weakness, must set in; that then the soil, cleared from the weeds and freshly prepared, can take up a new and healthy seed; and the same, in a pure, sunny atmosphere, can germinate and grow to a pleasant blooming. But the will of resistance is itself powerful; it will not only endeavor to find and perceive the relation, and oppose the hollowness by intrinsic performances, but it will also give the incitation to an after-growth and under conditions, to a new direction, if, namely, it can introduce a new element, a principle different from those existing, and with the former can unite in a new whole.

The departure from the harmonious, flourishing condition of the one where the brought over and imitated form preponderates, we name, in accordance with their spirit and sense, mannerism, and understand by it the characteristic of an art practice which works more by hand trained by use, executing hand work (trades like), as that they went back to original own work of mind and brain.

This handiness in working is learned and gained by the artist from exterior practice, and not obtained from his inner own force, and therefore he is only a casual possessor of the same, whose intrinsic real value he does not realize, so that a misuse of the same he cannot evade and avoid. His mode of treatment sinks by necessity to over-refining, to the exterior, to the mechanical, and therefore becomes just only a "manner," whereby his work becomes mannerism.

XXXVIII. EXAMPLES.

No epoch in art history is without those three grades, not even in the instance where the flourishing period is only conditional, and in relation compared to the state of culture of the time being, as with the one of all barbaric people. Although with them having only taken in a low point of the symbolic foreground, nearly all were treated typically and with servility, nevertheless are those three periods of development, even if difficult to be recognized, and we will not take the trouble in vain to seek and find them in the Egyptian monuments. In the Greek art this division is publicly recognized; in the middle ages it comes clearly to view, and in modern times it is generally known. The classic age has in all times of large culture and historical developments, the longest and most lasting flowering

period. The Christian middle ages were extraordinarily energetic and fruitful in the symbolic, but the late time surpassed all former epochs by a mannerism longer than 200 years; till our time, with the beginning of a new section of the history of the world, art also began a new development.

The past is not wanting examples of the three periods of development in architecture, sculpture, painting, etc.

XXXIX. RETROSPECT.

When we have separately recognized the work of the first grade alongside of those of the following period, it was done by forcible reasons explained; but if, on the contrary, the mannerism was condemned, we can hereby neither deny the necessity of its appearance, or that the same brings with it certain advantages, but which can be easily dispensed with; and between them are those of the most importance, that works of this kind, by reason of their mastery in form and their narrow and small spiritual value, are readily comprehended and are able to inspire large masses of half civilized for a certain participation for art. Certainly mannerism makes shallow, as the poetical originality to sober intentionality, as also grace to indolence and immodesty, chaste sensitivity to immoral vileness, and in this respect is even the small advantage offered, more as doubtful. In theory, as in the practical consequence, it remains in the same way rejectable, and is just as little to be sanctioned as any other decline in other spheres of life, if he, as the same is to be comprehended, is the necessary consequence of pre-existing developments. We see why at certain times science, statesmanship, religion, and morality must degenerate, and only art should stand outside of the general law; but as the decline of the former can be opposed, so in art can the same be checked, by clear comprehension, prudence, and a fixed will to do so.

Art demands a country flourishing in prosperity and in liberty. In a country with no liberty, in poverty, art cannot be. The struggle of the masses of the people must be above the wants and necessities; the single individual must carry his head erect in the full feeling of his humanity, if out of them a few preferred ones shall step out, to reach to their people their purest flowers, —the works of art. Social, religious, and State relations are therefore in art of a far-reaching influence. After the Persian wars flourished with Greek liberty, art; in Spain perished a growing art through the tyranny of priests and kings; in Germany, in consequence of the Reformation, the flourishing art was broken off (stopped); in the Netherlands the wars and victories against Spain created a new, high life of art; and, lastly, the revolution of 1789 and the wars of 1813 have in France and Germany developed a new art. Italy and other countries begin to stir anew. It is a constant and intense reciprocal action in a good and bad sense between the large events of history and the end and culminating points of art developments; but we will not investigate that kind of relation, but will simply state the unquestionable facts as such.

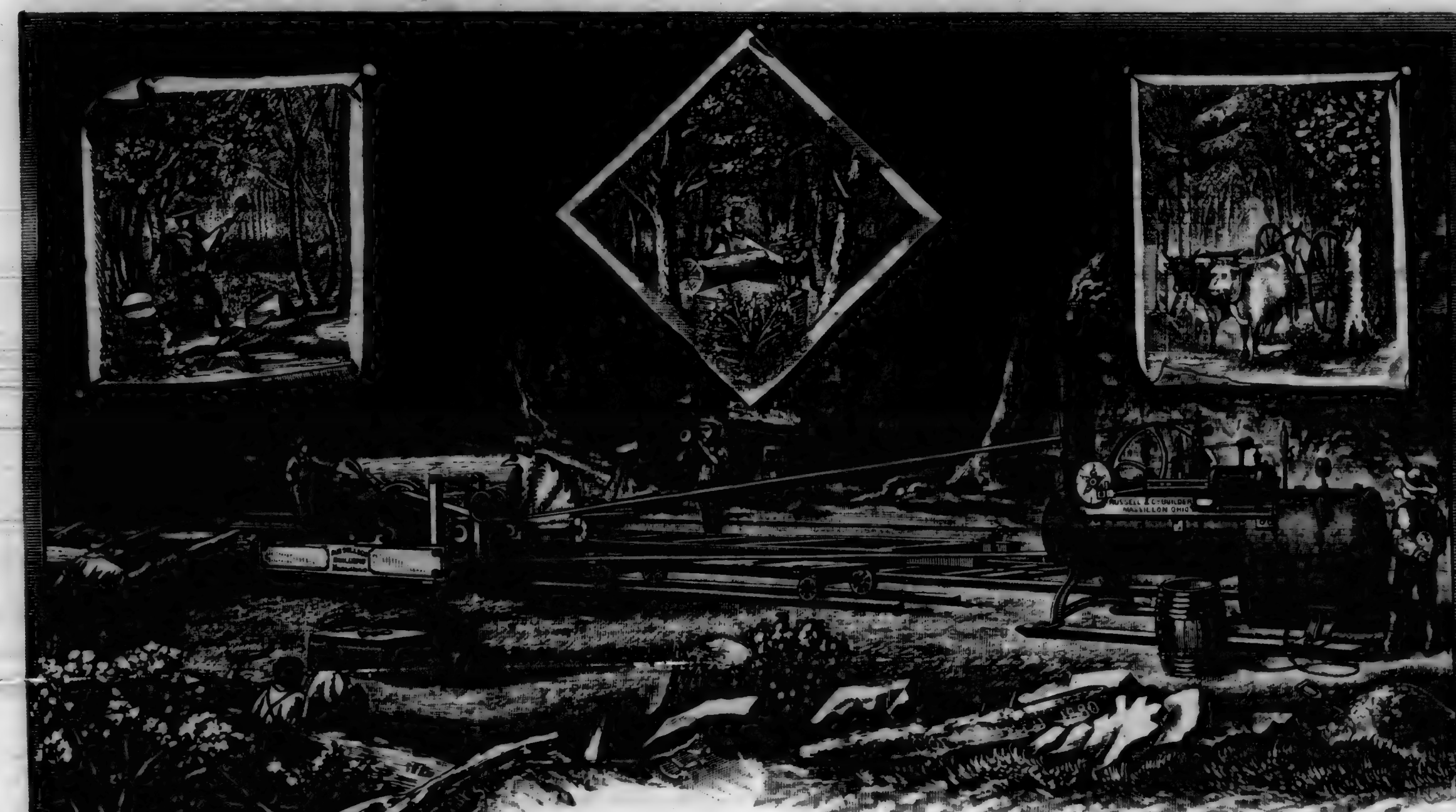
People of culture, enjoying at least some liberty, and whose means of learning were above the necessities to sustain life, such will certainly wish to have an own art practice, and try to come to its assistance and do all that is possible to retain itself in the possession of the flowering art. Of course the general condition of the people is the foundation of art, but can by this the more or less favorable bases of development be advanced or retarded, and it is therefore not without any importance to become enlightened and acquainted about the means for the practice of such influence. It may be admitted that with all efforts for the promotion of art, the intention to promote unquestionably lies before us; but, for all that, this endeavor not seldom turns out to the contrary, and is detrimental instead of being useful. The true and correct perception of the spirit of the art and of the condition of the people is the only sure and safe means to arrive lastly to the insight and comprehension of the good.

The fostering care of the art is necessarily divided into two domains: the one, where art is educated; the other, where art is practiced. The former depends on the means for education, the latter on the furtherance and promotion.

SUBSCRIBE NOW FOR 1887.

INVISIBLE NAILS.—For attaching mouldings and other light lumber a new kind of nail has been contrived, which leaves no nail holes. It is made with a point at each end and with an outwardly projecting head or shoulder midway between the points. The nail is first driven into the wood by means of a punch which straddles the protruding point and bears on the head. When enough have been driven in, the moulding is placed over the nails and driven down.

NEW ENERGY WILL BE DISPLAYED IN OUR JANUARY NUMBER. SUBSCRIBE NOW.



IN THE WOODS NEAR RUSSIAN RIVER, CALIFORNIA.

THE above beautiful engraving aptly illustrates a scene in the woods so often met with by those roaming amongst our noble forests. A portable engine is shown, having power enough to run a saw through logs four feet or more in diameter, and yet which is easily movable from place to place, as the timber is cleared from any particular section. Our artist has done credit to himself in portraying the view in such a realistic manner.

THE AUGER AND BORE.—The auger was invented in 1680. That may be so, but the bore dates back to the remotest antiquity. And there has never been any improvement made on him, either.

The True Home.

THE home should be as beautiful and pleasant as it is possible to make it. Home is the place for rest and pure enjoyment. It is the refuge from care, trouble, and all the tumults and turmoils of life. It is the one spot where the heart's purest affections gather themselves, and each man chooses resting-place. It is the woman's first duty to make this dwelling-place, over which she is the mother-queen, as cheery, cozy, and lovely as she can. The first requisite for this desired consummation is that she herself be happy, hopeful, pleasant, and contentedly agreeable. To become this she must live hygienically; she must eat proper food, wear comfortable clothes, and not be oppressed by too many cares and burdens. If she is her own housekeeper, she should study to do her work on the most simple and easy plan, cook but few dishes at a time, and have each as perfect in itself as possible.

Woman has no more important duty than that of making home pleasant. Neatness and cleanliness are indispensable to a cheery, cozy-looking room. A plain room, plainly furnished and scrupulously clean, is far more bright and beautiful than a more pretentious one richly adorned with costly furniture that is soiled, mutilated, and always in disorder. A few thrifty, nicely kept flowering plants and trailing vines are one of the most enlivening adjuncts to a living room, and a sheltered sunny window is far better for them, in moderately cool weather, than the overheated and often dusty inside position, and they are just as easily seen also.

Should there be unsightly objects in the room or recesses that contain necessary adjuncts to comfort and convenience, a bright chintz curtain will screen them from view, and will of itself make a pleasant resting-place for the eye. Should a bit of plastering fall from the wall, a piece of white muslin neatly pasted over the place will hide the defect and save all further scaling off and droppings of litter. In a thousand ways one can veil the ugly and add to the beautiful, until the humblest little home may become a very bower of pleasantness and cheerfulness.

The love of the beautiful needs the fostering care of every one who would make life pleasant and happy. Whoever creates a lovely picture, whether on canvas, in a poem, or on the broad

bosom of mother earth, or in a cozy, cheerful home, adds to the world's priceless treasure, and does something toward elevating, refining, and happyfying the race.

Stick to Your Business.

THERE is nothing which should be more impressed upon the minds of young men than the importance of steadily pursuing some one business. The frequent changing from one employment to another is one of the most common errors committed, and to it can be traced more than half the failures of men in business, and much of the discontent and disappointment which render life uncomfortable. It is a common thing for a man to be disappointed with his business, and to desire to change it for some other, which, it seems to him, will prove a more lucrative employment; but, in nine cases out of ten, it is a mistake. Look around you, and you will find among your acquaintances abundant verification of our assertion. There is an honest farmer who has toiled a few years, got his farm paid for, but does not grow rich very rapidly—as much from lack of contentment mingled with industry as anything, though he is not aware of it. He hears the wonderful stories of California, and how fortunes may be had for the trouble of picking them up; mortgages his farm to raise money; goes away to the land of gold, and, after many months of hard toil, comes home again to commence at the bottom of the hill, for a more weary and less successful climbing up again. Mark the men in every community who are notorious for their ability and equally notorious for never getting ahead, and you will find them men who never stick to one business long, but are always forsaking their occupation just when it is beginning to be profitable.

We are short of the October issue of this year. Who has one to spare?

NORWAY pine, which until lately has been neglected by Michigan lumber in favor of the softer white pine, is coming into favor with railroad car builders on account of its greater strength.

Subscribe now for 1887.

NEW ENGRAVINGS—ORIGINAL ARTICLES—OUR JANUARY NUMBER WILL EXCEL.

Golden Gate Avenue. Two-story

O.—D. Marcuzzi.
A.—J. J. Clark.
C.—C. E. Dunshee.
\$4,700.

Gough, bet. Geary and O'Farrell. Three-

story frame dwelling.
O.—B. Etlinger.
A.—J. E. Wolfe.
Mason—E. R. Shane.
Carpenter—Wickersham.
\$13,500.

Guerrero, bet. Fifteenth and Sixteenth.

Two-story frame.
O.—J. Kreling.
A.—F. Raabe.
Superintendent—F. Raabe.
\$5,000.

Guerrero, bet. Fourteenth and Fifteenth.

Two two-story frames.
O.—J. Wolf and wife.
A.—Huene & Everett.
C.—W. J. Brownrigg.
\$4,500.

Geary, nr. Fillmore. Additional story.

\$1,500.

H**Howard,** nr. Erie. Two-story frame.

O.—Mrs. Purcell.
C.—S. G. Worden.
\$2,000.

Howard, nr. Fourteenth. Additions.

\$800.

Howard, nr. Ninth. Two-story frame.

O. and B.—J. Ziegenbein.
\$700.

Howard, bet. Twenty-first and Twenty-

second. Additions.
O.—McCanle.
C.—Sanches.
\$2,100.

Hyde, bet. Ellis and Eddy. Alterations.

O.—G. Edwards.
A.—J. J. Clark.
Day work.
\$4,700.

K**Kearny,** cor. Morton. Alterations.

O.—Lexi Strauss.
A.—P. R. Schmidt.
C.—R. McCann.
\$900.

L**Linden Avenue,** bet. Buchanan and

Webster. Two-story frame.
O.—J. W. Grellis.
A.—Townsend & Wyneken.
C.—A. McDonald.
\$2,000.

Langton Street, No. 318. Alterations.

O.—J. Wilson.
A.—Townsend & Wyneken.
\$950.

M**Market** nr. Sixth. Improvements.

O.—G. Campbell.
\$800.

Mission, nr. First. Additional story.

O.—J. Carroll.
A.—Dylin.
C.—G. D. Nagle.
\$2,000.

N**Nineteenth,** nr. Sanches. One-story

frame.
O.—Springer.
C.—McFarland.
\$1,200.

Noe, nr. Seventeenth. Two-story frame.

O.—Rohrder.
\$600.

Notre Dame Academy. Additions.

A.—Huene & Everett.
C.—J. Blake.
\$500.

O**Oak,** bet. Devisadero and Broderick. Two-

story frame.
O.—James G. Martin.
A.—Miller & Armitage.
C.—F. Kern.
\$2,500.

Oak, nr. Fillmore. Two-story frame.

O.—N. Wynne.
A.—J. J. Clark.
\$6,300.

P**Post,** nr. Gough. Three two-story frames.

O.—Mrs. Ewert.
A.—
C.—
Estimated cost, \$15,000.

Pennsylvania Avenue, bet. Solano

and Butte. One-story frame.
O.—James Eve.
\$1,800.

Pine, cor. Stock Exchange Alley. Improve-

ments.
O.—Bell Telephone Co.
C.—McKillean.
\$3,700.

Park Avenue, bet. Harrison and Bryant.

Two two-story frames.
O.—F. Meyers.
C.—W. Little.
\$8,000.

Pierce, bet. Haight and Page. Two-story

frame.
O.—Mrs. Luckey.
A.—J. Marquis.
C.—Martin & Maguire.
\$4,500.

S**Summer,** nr. Howard. Two-story frame.

O.—Catherine McMahon.
A.—Townsend & Wyneken.
C.—Hawkes & Mannion.
\$2,000.

Sacramento, bet. Kearny and Dupont.

Additions.
O.—Yeong W. Co.
C.—D. J. O'Brien.
\$8,000.

Santa Clara, cor. Mississippi. One-

story frame.
O.—Mr. Kelly.
\$1,800.

St. Mary's Hospital. Alterations.

A.—J. J. Clark.
Cost, indefinite.

San Jose Road, bet. Twenty eighth and

Twenty-ninth. Three one-story frames.
O.—J. McKibben.
C.—H. Keenan.
\$1,200.

MISCELLANEOUS.

Alameda—One-story frame. O., Mr. Locke; A., H. D. Mitchel; C., W. H. Studley;
\$2,400.

Clayton—Stone w. e. house. O., Mt. Diablo Wine Co.; A., J. E. Wolfe; C., J. D.
Nagle; \$2,500.

Mountain View—One-story cottage. F. Hinzlot; A., Miller & Armitage; C.,
J. A. Wright; \$3,000.

Fresno City—Two-story frame. O., Schmolz; A., G. E. Voelkel; day work;
\$3,000.

Madera—One two-story and four one-story brick buildings. O., T. L. Cludene; A.,
G. E. Voelkel; total cost, \$10,500. Frame cottage. O., L. Knuser; A., G. E. Voelkel;
\$2,200.

Los Angeles—Alterations and additions. O., J. D. Huray; A., Curlett & Cuth-
bertson; day work; \$2,500.

Sixth, nr. Harrison. One-story frame.

\$500.

Sanches, bet. Twenty-ninth and Valencia.

One-story frame.
O.—Anderson & Co.
C.—J. E. Loomer.
\$1,000.

Stevenson, cor. Annie. One-story and

basement brick.
O.—Sharon estate.
C.—S. M. Hills.
\$10,000.

T**Twentieth,** cor. York. Two-story frame.

O.—Jas. Holle.
A.—G. E. Voelkel.
C.—J. Wineohl.
\$3,200.

Twenty-second, cor. Capp. Two-story

frame.
\$9,500.

Tenth, nr. Mission. Two-story frame.

\$1,800.

Twentieth, nr. Valencia. Additions.

\$500.

U**Utah,** nr. Twenty-third. Two-story frame.

O.—Mr. Sullivan.
C.—W. Shaffield.
\$1,200.

W**West Mission,** bet. Ridley and Her-

mann. Two-story frame.
O.—Donahue.
\$2,500.

West Mission, cor. Hermann. Two-

story brick.
O.—Market Street R. R. Co.
\$4,000.

HILL'S PATENT INSIDE SLIDING WINDOW BLINDS

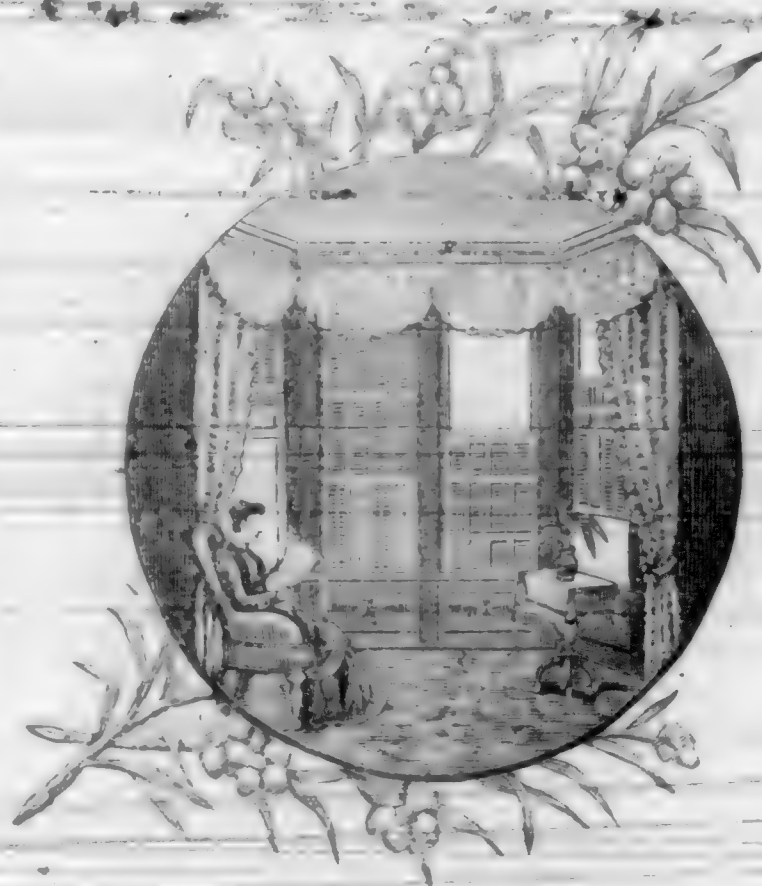
Are Adapted to Any Style of Window

And Suitable for all Buildings, Dwellings, Stores, Office Buildings, and for Houses Built to Rent, Hotels, Boarding or Lodging-Houses are Unexcelled.

THEY are entirely inside of the window casing, and while requiring no furring out or boxing, make it an impossibility for curtains, interfere with plants or window ornaments, or become broken by contact with chairs or other movable articles.

The light can be admitted and sunlight excluded from any part of the window; can be instantly removed and taken to any part of the house to clean, and as easily replaced.

They can be opened or closed with the window raised, and without removing articles from the window-sill, and cannot blow open or rattle. The Blind is very light (one-half inch in thickness) and strong, possessing more durable qualities than a hinged blind one inch in thickness.



THERE IS NO BANGING, LINGING, OR GETTING OUT OF ORDER!

They are made in three sections in height (each section sliding past the others), and any number of divisions in width corresponding to the folds in the old-fashioned folding blinds. They require NO HINGES—all trimmings furnished with blinds—are MADE OF ALL WOODS, finished or unfinished, and COST LESS than old-style folding blinds. They have been extensively used by the best architects and builders throughout the East and West, and have given perfect and entire satisfaction wherever introduced.

ENGLISH AND AMERICAN VENETIAN BLINDS (IMPROVED).

The only perfect Venetian Blind in the market. The Blinds can be seen at the Mechanics' Fair. Or for samples, prices, and further information, address as below.

The following are a few of the owners who have adopted the HILL BLIND in preference to any other:—

L. M. Fabry, c r. H yes and Laguna; architects, Miller & Armitage. John MacKenze, c r. Grove and Broderick; architect, H. D. Mitchel. H. F. Bruns, cor. Geary and Taylor; architect, John M. Curtis. R. B. Gray, cor. Pacific and Van Ness; architect, John Marquis. Albert Meyer, Twentieth nr. Valencia; architect, J. T. Kidd. J. C. Weir, Post nr. Scott; architect, J. C. Weir. Dr. J. Rosenstirn, cor. Sutter and Hyde; architects, Pissis & Moore. A. M. Starr, Washington nr. Fillmore; architects, S. & J. C. Newsom. J. H. McKay, cor. Washington and Steiner; architect, J. H. McKay. U. S. Government, Presidio Reservation; architect, J. H. Humphreys. Baron Von Schroder, 553 Harrison; architect, T. J. Welsh. G. G. Burnett, Larkin nr. Turk; architect, James E. Wolfe. A. F. Le Jeal, Clay bet. Franklin and Gough; architect, H. C. Macy. J. C. Weir, Post nr. Scott (second order); architect, J. C. Weir. P. Dupuy, Taylor nr. Turk; architect, W. H. Bayless. J. S. Morgan, Mission bet. Twenty-fifth and Twenty-sixth; architect, C. V. Pierce. N. W. Cole, Mission nr. Twenty-fifth; architects, S. & J. C. Newsom. John Ritchie, Woodland; architect, W. H. Carson. Court House, Petaluma; architects, S. & J. C. Newsom. L. H. Sweeney, San Rafael; architects, Pissis & Moore. Court House, Santa Rosa; architects, S. & J. C. Newsom. Raymond Hotel, Pasadena; architect, J. H. Littlefield.

EDWARD B. HINDES, Office 330 Pine St., Room 55, S. F., Cal., Manufacturer for California, except Counties of Los Angeles, San Diego, Kern, San Bernardino, and San Luis Obispo.

Or, W. S. HOLLAND, Pasadena, Cal., Manufacturer and owner of P. C. Territory. Rights to manufacture, and territory for sale.

TITLE THE CALIFORNIA ARCHITECT AND
BUILDING NEWS
FORMERLY THE CALIFORNIA ARCHITECT AND
AUTHOR BUILDING REVIEW
FORMERLY THE QUARTERLY ARCHITECTURAL
REVIEW
VOLUME VIII
DATE 1887
PUBLISHER WORLD MICROFILMS PUBLICATIONS in association with THE
ROYAL INSTITUTE OF BRITISH ARCHITECTS
COPYRIGHT © 1974 THE ROYAL INSTITUTE OF
BRITISH ARCHITECTS

CONDITION OF SUPPLY In accordance with the terms of supply under which this reel of microfilm was supplied the purchaser has agreed that it will not reproduce the material contained in this reel of microfilm in any manner or for any purpose whatsoever except that in the case of a library it may reproduce the above-mentioned microfilmed material in accordance with the normal current practice of providing copies solely for the personal use within such library of persons entitled to use the facilities of such library. The above condition shall be expressly passed on and shall apply to any person to whom the purchaser sells or grants any rights over the above-mentioned microfilmed material.

THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

VOLUME VIII

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

NUMBER 1.

THE California Architect & Building News.

A MONTHLY JOURNAL,

Devoted to Architecture, Decorating, and Furnishing.

PRICE, \$2.00 PER ANNUM.

The official organ of the Pacific Coast Association of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO. No. 240 MONTGOMERY STREET, Rooms 11, 12, 13.

Subscribers will please notify us promptly of any failure to receive this journal, and also of any change in their address.

Advertisements inserted at reasonable rates.

SAN FRANCISCO, CAL. JANUARY 15, 1887.

Our patrons are informed that C. L. Crabbe has no connection whatever with this Journal. He is not authorized to make any collections, or receive either subscriptions or advertisements.

Bound Volumes of the year 1886 are now ready. We will forward a copy to any address upon receipt of \$2.50.

HAND IN OR SEND

Your SUBSCRIPTIONS for 1887

To those who so promptly responded to our request for immediate settlement of subscription and advertising balances,

WE SAY, THANK YOU.

To those against whose names remain unpaid balances, we say,

PLEASE PAY UP AT ONCE.

Remembering THAT—Defrauding an editor is considered one of the meanest kinds of peculation; THAT—"Honest men are the gentlemen of nature;" THAT—"The man who pauses in his honesty, lacks but little of the rogue;" THAT—"A rogue in spirit is a rogue in gain."

Therefore,—Let every one who receives or reads this journal, forthwith forward to this office, its subscription price for 1887, and any and all unpaid indebtedness.

The Outlook for 1887.

IT IS PROMISING. True, the natural tendencies of the human mind, hopes and desires, are to anticipate and prognosticate continuance of good things, and to grasp after every appearance or indication of better; and often, the mere "wish being father to the thought," induces prophesying and predictions which have no other foundation than the desire that the thing predicted may be realized and enjoyed. False hopes are often stimulated by unreal appearances, which, logically and intelligently considered, fail of any reasonably well assured probability; hence people frequently deceive themselves, and venture out upon the merest crust of prospect, beneath which may lie almost fathomless depths of disappointment.

Fully impressed with the correctness of the suggestions made,

we glance cautiously at the impenetrable future, and as far as its mysteries can be judged by the appearances and indications possible of utilization, we feel well assured in saying that the building business in San Francisco will be good during the year 1887. There are signs of encouragement in all directions, and it is safe to anticipate large activities in building improvements.

An Effort in the Right Direction.

THE responsible and better class of carpenter contractors in San Francisco, have for a considerable time, maintained an organization designed to remedy the many gross and glaring irregularities, an evil long existing in the building trade. And as we understand it, while the objects and purposes of the society are mutual protection and individual rights and interests, they are claimed upon rational, intelligent, just, and equitable grounds.

To say that the building, particularly the carpenter contracting, business, has, in the main, been run loosely in San Francisco during the past three decades or more, commencing in the early periods of this city's history, and at times since becoming most deplorably bad, with failure succeeding failure, followed by *pro rata* settlements, and discredit upon an honorable business, does not fully express the state of things that has been. The object of the organization is, to arrive at right understandings as between owners and contractors, and the establishment of such practices as will be *impartially* just between all parties. Owners and contractors have respective equal rights and equities. Neither should seek nor wish to gain undue advantage. But the fact must be admitted that the man who does honest work and pays his bills, one hundred cents on every dollar, stands but little show in competition with those who substitute wood butchery for workmanship, and settle their indebtedness at ninety or perhaps ten per cent on the dollar. And it must also be admitted that it is a most provoking and distressing attitude for men of integrity to be forced to occupy, to silently witness their chosen life avocation demoralized and abused, and the once honorable distinction of "honest mechanic," besmeared with the filth and foulness of men enjoying but limitedly, or not at all, mechanical knowledge, to an extent entitling them to recognition as "skillful workmen," and whose honesty of purposes and practices are ever contingent upon the uncertainties of either their defective or designing judgments, with no care for the often damaging results that follow.

Any number of right thinking men who can combine and bring into practice methods and procedures which will abate the evils that have been and are in the building business, and bring about a bettered and improved condition of things, deserves commendation; and we hope that a generous and just disposition will be exercised by all in interest—contractors, architects, and owners alike—each of whom, being just and honest in every intent and purpose, should have but one common sentiment in reference to matters so plain of understanding as those involved in the erection of buildings.

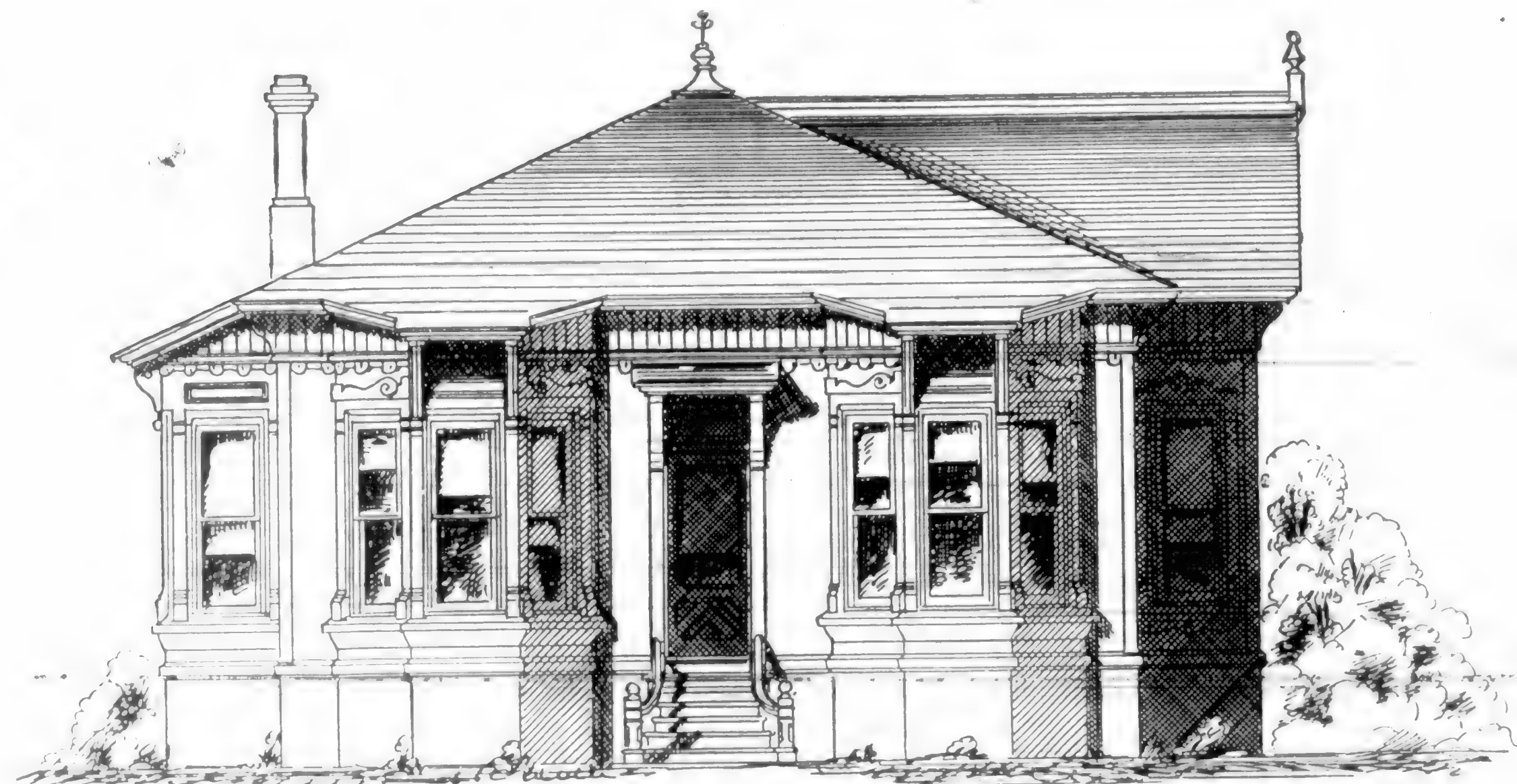
Meeting of the S. F. Chapter.

THE regular monthly session of the Chapter was held on the 7th inst, President A. Pissis presiding, B. E. Henricksen, Secretary.

Minutes of previous meeting read and approved. Mr. Sanders on behalf of the Committee on Classes, read an interesting paper in relation to the progress of the class work, and the necessity for increased facilities in the shape of a convenient room for class meetings, as well as a permanent place—a headquarters for the Chapter. Mr. Sanders read the paper with much earnestness, and expressed the hope that ere long there would be that concert of action applied, which would secure all that is necessary to make both the class work and the Chapter grand successes. The report was adopted and ordered spread upon the minutes.

The committee on the application of Arthur M. Squires, for student membership, reported favorably, and the candidate was elected. The appointment of a committee to confer with the Board of Freeholders, in reference to a Board of Public Works and a

EACH SUCCESSIVE ISSUE OF THIS JOURNAL WILL SHOW A MARKED IMPROVEMENT.



FRONT ELEVATION FOR A CONVENIENTLY ARRANGED COUNTRY HOME.

City Engineer was suggested, and a committee of three, consisting of Mr. John Wright, James E. Wolfe, and J. Gash was appointed for the purpose.

A committee of three—James E. Wolfe, T. J. Welsh, and J. Gash was appointed to consult with a like committee from the Builders' Association of California, in reference to amendments to the Mechanic's Lien Law.

A general discussion of the Lien Law ensued, and some of its many objectionable features reviewed, showing its inequities and uncertainties, and its illy expressed intents, meanings, and applications.

The reading of a paper on ancient and modern plumbing was deferred until the February meeting.

Building Summary for January.

Considering the dull period through which this city has been passing, the statement for the current month is very satisfactory, exceeding in amount any similar period on record. Our country building interests are looking up very finely, and a great deal of work is assured to mechanics during the coming year.

In January, 1885, we reported in this journal,

73 Building Engagements, of the value of \$602,585.

In January, 1886,

79 Building Engagements, of the value of \$623,250.

In January, 1887,

Eleven brick buildings.....	\$475,000
Forty frame ".....	160,200
Eight additions, &c.....	15,500
Making a total for January, 1887, of	

59 Building Engagements of the value of \$650,750.

COUNTRY BUILDING ITEMS.

We call especial attention to our list of improvements in every portion of the Pacific slope.

"Carpenters' Steel Square and Its Uses."

We have just received a large consignment of this practical work for mechanics, and upon receipt of \$1.00 will forward a copy to any address.

NOW IS THE TIME TO SUBSCRIBE FOR 1887, \$2.00 PER ANNUM, IN ADVANCE.

OUR EIGHTH VOLUME.

With this number we begin the eighth volume of this journal. Since January, 1879, we have successfully carried on the enterprise of establishing an architectural journal on the Pacific Coast. We enter the new year full of confidence for the future, and our ambition is more than gratified when we reflect that, from a few subscribers in the start, we can boast of a larger circulation than all the rest of architectural journals combined that are published west of the Rocky Mountains. We sincerely thank our numerous patrons who have done so much to help us. Subscription price will remain the same, viz., \$2.00 per year in advance.

The Best of Drummers.

THERE is no better drummer for business men than a well-established and reliable trade journal. It pays no railway fare, for no extra baggage, for no luxurious hotel bills, for no cigars or other incidentals usually charged up to the firm by the regular traveling man. It goes directly to the customer each and every week at all seasons of the year. It is a constant medium of friendly intercourse between the wholesaler and retailer. It tells the latter from week to week how and where he may order the latest and most attractive goods, and points out to him the most favorable time for buying and stocking up his store. The trade journal is constantly growing in importance. Its merits are being recognized more and more each year, as is evidenced by the increase of its subscription list, and the extent of its advertising patronage.

It is a common idea that a "chimney cannot be too large;" in other words, the larger the area of the flues the better the draught will be. This is not always the case. In many cases—in foundries, manufactories, etc.—where a chimney has been built large enough to serve for future additions to the boiler power, the draught has been much improved as additional boilers have been set to work. The cause of this is to be found in the increased steadiness of draught, where several boilers are at work and are fired successively, as also in the better maintenance of the temperature of the flue.

An old saw-mill man explains the origin of the term "mill culls" thus: "In old times this was the class of culls that went to the mill man in lieu of a saw bill, consequently 'mill culls.'"

Conveniently Arranged Country Home.

ON page 2 we present the elevation, and on page 3 the plan, for a very desirable and well arranged country or suburban home. The elevation is one that will attract attention from its neatness and simplicity. It is especially designed to do away with all fancy outside work. The plan is admirably adapted for a home in the country where fluctuations of temperature occur. A perfect system of ventilation can be had through the various parts of the house. In case of a hot spell, there is room enough on the side porch for a table, so the occupants can dine in the open air.

The bath-room is handy of access from several rooms, as well as being in easy communication with the outside porch. A pass slide between the pantry and dining-room closet enables the servant to confine all the smell of cooking to its proper quarters.

The front chamber is conveniently arranged for visits from "city cousins." There is ample closet room. If thought more desirable, one of the windows looking out on side porch can be changed for a door.

CARPENTERS' STEEL SQUARE AND ITS USES, PRICE \$1.00

History of the Saw-Mill.

THERE are few tools more ancient than the saw. All the ancient nations appear to have had it; certainly the Hindoos, the Egyptians, the Greeks, and the Romans. The saw may have existed even before there were any men on earth. There is a creature called the saw-fly, with the saws in its tail, which it actually uses for sawing the stems, leaves, and fruits wherein its eggs are to be deposited. There is also a saw-fish, the long snout of which is a saw. It is said also that the original inhabitants of the island of Madeira found a ready-made saw in the backbone of a fish.

The Greeks had a pretty story attributing the invention of the saw to the accidental finding of the jaw-bone of a snake by one Talus, who used it to cut through a small piece of wood. Being a slave, and finding that the jaw bone eased his labor, he made a saw of iron, and thus gave mankind a new and most valuable tool.

The ancient saws differed from ours in two ways. The teeth were so arranged that the cut was made by pulling instead of pushing; and the teeth, instead of being set one to the right and one to the left alternately, were set so that ten or a dozen in succession were slanted one way, and the same number the other way. The ancients had several varieties of the implement. The Greeks, for example, had crosscut saws for two men, also saws for cutting marble into slabs. And they had a kind of tubular saw for hollowing out a marble bath-tub, similar in principle to the method now employed.

Among the pictures uncovered in the buried city of Herculaneum there is a representation of two genii sawing a piece of wood on a carpenter's bench very much like ours, and using a saw with a wooden frame similar to those now employed. Still more strange, the frame saw, tightened with a rope and stick, such as our street wood-sawyers use, was probably as familiar to the Romans as it is to us.

A saw-mill, however, by which wind, water, or steam is made to do the hardest part of the work, was not known to any ancient nation. Sawing by hand, next to digging a stiff clay soil, is about the hardest work that men ordinarily have to do. It is therefore not surprising that our ease-loving race began to experiment a good while ago with a view to applying the forces of nature to the performance of this toil.

A learned German investigator, who has investigated the subject very thoroughly, states that the first trace of the saw-mill yet discovered is in the records of the German city of Augsburg for the year 1337. The reference is slight, and does not fix the fact with certainty. But there are two saw-mills near that city which are known to have existed as far back as 1417, and they are still used. Before that valuable invention, all boards and planks were split with wedges, and then hewn to the requisite smoothness with the ax. The splitting of boards is still practiced in remote settlements, as I myself have seen; and it is recorded of Peter the Great, of Russia, that he had much difficulty in inducing the timber cutters of his empire to discontinue the method. At length he issued an edict forbidding the exportation of split planks. Even in Norway, covered with forests as it was, there was not one saw-mill before 1530. Nowhere in Europe, it appears, was the introduction of the saw-mill so long resisted as in England. In 1663 a Hollander erected one in London; but it brought upon the poor man such an outcry and opposition that he was obliged to abandon it. The sawing of



PLAN FOR CONVENIENTLY ARRANGED COUNTRY HOME.

timber by hand furnished occupation, at that time, and long after, to large numbers of strong men. In every town there were saw-pits, as they were called, for the convenience of the sawyers, one of whom stood at the bottom of the pit and the other on the log. We can easily imagine that when every beam, plank, and board, thick or thin, had to be sawed by hand, the sawyers must have been a formidable body, both from their numbers and their strength.

After the failure of the Dutchman in 1663, there was no serious attempt to start another saw-mill in England for more than a hundred years. In 1767, an English timber dealer of large capital built a saw-mill to be moved by the wind. It was thought to be a great and difficult enterprise, and it attracted much public attention. Some years before an author had explained the advantages and economy of saw-mills; then the Society of Arts gave the scheme of building one their approval, and finally the mill was actually built by an engineer who had studied the saw-mills of Holland and Norway. No sooner was the mill complete than the sawyers assembled in great force and tore it to pieces. The Government compensated the owner for his loss, as was just. Some of the rioters also were convicted and imprisoned. A new mill was then built, which was allowed to work without molestation, and proved so profitable that others were soon introduced.

BUILDING CORRESPONDENCE DESIRED FROM EVERY PORTION OF THE PACIFIC SLOPE.



DESIGN FOR COUNTRY MANSION.

In no part of the world, probably, has the saw been more minutely and curiously developed than in Great Britain, where they have saws so fine as to cut diamonds, and circular saws nine feet in diameter and a quarter of an inch thick. They have also veneer saws so accurately adjusted as to cut eighteen slices of veneer from a rosewood plank an inch thick. In London they will put a log of mahogany upon the mill and cut it into slices so thin that the sawdust weighs more than the veneer. Yankees have beaten this performance. They take a piece of mahogany or rosewood, soften it by steam, and cut it into veneers with a knife, without making a grain of sawdust.

Daniel Webster tells us that his father had a saw-mill after his removal to New Hampshire, at the source of the Merrimac River. Daniel, who was by no means fond of labor at any part of his life, liked nothing better in his boyhood than to attend this saw-mill, because when he had put his log in position and started the saw, he had sixteen good minutes for rest or reading before the business required further attention.—*Journal of Progress.*

And we may further add that it is a part and parcel of the history of the successful saw-mills on this coast that they have been supplied with saws made by the works under the control of Messrs. Spaulding, Patterson & Sheffield, and known as the Pacific Saw Manufacturing Co. Nos. 17 and 19 Fremont Street, San Francisco. All the saws in the mills are supplied with the patent Spaulding inserted teeth. The one fact that it is the successful mills that have used these saws, should induce every proprietor on the Pacific slope to at once replace their old-fashioned saws by the splendid new manufactures of the Pacific Manufacturing Co.

A 4x8 billiard table requires a room not less than 13x17 feet.

EVERY ARCHITECT SHOULD TAKE A PRIDE IN BEAUTIFYING THIS JOURNAL.

Design for Country Mansion.

THE accompanying engraving is taken from a design that was awarded a diploma at one of the fairs held by the Mechanics' Institute in this city. James E. Wolfe, architect.

MECHANICS' GEOMETRY,
Price \$4.00.

Closet Ventilation.

A NEW JERSEY architect claims the distinction of being the first house-designer to ventilate clothes closets, and this fame-making act was performed in the year of grace '86. Some of our readers may contest the claim, but we are compelled to admit we have never seen a ventilated clothes closet in a private dwelling, although we have long been in search of one. Seriously, this failure on the part of architects is a matter of grave importance, and when it is considered that no cost is attached to the obtaining of what all admit the necessity for, the continued neglect of architects in this respect is past accounting for. The *St. Paul Farmer* has been publishing a series of excellent articles on common sense in building, and while it emphasizes the housekeeper's demand for closets, it forgets to ventilate them. It says: "So, in planning a home, the ladies' wishes must be attentively considered, 'first, last, and all the time.' Generally the first demand is for closets large and closets many, closets dark and closets airy, closets here and closets there—closets everywhere! But though closets may be classed in the category of those good things of which it is difficult to have too many, still they are to be kept judiciously in the background, filling space which would not otherwise be of much use, as at the end of halls and in 'half stories' in the low space under the roof at the side of rooms. For instance, if the wing of a house is sixteen feet wide, and the walls run up but three feet above the second floor level, leaving the ceiling to slope from that height upwards, the space near the walls is of very little use in a room. But if three feet be taken off for a closet at each side, then there results a room ten feet wide, with side walls high enough for most purposes in a bedroom, and with two good closets, or one of the closets may be entered from another room or hallway."—*Ed.*

[We print the above merely to show the errors in the article to those acquainted with facts. Plans are on file in this office that are nearly a quarter of a century old, showing plainly the ventilation of closets by means of a hole in the ceiling covered with wire cloth, and having direct communication between the joists with the outside air. How anyone can have the cheek to claim a new invention in '86 that is of almost ancient origin, is an insolvable mystery.—*ED. ARCHITECT.*]

A Simple Rule for Measuring Straight Logs.

THE *Southern Lumberman* says an experienced log and lumber inspector gives the following short and easily remembered rule for ascertaining the contents of a log by Doyle's rule when a copy of Scribner's book is not available:

RULE.—Square the diameter of the log after subtracting 4 inches from it, and the result will be the exact contents in inch boards of a log 16 feet long. A log 8 feet long will be half this amount, 12 feet long three-quarters, 14 feet long seven-eighths, and so on.

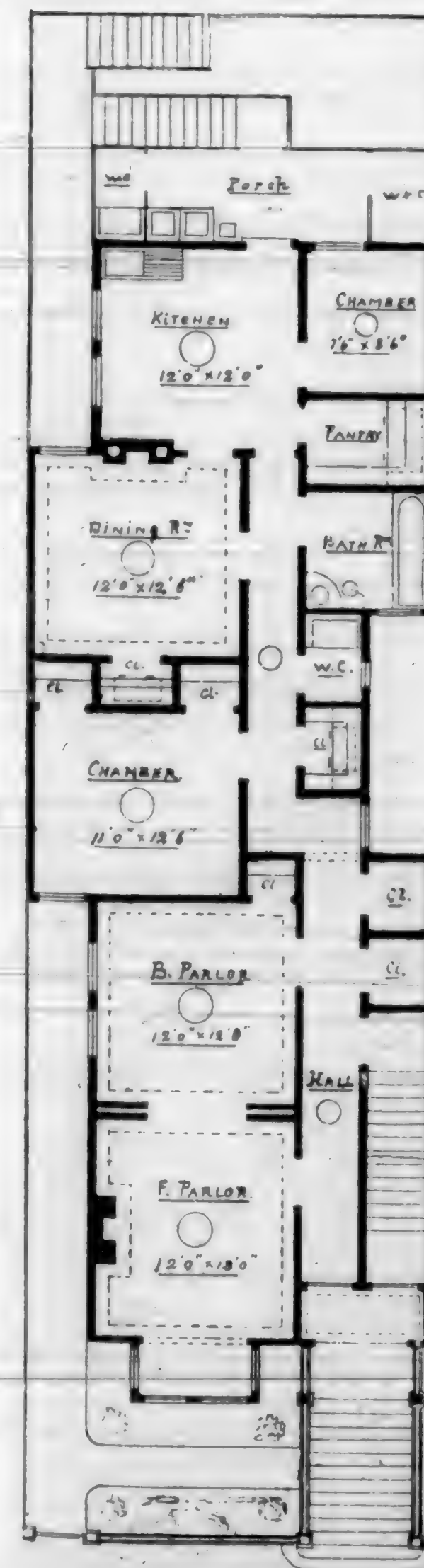
OAK may be darkened by exposure to the fumes of ammonia in a close box, but if the work is first oiled with linseed oil and wiped dry with a cotton or linen cloth, and then a solution of bichromate of potash (say half ounce of potash to one pint of water) be applied, it will darken it and not raise the grain, either of oak, mahogany, or cherry. Care, however, must be taken that the work is not made too dark by too many applications of the solution.

Design for City Flats.

[The accompanying elevation and plans for city flats were prepared by Mr. Salfeld, architect, 216 Kearny Street. We append his personal description of the same. In future it will be the aim of the editor of this journal to secure the best talent available for illustrations of houses of every conceivable design and form.]

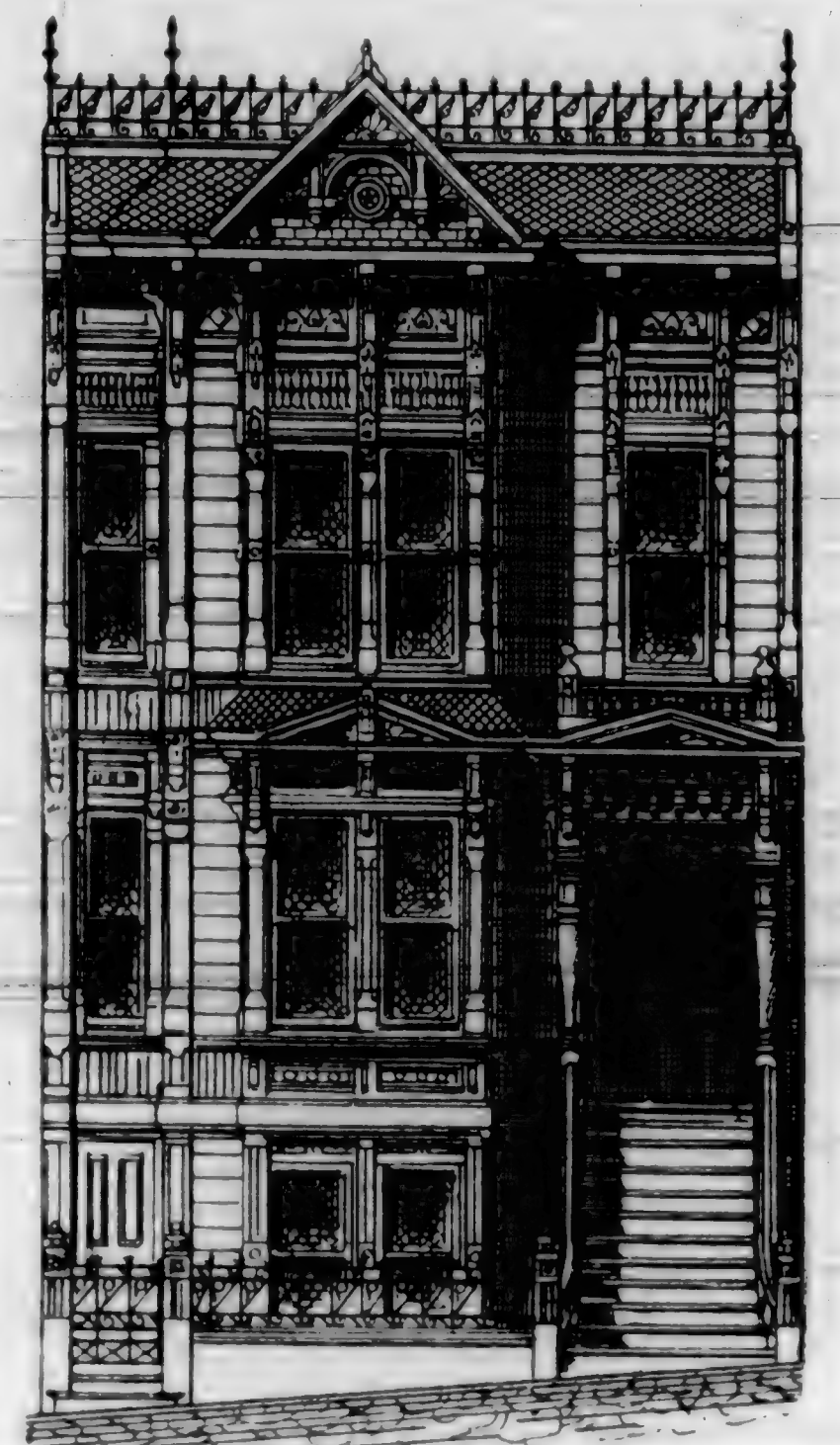
WE present on this page a design for two flats in the Eastlake style of architecture, the first containing six rooms and the second seven. With the exception of a hall bedroom on the second floor, and one or two closets on the first, the two plans are designed nearly alike, and one description will answer for both. The elevation has a graceful and picturesque effect, and is cheap and economical in construction. The architraves of the bay-window and entablature over portico are supported by small turned columns, unique in design, and very pretty and attractive. The columns of the porch are turned with octagon cap, faced with small rosettes. The frieze of the entablature is constructed with turned balusters, with ornamental scroll work, and blocked bed mould above. The projecting gable over bay-window is finished with turned rosettes, fancy shingling, and moulded cornice. The light and airy exposure, convenient arrangement, closet accommodations, etc., of the spacious rooms, can readily be seen by referring to the floor plans. The halls extend through the building, thus affording communication with any of the rooms without passing through others. In the hall of the first story are two large closets, and a flight of basement stairs, with door opening into hall, is constructed under stairs leading to second story. The basement is seven feet and six inches high, planked and partitioned off into cellars and other rooms. The rooms are well proportioned, provided with commodious closets, and all other necessities required by a family who appreciate the conveniences of a model home. We wish our readers to understand that a plan is the main consideration in building, and that an elevation can be changed into any style to suit the taste of the owner, therefore we devote more time and space to the study and description of the plan, knowing it to be most important.

[The above is from a new California work entitled, "Country and City Homes." It contains eighty pages of designs for all classes of buildings, and is sold for 50 cts. a copy. We will forward one to any address upon receipt of the amount.—*Ed.*]

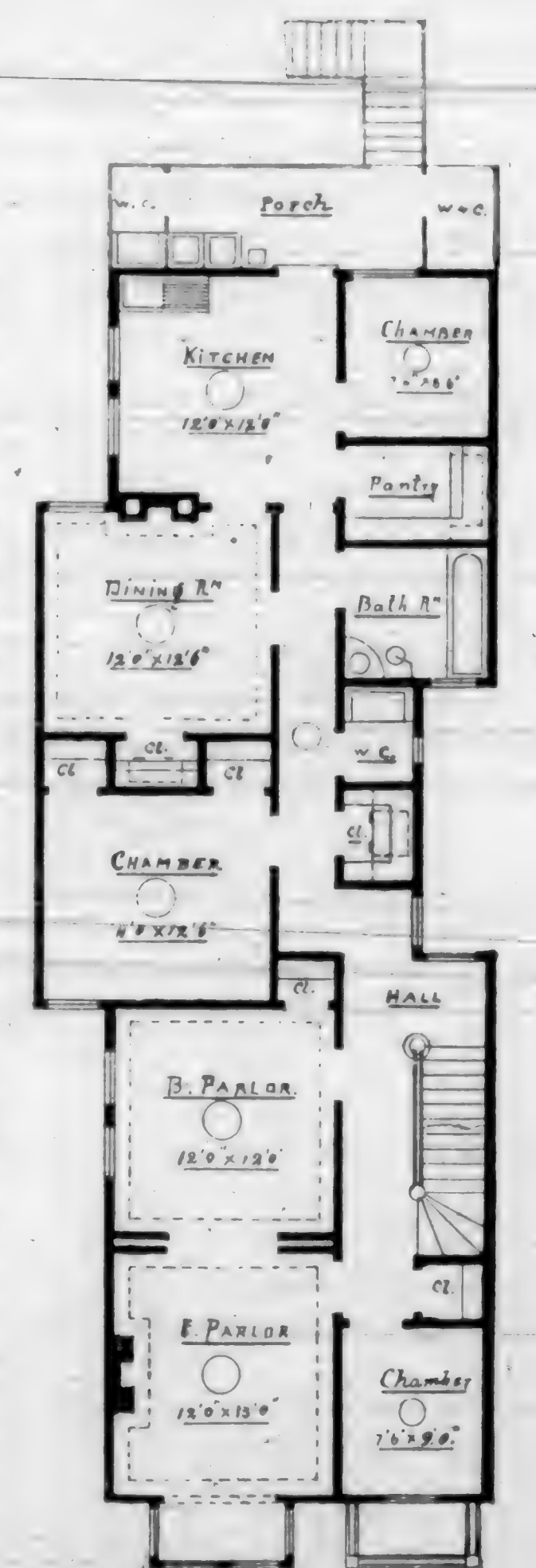


FIRST FLOOR PLAN.

INCREASED PATRONAGE WILL ENABLE US TO MAKE STILL FURTHER IMPROVEMENTS.



Elevation



SECOND FLOOR PLAN.

ASKED, ANSWERED, AND COMMUNICATED.



Free to All.

THE columns of this journal are open to all who differ with us upon any subject presented. We are too old in years and experience to assume that we have passed the reef of human liability to err, or for one moment to suppose that we have reached the realms of thought where perfection reigns supreme. But this we do assure—that whatever error there may be contained in our columns will be speedily corrected, as soon as attention is directed thereto, and we are convinced of the error. We will give place to a reply in any case, when a mistake or wrong statement has occurred. It is our desire and purpose to be fair, just, and correct in all things, and do no person or subject any violence. We therefore invite free discussion and criticism, and again state that the columns of this journal are at the service of all who desire to differ with us upon any theory or subject, or who take exception to anything at any time appearing in our columns.

We intend to make a specialty of this department of our journal, and, in order to make it thoroughly interesting, we desire the co-operation of all architects, mechanics, etc., whether subscribers or not. In this column there is a great opportunity for comparison of ideas on the practical questions of the day; and we hope to receive from those interested, and especially amongst builders, questions arising in their daily practice. No matter what may be the solutions given to the various problems presented, we shall only be too pleased to receive replies from our readers, where they see other and better solutions for them. If a general interchange of ideas can be brought about, great advantages will ensue to all. Let not a month go by without bringing up for discussion practical topics in the architectural, mechanical, or scientific pursuits. We desire a general expression of opinions, for or against, of every article presented by us. Every communication will receive deliberate and careful consideration.

EDITORS ARCHITECT: I noticed in your December issue that Mr. D. Bink was in trouble, and had applied to you for information in regard to a rule to mark out the top and bottom cut of a sloping brace of square timber, with the diagonal corners standing vertically over the opposite. In answer, I offer the following:—

1. To a man that can make all the cuts and bevels necessary for framing a hip roof. If you compare the top end of the brace with the ridge and valley rafter in a roof, you will readily see that they are the same. So if you take a square stick, say a 4x4, it will form a $\frac{1}{2}$ pitch. If the brace is set at an angle of forty-five degrees, you get the bevel thus:—



FIG. 1.

Take one-half of the diagonal width, as at A B, and measure this distance along the edge of the stick, as at C D. Square over to the other and join D F. Measure as before, making E F equal to C D. Square across timber again, and join F G.

2. For a simpler way, that will suit all braces and at any angle, take a piece of timber and mark as above. Suppose you have a 4x4 to be cut, say 6 feet from a post, and run up on the post 8 feet 6 inches. Lay your square on the lines laid down thus:—

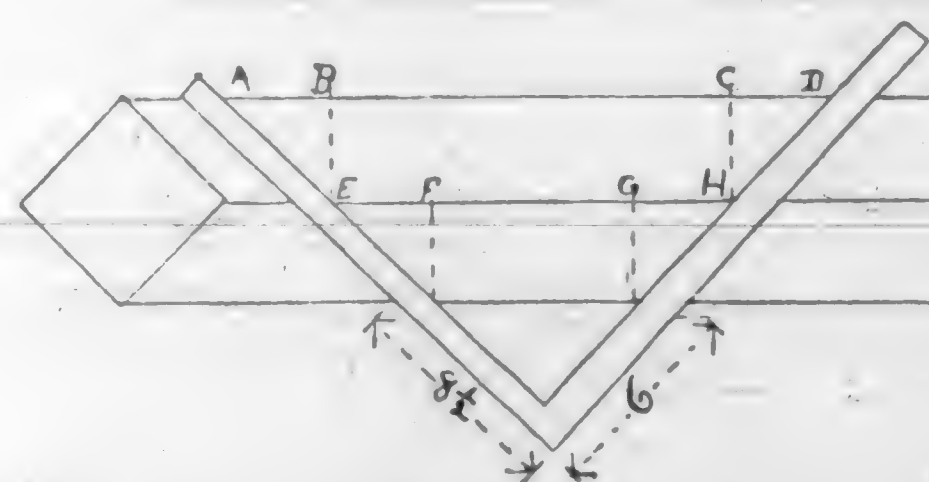


FIG. 2.

BOUND NUMBERS OF THIS JOURNAL MAKE A SPLENDID BOOK OF REFERENCE.

Architects, Contractors, Carpenters, and Mechanics generally are respectfully requested to furnish us items of interest for this column. We will gladly answer any and all questions pertaining to the architectural and building interests. If illustrations are necessary to explain your ideas, send us a sketch of them and we will make the cuts.

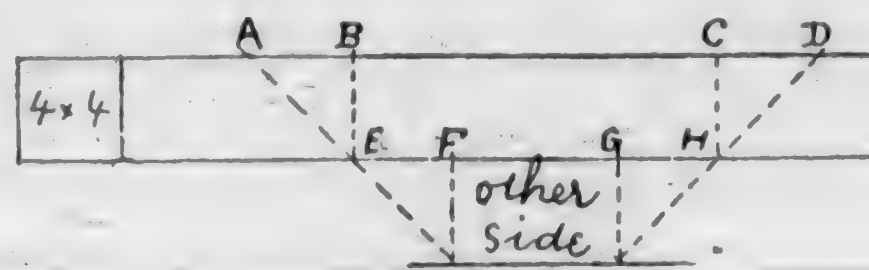


FIG. 3.

Transfer the distance A B in figure 2 to the side of the timber in figure 3. Square over to the other edge, and join the angles as before; then cut.

Another way: Take your square and find the distance across from 8 $\frac{1}{2}$ on one arm of the square to 6 on the other, same as for a common rafter. This distance will mark the side, using the line formed by the arm of the square with the 6.

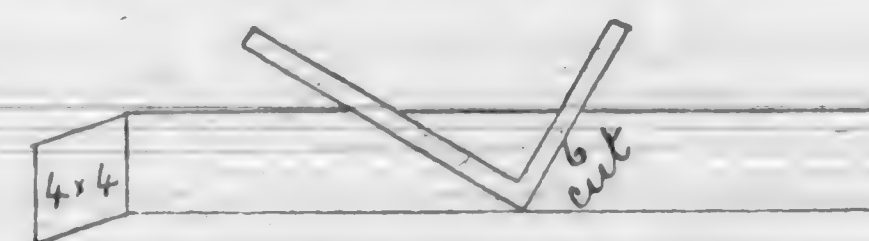


FIG. 4.

Cross over on the other side and cut.

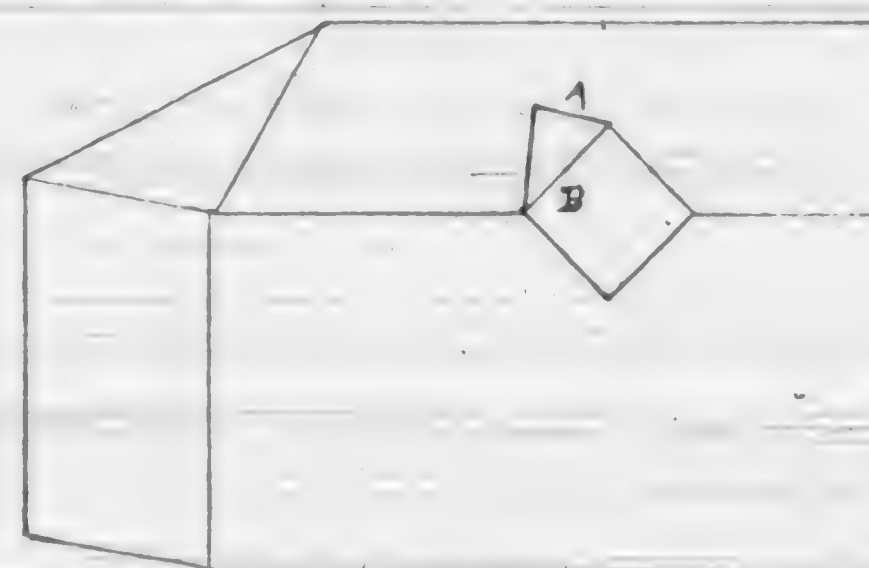


FIG. 5.

A B represents the ridge or edge of the 4x4; the line to the left of B the valley or side of the 4x4. It will be noticed that the ridge A is one-half the width of the width B.

Of course if my propositions hold good, and practical experience has so proven them, any distance can be used instead of those given, by applying the instructions given.

Yours truly,

B. McMANUS.

Oakland, Dec. 29, 1886.

[The above is one of several answers received in regard to the inquiry of Mr. Bink. We thank its author for the interest shown, and trust that all of our mechanical friends will emulate his example. We will be pleased to hear from those who make a practical demonstration of above theory in regard to the correct working of the principles advanced.—ED. ARCHITECT.]

EDITOR ARCHITECT: The liability to split and waste of the common channel rustic, has long been a cause of complaint among lumbermen and builders. Nor is the V rustic entirely free from the same objection, but is open to a still worse one from the fact that a split in the tongue will not show after it is covered by the board above, and careless workmen will sometimes take advantage of that fact. The plugging required by channel rustic is another objectionable feature.

I herewith submit a tracing of beaded rustic that in my humble opinion obviates all the above objections. If you think its merits sufficient to warrant an illustration in the CALIFORNIA ARCHITECT, I would be very much pleased to see it submitted to the readers of your JOURNAL for their criticism.

W. H. CARSON.

Woodland, Jan. 4, 1887.

TO FIND the weight of round iron per foot, square the diameter in quarter inches and divide by six; the quotient is the answer, and very near the actual weight.

IT is sound business policy to patronize the liberal advertiser. He has confidence in his goods, or he would not risk his money in advertising them. He can sell cheaper than a non-advertising competitor because he can manufacture in large quantities and get material at lower prices.

FOR attaching mouldings and other light lumber, a new kind of nail has been contrived, which leaves no nail holes. It is made with a point at each end and with an outwardly projecting head or shoulder midway between the points. The nail is first driven into the wood by means of a punch which straddles the protruding point and bears on the head. When enough have been driven in, the moulding is placed over the nails and driven down.

IT has been ascertained that timber which has been floated in water for a considerable time is no longer liable to the attack of dry rot. The albumen and salts are slowly dissolved out, thus depriving the fungus of the nutriment needful for its development. A French experimenter has shown that fresh sawdust rots away in a few years in damp earth, whereas sawdust from which the soluble matters have been soaked by water, remains unchanged under like circumstances.

THE question of how to prevent checking in the ends of timber when it is being seasoned is engaging the attention of English engineers. According to a recent report, it has been ascertained, after trying a number of expedients, that by painting the ends of the timber with thick glue several kinds of lumber can be dried without checks. It is supposed that the glue penetrates far enough to cement the layers of the wood together near the ends, and thus keep the ends from drying faster than the rest of the wood. Of course this method requires seasoning under cover, since rain would have the effect of dissolving the glue.

POWDERED glass is largely taking the place of sand in the manufacture of sand-paper. It is readily pulverized by heating it red hot and throwing it into water, the finishing being done in an iron mortar. By the use of sieves of different sizes of mesh the powder can be separated into various grades, from the finest dust to very coarse, and these should be kept separate. A strong paper is tacked down and covered with a strong size of glue, and the surface covered with powdered glass of the desired fineness; when the glue is dry the surplus glass is shaken or brushed off. Muslin is better than paper, and lasts much longer in use.

THE blistering of paint upon wood is not, as is generally believed, the direct effect of heat upon oil in the paint. If it were, we should find it taking the same action upon iron or plaster, which, we need scarcely say, is not the case. Heat, in the case as above noted, is a secondary agency, the primary one being steam, generated from the moisture in the porous wood, below or behind the impervious face or coating of paint. It is truly speaking a blister; but it is also a blow, expansion or cavity caused by the generation of steam. Blisters formed on wood, if cut or pricked at an early stage, so as to let out the steam, may be erased by carefully rubbing them down to their original bed, especially so if separation has taken place on the face of the wood, in preference to the face of the priming, or first coat of paint.

Wooden Bolts.

THE following article from an exchange on the subject of wooden bolts will doubtless prove of interest to our readers: "Why do you make so lavish a use of nails in the carpenter-work of our houses, to the exclusion of the honest, old oaken pin? Pull down any building, if it be merely a barn, more than two hundred years old, and you will not find a single nail in the original work; rafters and joists were all bolted together so stoutly as almost to defy the tools of the destroyer. Many an old manor barn, when pulled down of late years—as, unfortunately, only too many of them are—has shown itself to have been better built than most palaces are now. There are arguments in the way of economy of time, and so on, in favor of the use of nails in house building, but they are as nothing compared with the solid advantage of using wooden bolts. The iron nails in time canker and rot rafters and floors, but bolts hold them together 'like grim death,' and render a house practically indestructible."

THE ash is one of the most valuable of trees. Its timber is elastic, tough, and durable. It is called the "husbandman's tree," on account of the great variety of household and agricultural implements that are made of it. It used also to be called "the martial ash," because weapons of war were formed of its light, yet tough wood.

RECENT inquiries show that among the 20,000 carpenters in London, the expert workers average only eighteen cents an hour, while the inexpert get only twelve cents. Carpenters in Paris can only earn \$1.70 for ten hours' work; in Berlin they work only eight hours a day for \$1.05 per day, and are out of work on the average three months in the year.

THE latest example of "Queen Anne," or nondescript architecture, is furnished by the Philadelphia Mint, the superintendent of which, in order to obtain more room, and in the absence of ground to build upon, added a roof story, putting a French mansard on a building of pure Grecian architecture. *Engineering News* dubs the new style Franco-Grecian.

"MOONLIGHT nights are the bane of railroad engineers," recently remarked a head official of the Baltimore and Ohio Railroad. "All engineers dread moonlight nights. They try the nerves to the utmost. Engineers like to run on dark nights. On a moonlight night the trouble with them is no trouble at all—shadows. An engineer, looking out from his engine, sees before him all manner of shadows. He is sure that the dark shadow across the track he sees is a man, or a rock, or some kind of an obstruction. He doesn't know, and he is kept in a state of nervous excitement all the time. Going around curves, along hillsides, many curious shadows are outlined on the track; and very often an engineer is so worked up over a night's ride that he is scarcely able to perform his duties."

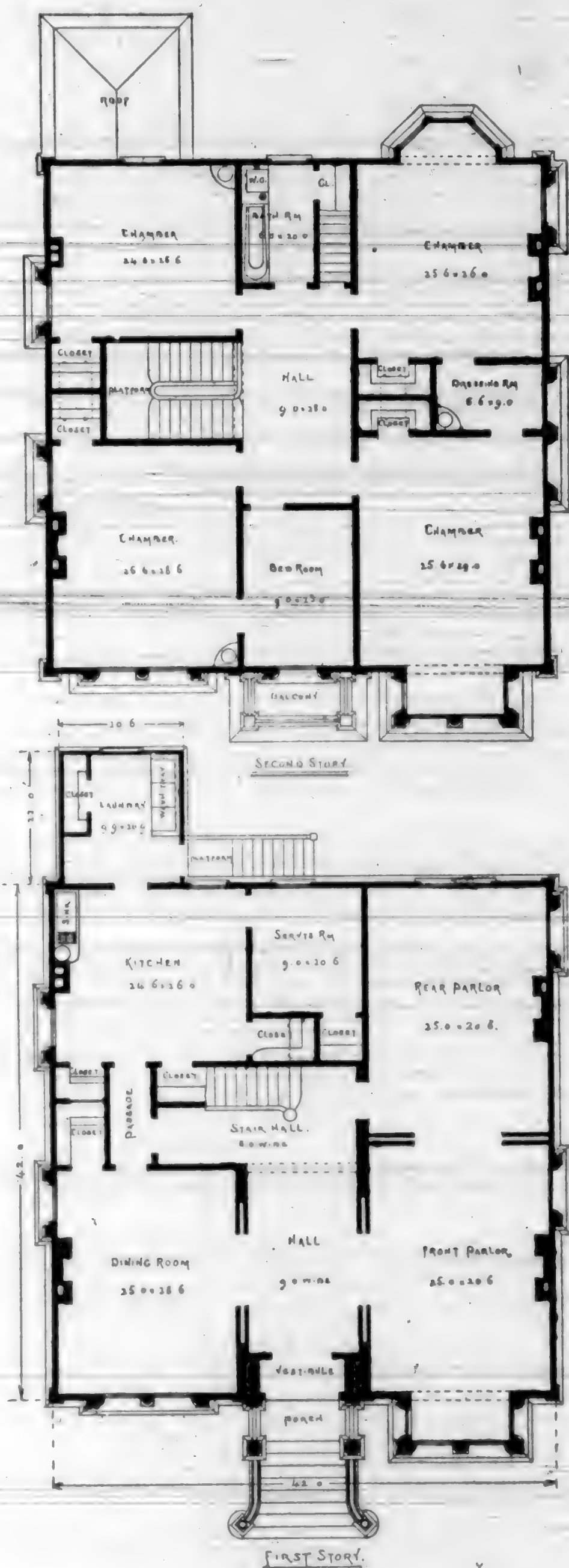
Built-up Doors.

A FEATURE of the building trade is the extensive use that is made of veneers. The method of building up doors of strips of pine has tended directly to this result. The built-up door, made of strips of pine glued together, is stronger than any other kind, at least of equal weight, and will not warp. But it necessitates the use of veneers of some kind. For heavy doors, quarter-inch stuff is used; but for the smaller doors in residences, one-eighth inch is often considered thick enough. The kind of wood depends on the finish of the room. Mahogany, cherry, oak, and curly or bird's-eye maple are perhaps the most common. This method of construction is particularly valuable where the opposite sides of doors have to be finished differently, to correspond with the rooms which they respectively face. This has often been done by making the door of two layers generally of equal thickness, the unequal shrinking and swelling of which would twist the door, and often tear it to pieces. The objection is raised against veneering that it is dishonest, and so not true art. That criticism should never be made in regard to such work as that mentioned. The built-up door of pine, veneered with mahogany, costs about as much as one of solid mahogany, and is a better one.—*Ex.*

Have a Specialty.

THE following from an exchange is well worth reading:—"Many persons fail in achieving their ends, for the reason that their efforts are too diffused and cover too much ground. In engineering, the details are so great, and the fields so vast, that many may be specialists without coming in direct conflict with each other, and the man who knows one thing well, instead of many things superficially, is always in request. Special information, provided it is thorough, is always better paid than general information, that skims the surface and leaves the depths untroubled. In these days of technical papers and encyclopedias, the average reader can know a little of many subjects, but it is notorious that a little knowledge is dangerous, and, we might add also, that it is useless. The versatile man is generally an inefficient one, and, while he may be interesting as a companion, or to while away an hour in gossip, he is of no use in mechanical emergencies. Where would the versatile man be in certain of these, which often arise in the profession? From the necessity of his calling, an engineer may know and be well informed on a great variety of technical matters. He must know these thoroughly or indifferently, according to his desires, but this does not prevent him from making a study and investigation of some particular line or subject."

ARCHITECTS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.



A Convenient Country "Box."

The accompanying plan is an admirable one for a country or suburban house. It will repay careful study. Prepared especially for this Journal, by James E. Wolfe, architect.

The Architectural Draughtsman.

NUMEROUS inquiries have reached us from time to time from persons anxious to acquire a knowledge of architectural or mechanical drawing, asking us to indicate a course of study which, while being thorough, should not be too extended. Some of the inquirers wished to gain a knowledge of the subject for the purpose of making it a profession, while others desired to learn something of it for the purpose of assisting them in their trades.

The investment of time occupied in learning architectural drawing is almost certain to prove profitable. A mechanical draughtsman who is fairly well educated in other respects is nearly sure of finding employment at a fair salary in almost any town of size, for where there is a town there will be building going on, and the services of a draughtsman needed in getting out the drawings and plans. Even in comparatively new settle-

ments, the services of a man who can make working, and other drawings, are generally in more or less demand. Draughtsmen and designers are required in nearly all the mechanical trades,—in the manufacture of silk, woolen and textile fabrics, paper-hangings, lace, carpet, and floor cloths; in fact, it is scarcely too much to say that there is not a mechanical art in existence in which the services of a draughtsman are not either directly or indirectly required.

It is a most erroneous idea to suppose that so long as a man can "draw to scale" he is entitled to call himself a mechanical draughtsman. To become justly entitled to such a term, a course of study of no mean order is necessary. First, we have geometry, which is the real basis and foundation of all mechanical drawing, and a knowledge of that subject is therefore absolutely essential; but a man who wishes to become a good draughtsman must go far beyond that. In the course of his vocation it will frequently happen that problems will arise needing a very intimate knowledge of the principles and practice of orthographic projection for their solution, so that he must make himself acquainted with the subject in a deeper and more extended manner than would be sufficient for the preparation of simple plans.

Then besides a good idea of coloring, and an artistic filling in finishing off drawings, a draughtsman should know something of isometrical projection. Take the case of farm buildings. Probably there is no simpler and clearer way of giving an accurate idea of the extent and arrangement of the agricultural class of buildings than to make the drawings in isometric projection, showing the plans and elevations in one view, and at the same time permitting perfectly accurate measurements being taken from them. The system is simple and very easily acquired, and is of great practical advantage in many other ways. Then perspective drawings are required, and a knowledge of that subject is necessary. The ordinary plans and elevations of a building prepared for working from are not sufficient to give an accurate idea of it to persons unaccustomed to such drawings. As a matter of fact, an elevation is a drawing of a building as it is, and not as it appears, and on that account it is desirable, when preparing drawings for a client, to show them in perspective. The art displayed in the coloring and finishing of such a drawing will do much in helping a man to decide upon the eligibility of a design for his purpose. Many architects, in designing the external portions of a structure, remembering this fact sketch their rough designs in perspective, from which they obtain a much better idea of the final appearance than they could possibly get from the ordinary plan and elevation.

What is sometimes termed "free-hand" drawing, that is, drawing without the aid of instruments, is very necessary to a good draughtsman. There is scarcely a drawing, large or small, in which some detail or other has not to be put in by hand, and the neatness of the drawing, as a whole, will largely depend upon the accuracy with which this is done. In the best perspectives the lines are first set out to rule in pencil, and are afterwards inked in by the unaided hand. In this way the stiff and conventional appearance of ruled drawings is avoided. Again the draughtsman must be able to work freely with his unaided hand, in order to put the lettering in neatly. It is surprising how many drawings are spoiled in appearance by the slovenly and inexact manner in which the lettering is done. On even, well-executed drawings it is not at all uncommon to see the lettering put in, as far as possible, by mechanical help, all the straight lines being ruled, and the curves put in with the compass. This practice is to be condemned, because the letters drawn in such a way will always have a stiff and inartistic appearance, while the very obvious manner in which they were drawn can scarcely redound to the credit of the draughtsman. In finishing off all drawings, excepting, perhaps, highly finished and elaborate perspectives, and other drawings of much importance, many architects only take the trouble to write the various titles upon the drawing, whilst others stamp them on with a rubber stamp, or stencil them on with special stencils made for the purpose. All these methods are equally objectionable. With a little practice anyone can learn to put in the lettering by hand almost as quickly as stenciling or stamping. For ordinary working details, and other purposes where a comparatively rough style of lettering suffices, the upright engrossing style answers very well, as it looks neat and is quickly executed. In ordinary "printing" letters it is usual to fill in each letter with a fine-pointed pen. This method, although probably the best where extreme accuracy is required, occupies too much time in ordinary cases. We therefore recommend students to try the use of the "inking in" pen for the purpose. It should be held in the hand in the same way as a pencil, and each stroke of a letter be traced with one movement of the pen. In working upon a smooth-surfaced paper or tracing linen, this method is of great advantage, as all

(Continued on page 10.)

CONTRACTORS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.

A List of Mechanical and Architectural Works

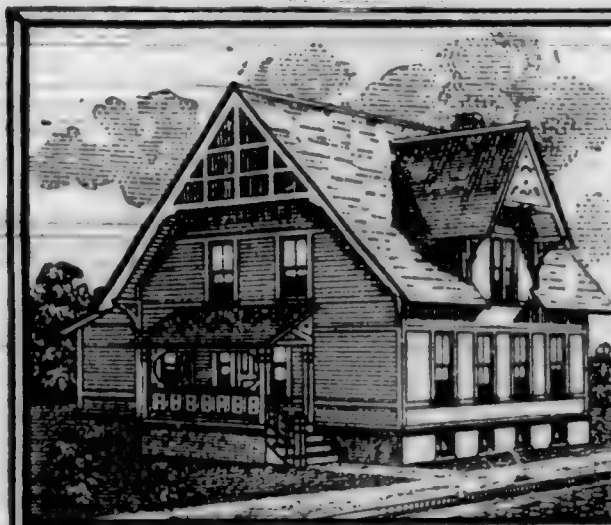
DEDUCT

ONE-SEVENTH FROM PUBLISHED PRICE.

The amounts given below are the Publishers' Cash Prices. We intend to reduce our stock, at present the largest of its kind in California, and therefore make the accompanying liberal offer. Select any work from the list, deduct one-seventh of the price given, forward us the money, and by return mail you will receive the book or books selected, with charges prepaid.

Bound Volumes of the California Architect and Building News, 1880 to 1886, \$2.00 each.

Street, Store and Bank Fronts,.....	\$2 50
Public Buildings,.....	3 00
School House and Church Architecture,...	3 00
Practical Carpentry,.....	1 00
Lessons on Hand Railing,.....	5 00
Stables, Fences, Out-Buildings, etc.,...	2 50
Artistic Homes,.....	3 50
Modern House Painting,.....	5 00
Old Homes Made New,.....	1 50
Foundations, (New Edition) No.,.....	2 00
American House Carpenter,.....	5 00
Cutting Tools,.....	2 00
Grimshaw on Saws,.....	4 00
Mechanics' Geometry,.....	4 00
Artisan,.....	5 00
Detail Cottage Architecture,.....	10 00
Builders' Guide,.....	2 00
Album of Mantels,.....	8 00
History of Architecture,.....	15 00
Building Superintendence,.....	3 00
Buck's Architectural Designs,.....	50
American Cottage Homes,.....	3 00
Village and Country Homes,.....	5 00
Science of Carpentry,.....	4 00
Universal Assistant,.....	2 50
Plaster, How to Make it,.....	1 00
Shavings and Sawdust,.....	1 50
Lumberman's Hand-Book,.....	2 00
Practical Geometry,.....	1 00
Practical Perspective,.....	5 00
Woodward's Country Homes,.....	1 50
Woodward's Farm Homes,.....	1 00
Woodward's Graperies,.....	1 00
Manual for Furniture Men,.....	1 00
Landscape Gardening,.....	1 50
Common-Sense Church Architecture,....	1 00
Painter, Gilder and Varnisher,.....	1 50
How to Paint,.....	1 00
Architects' Companion,.....	2 50
Model Homes,.....	1 00



Hand Railing and Stair Casing,.....	1 50
Drawing for Carpenters,.....	1 75
" " Bricklayers,.....	1 50
" " Cabinet Makers,.....	1 50
" " Stone Masons,.....	1 50
Building Construction,.....	1 25
Linear Drawing,.....	1 25
Cutting Tools,.....	1 50
Cumming's Details,.....	5 00
Carpenter and Joiner,.....	7 50
Stair Builders' Guide,.....	3 00
Drawing and Shading,.....	1 25
Carpenters' Manual,.....	50
Steel Square Problems,.....	1 00
Work Shop Companion,.....	35
Bound Volume California Architect,....	2 00
Specifications,.....	50
Barn Plans,.....	1 50
Solution Pyramid Problem,.....	1 50
Standard Scroll Book,.....	2 00
Swiss Cottage,.....	2 50
Every Man His Own Mechanic,.....	3 50
Tredgold's Carpentry,.....	7 50
Builders' Companion,.....	1 50
Builders' Work,.....	5 00
Builders' Construction, (Three Volumes, Very Fine).....	14 00
People's Cyclopaedia, (three large volume,)...	20 00
Homes for the People,.....	2 00
Mural Painting, (New).....	3 00
Home Hand-Book,.....	10 00
Ruskin's Works, (four volumes).....	6 00
Industrial Drawing for Carpenters,.....	2 00
Limes, Cements and Mortars,.....	4 00
Wonders of Art,.....	1 25
Architecture and Building,.....	3 50
American Cottage Building,.....	3 50
Windmills, by Wolff,.....	3 00
Illustrated Drawing Book,.....	1 00
Hand-Book of Legendary Art,.....	3 00

ART AND SCIENCE

OF CARPENTRY

MADE EASY.

REDUCED FROM

\$5.00 TO \$4.00.

MECHANICS' GEOMETRY,

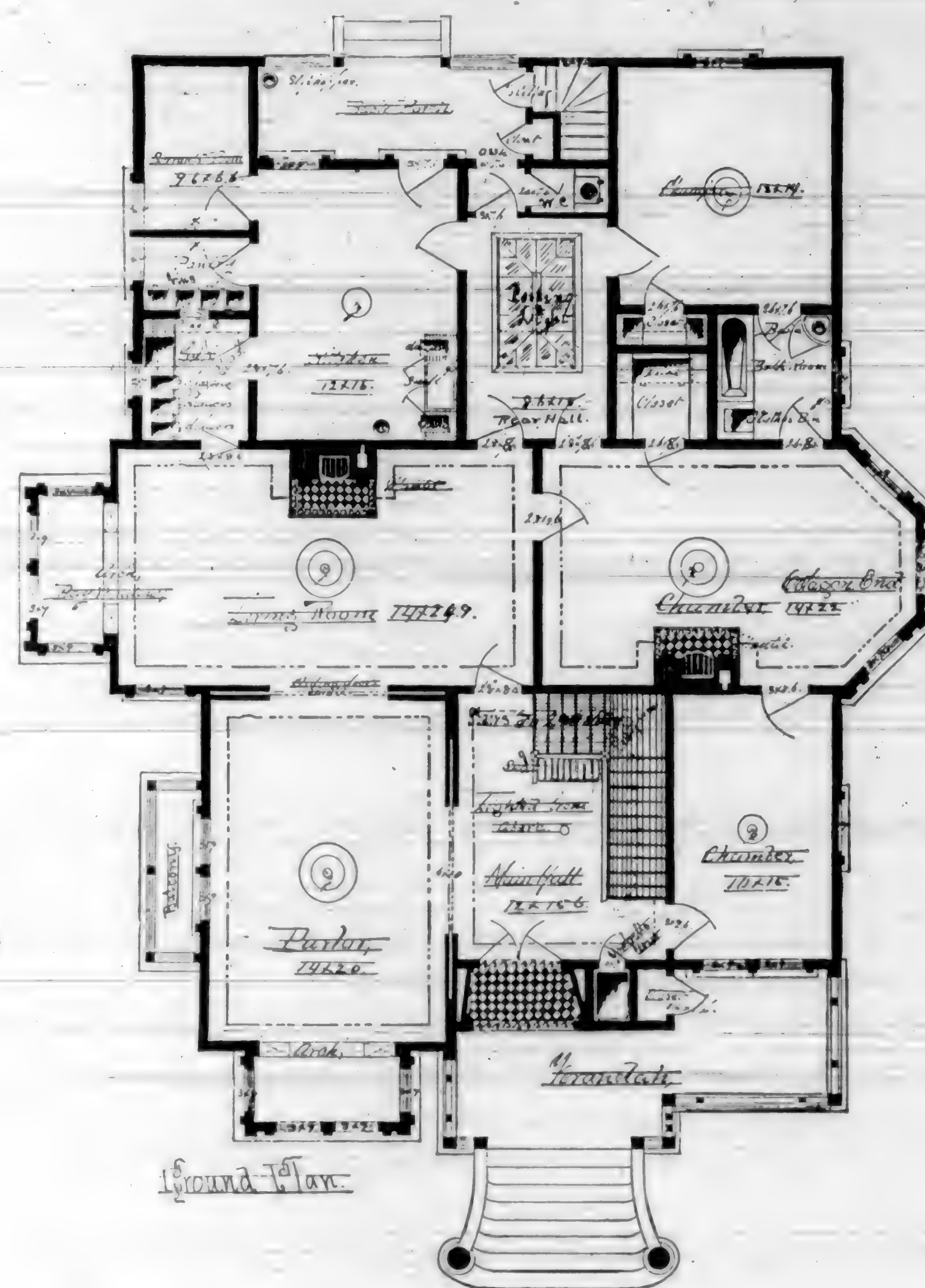
Or Science of Framing,

BY USE OF CARD BOARD MODELS.

REDUCED FROM

\$5.00 TO \$4.00.

OUR FEBRUARY ISSUE WILL BE REplete WITH INTERESTING INFORMATION.



PLAN FOR COUNTRY HOUSE. (See opposite page.)

the parts of the letters are of one thickness and uniform throughout, while the time occupied is little more than that taken in writing the word in the ordinary way.

Those who are deficient in the art of free-hand drawing will find the following an excellent system of practice. The object is to render the hand free, and to train the eye in accurately judging distances. Obtain a blackboard and a piece of chalk, or, in the absence of these, a sheet of rough paper—a newspaper answers the purpose—and a soft pencil. Then take chalk or pencil firmly between the finger and thumb, and rapidly draw a curve of some kind, moving the hand and arm from the elbow, and not from the wrist. Draw a number of curves in the same way in all directions, taking care not to sketch them, but to trace the whole curve with one movement of the arm. Then draw a number of parallel lines in various directions—horizontal, vertical, and oblique—and then draw fresh curves joining onto the straight lines. This is literally to “get the hand in,” and a half an hour’s practice occasionally will be of considerable benefit. The student may afterwards proceed to make upon paper careful copies of free-hand drawings, choosing at first figures of simple outline, such as the outline of a vase, or a number of curves meeting at a center and forming some kind of a design. The method in this case will be entirely different from the blackboard practice. Lightly sketch vertical and horizontal guide lines, mark off upon them points where the figure intersects, and then lightly sketch in the outline through these points, and, when satisfied as to the accuracy of the figure, complete with a bold, even, and continuous line. Remember that the distances must all be judged by the eye alone, and the use of rule or measure never be resorted to. After having become somewhat proficient with this class of figures, the student may next proceed to take more difficult copies. The designs for terra cotta, and other ornamental panels and belt courses taken

from the manufacturers’ catalogues, can be easily obtained, and will answer the purpose admirably.

The subject of coloring is important. Many a good drawing has been hopelessly spoiled by indifferent coloring. In most cases the colors required are simple washes, but it is quite necessary that they should be perfectly uniform. To obtain a flat, uniform wash, the drawing should be placed on a board, which should be slightly tilted. A full brush of color should be taken each time, so that there is always a little pool of color upon the paper until the bottom is reached, when it will be gathered up. The secret of obtaining good flat washes is to keep the colors very thin, that is, to add plenty of water to them. If the color is too thick it will not flow readily, and it dries too quickly to make it possible to obtain a flat and uniform wash. In cases where a deep flat wash is required, it may be easily obtained by giving the drawing several washes, one on the other, of course allowing each coat of color to dry before another is added. The colors used should be of the best quality. It is absolutely impossible to obtain a satisfactory result with inferior colors, no matter how skillfully they may be applied. Those imported and manufactured by either of the firms, Newton & Windsor, Rowney or Reeves, are among the best.

In conclusion, we would urge the would-be draughtsman to make a systematic study of the subjects above mentioned, to practice regularly and constantly, and to acquaint himself with the technical details of the art he proposes devoting himself to. If architecture, then the construction of the various details of building, making himself perfectly familiar with the various technical terms, and obtaining at least some considerable knowledge of the orders of architecture. Remember that absolute accuracy is not only essential to a good drawing, but that an error or a mistake of any kind in the plans may be productive of the most serious consequences when the building is actually erected. A case in point is within our recollection. A draughtsman, in drawing out

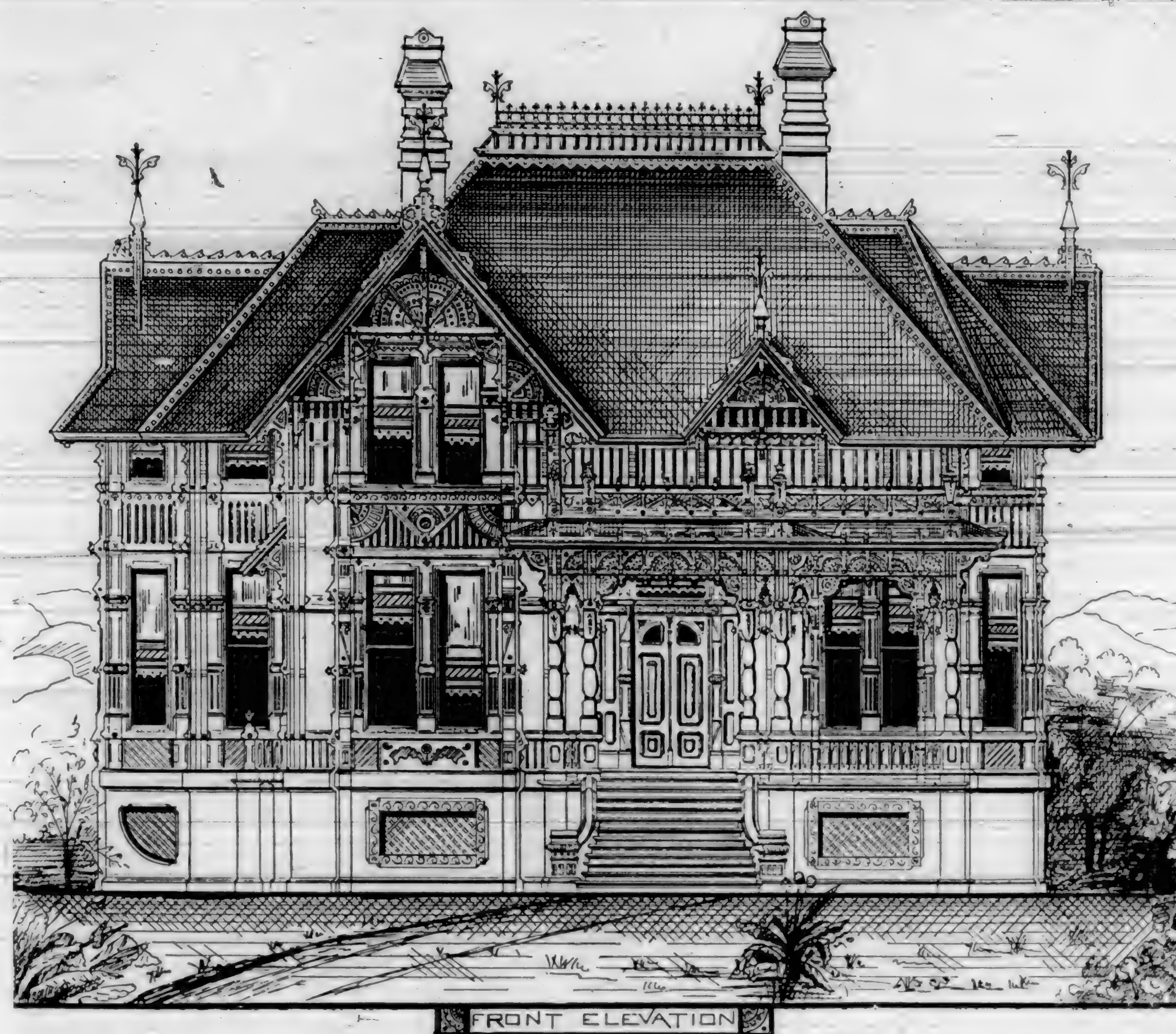
the plans for a certain building, omitted to show a window opening onto a light shaft. The plan from which the omission was made was of the second story and four upper stories, which were all alike. There were six houses being erected from the same designs, so that the simple omission of four lines from the drawing meant the omission of thirty windows altogether. The joinery used in the houses was supplied by a firm under contract for the whole quantity, and they of course declined to supply these windows, as they were not shown on the plans, and they had not therefore allowed for them in their estimate. A clause in the contract to the effect that every article of joinery necessary to properly complete the buildings should be supplied whether shown upon the plans or not, caused the owner to affirm that these particular windows were obviously necessary. Upon this, however, they could not agree, and litigation was the result, all caused by a small act of carelessness on the part of the draughtsman. Probably the best way to avoid errors is to carefully go over the drawings, after they are finished, in the most minute manner, and to check every detail and item. If the specifications are then prepared without reference to the finished drawings, and the two are afterwards compared, errors will be avoided as far as possible.

ARTUS.

A Popular Journal.

THAT this journal is extensively read, and its contents duly criticised, is proven by the fact that an error, which was shown in one of our plans not long since, has been the subject matter of twenty-nine communications received at this office in regard to the blunder. Who will say that this is not the best advertising medium on this coast, when even a little error is so extensively noticed. Terms for advertising are so reasonable that our pages should be filled with notices from those having wares in the building line to dispose of.

BOUND VOLUMES OF 1886 ARE NOW READY. PRICE \$2.50 EACH, POST-PAID.



DESIGN FOR A COUNTRY HOME.

Design for a Country Home.

WE are indebted to Messrs. S. and J. C. Newsom for the above elevation and the accompanying plan on opposite page. The arrangement is one that recommends itself to the lovers of a well-planned house. The elevation will suit those who desire a very showy house, without appearing too gorgeous.

Downing a Redwood.

NOW she takes it! Keep clear!” shouted Jim Lake, a muscular Sonoma “bull-whacker,” in warning to the group of woodchoppers in the redwood forest at the northern end of the San Francisco and North Pacific Railroad, as the death-rattle of a California giant was heard. After hours of under-cutting and cross-sawing, they had cut through all but one and a half inches of the monstrous trunk, fifteen feet in diameter, and the cracking of the wood announced that the monarch was about to fall. Its lofty top, 275 feet above the ground, wavered a moment, and bowed gracefully and with a stately air, like a grand lady courtesying; then gathering impetus as it left the perpendicular, the great trunk rushed to the earth with terrific force. Keeping to the course marked out for it by the woodsmen, it tore the foliage from the protruding limbs, filled the air with flying branches and bits of bark, swept away every article in its path, and descending with tremendous force, struck the ground with a thud to be heard a mile. Clouds of dust shot up sixty feet; the earth shook and rumbled. The prostrate giant trembled once from top to stump, and all was over. It was a death-scene of awful grandeur and solemnity. Even the lumbermen, accustomed to the sight daily, dropped their sledges, double-bitted axes, mauls, goads and water buckets, and gazed in silence at the overthrow of the many-centured monarch.

SOMETIMES an elevator brings a man nearer heaven than he wants to go.

Just Published, “Modern Architectural Practice.”

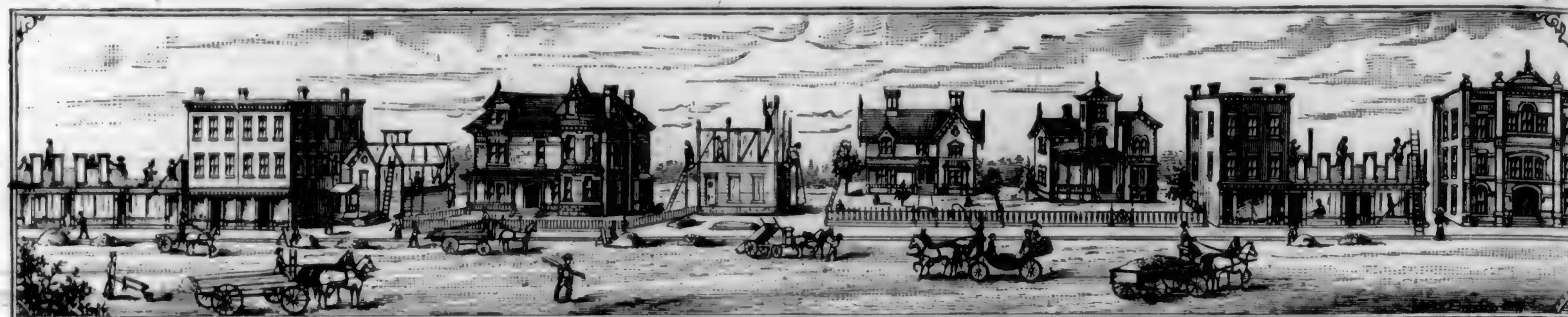
THE initial architectural publication for 1887 has been received. It is from the well-known architectural book publisher, W. T. Comstock. The full title of the book is “Modern Architectural Practice,” No. 1. A large country house. Bruce Price, architect.

In this work the author presents the full plans and details for a large building to be erected in San Mateo County, Cal. The general design is calculated to represent the “American style” of architecture. The author tersely remarks in the preface: “In handling the problem no style has been followed, for no style could be attempted in its purity. It would answer equally the assertion that ‘it is French in its feeling,’ ‘Romanesque in its handling,’ or ‘Dutch in its mass,’ still it is an American house, planned for American uses, and built of American materials. Its disposition of rooms is new to any style of the past, yet the wants of the client have been fully met, and upon them it has been built.”

The book is handsomely bound, printed on heavy paper, and contains twenty-four 12x15 plates, and full specifications illustrated by wood-cuts and diagrams, showing special features of construction; containing a large variety of doors, windows, and finish, wainscoting, paneled ceilings, staircases, balustrades, mantels, sideboard, pantry, bath-room, and laundry fittings, and other interior details; also exterior details, giving full and complete drawings of stone work, carved work, porches, main entrance, entrance doors, outlines of mouldings, gables, bay-windows, porte cochère, and all other details necessary for a full and complete understanding of the work. The price of the work has been placed at \$5.00, upon receipt of which we will forward a copy to any part of the country.

Set out your work with accuracy, and the time you will save will bring profit as well as credit to your employer and yourself.

NEW ENGRAVINGS—ORIGINAL ARTICLES—EACH SUCCESSIVE NO. WILL EXCEL.



COUNTRY BUILDING INTELLIGENCE

In this and succeeding issues we intend to devote considerable space to information in connection with buildings, from every portion of the coast.

Only reliable news will be found in this column. Our custom has been for the past eight years, to furnish only data which could be relied upon. We will not publish rumors of "THIS AND THAT IS GOING ON" unless we are reasonably assured that such is truly the case. We have been busy the past two months in perfecting arrangements by which we can secure information from every portion of the Pacific slope. In all cases we will file our authority for any statements made in this column. No doubt mistakes will sometimes occur, but these we intend to be a rare exception to our rule of reliable news.

For eight years there has appeared in this journal, building news from every portion of the country. But in its condensed form it did not attract the attention it deserved. We begin the New Year by making a specialty of the item mentioned.

We desire the co-operation of country editors and mechanics to this department of this journal. By spreading the news of building engagement in your part of the country, you enhance the value of your section by proclaiming it a go-ahead community.

Architects should also notify us of "plans to figure on;" we do not charge anything for the insertion of such notices. Remember this journal is in the EIGHTH YEAR of its existence, and is the only journal published this side of the Rocky Mountains in the interests of Architects, Contractors, and Material Men.

Alameda.

A new building will be erected on Park Street by Mr. Boehmer.

Artistic Homes, for \$3.50.
Modern House Painting, for \$5.00.

W. Augustine is erecting a cottage on corner of Pacific Avenue and Chapin Street.

American House Carpenter, for \$5.00.
Cutting Tools, for \$2.00.

A fine business block will shortly be erected on Park Street near the S. P. R. R.

Grimshaw on Saws, for \$4.00.
Mechanics' Geometry, for \$4.00.

Mrs. Gill is having built a \$2,500 house on Buena Vista Avenue.

Artisan, for \$5.00.
Builders' Guide, for \$2.00.

Robert Harvey is about commencing to erect a \$3,500 building on San Jose Avenue.

Album of Mantels, for \$8.00.
History of Architecture, for \$15.00.

Alvarado.

Large additions to the sugar factory are proposed.

Building Superintendence, for \$3.00.
American Cottage Homes, for \$3.00.

Anaheim.

Albrecht & Co. are erecting a brick building for Mr. Langenberger.

Science of Carpentry, for \$4.00.
Universal Assistant, for \$2.50.

Aptos.

The saw-mill at this place was lately destroyed by fire. Mr. Hihn, with his accustomed energy, has started to rebuild.

Plaster, How to Make It, for \$1.00.
Shavings and Sawdust, for \$1.50.

Crescent City.

Plans have been adopted for a \$5,000 school-house.

Lumberman's Hand-Book, for \$2.00.
Practical Geometry, for \$1.00.

Colton.

Plans are being prepared for a new opera house, by Mr. Grey, formerly of San Francisco.

Practical Perspective, for \$5.00.
Woodward's Country Homes, for \$1.50.

Clayton.

Geo. D. Nagle is erecting large additions to the winery of the Mt. Diablo Vineyard Improvement Co.

Woodward's Farm Homes, for \$1.00.
Woodward's Graperies, for \$1.00.

Davisville.

Leggett & Drummond are considering plans for an iron warehouse for storage purposes.

Manual for Furniture Men, for \$1.00.
Common-Sense Church Architecture, for \$1.00.

A Grangers' store and bank building is also on the tapis.

Painter, Gilder, and Varnisher, for \$1.50.
Architects' Companion, for \$2.50.

Duncan's Mills.

Lumber mills around this neighborhood are shut down for the season.

Hand Railing and Stair Casing, for \$1.50.
Drawing for Carpenters, for \$1.75.

Fresno.

M. H. White is erecting a handsome building.

Grimshaw on Saws, for \$4.00.
Mechanics' Geometry, for \$4.00.

It is rumored that T. E. Hughes, et al., are taking active measures in regard to the erection of a \$75,000 hotel building.

Artisan, for \$5.00.
Builders' Guide, for \$2.00.

Highland Springs.

On the tapis, the erection of a \$5,000 hotel.

Drawing for Bricklayers, for \$1.50.
" " Cabinet Makers, for \$1.50.

Los Angeles.

A large bank building is being erected, at a cost of \$70,000. S. and J. C. Newsom are the architects.

Drawing for Stone Masons, for \$1.50.
Building Construction, for \$1.25.

On January 7 a contract was let for a four-story building. Owner, Wm. Vickery; architect, R. B. Young. Cost, about \$35,000.

Album of Mantels, for \$8.00.
History of Architecture, for \$15.00.

Los Gatos.

Architect Clinch, of San Francisco, has just let a contract to Butler & McGowan for a three-story brick building for the Jesuit Fathers. Cost will be about \$35,000.

Cutting Tools, for \$1.50.
Cummings' Details, for \$5.00.

Madera.

C. S. Peek has signed a contract to erect a brick building, to cost \$6,000, for Mr. Schmidt.

Artistic Homes, for \$3.50.
Modern House Painting, for \$5.00.

Monrovia.

Twenty houses are in course of construction in this town. A street railway will shortly be commenced. Monrovia is in the neighborhood of Los Angeles.

American House Carpenter, for \$5.00.
Cutting Tools, for \$2.00.

New Lighthouse

Will be built in Suisun Bay, near junction of Sacramento and San Joaquin Rivers.

WE WANT A BUILDING CORRESPONDENT IN EVERY TOWN IN THE STATE.

San Bernardino.

Plans are being prepared for a hotel in East San Bernardino Valley.

Steel Square Problems, for \$1.00.
Work-Shop Companion, for 35c.

The contract for building a large hotel in San Bernardino has been let to Gray & Keefer, for \$61,500.

Bound Volume California Architect, for \$2.00.
Barn Plans, for \$1.50.

So great is the building activity in Ontario that the light of the moon has been utilized to further building interests.

Every Man His Own Mechanic, for \$3.50.
Tredgold's Carpentry, for \$7.50.

Santa Cruz.

A new hotel to cost about \$10,000 will shortly be erected here. J. S. Green is to be the owner.

Builders' Companion, for \$1.50.
Builders' Work, for \$5.00.

San Jose.

James Phelan is contemplating the erection of a new building to be used as a theater.

Builders' Construction (three volumes, very fine), for \$14.00.
People's Cyclopaedia (three large volumes), for \$20.00.

San Rafael.

Spencer & Rich are erecting, on the corner of Marker and San Augustine Streets, a two-story and basement brick building. Architects are J. Lenzen & Son, H. C. Skow being the contractor. Cost, about \$6,000.

Plaster, How to Make It, for \$1.00.
Shavings and Sawdust, for \$1.50.

The same architects and contractor are erecting, for Luis A. Arguello, a two-story brick building on First Street. Cost, \$11,500.

Lumberman's Hand-Book, for \$2.00.
Practical Geometry, for \$1.00.

A one-story cottage is being built on Tenth Street. Owner, W. Taylor; architects, J. Lenzen & Son; contractor, W. Taylor. Cost, \$1,500.

Practical Perspective, for \$5.00.
Woodward's Country Homes, for \$1.50.

Santa Rosa.

Contract for the new County Hospital has been let to Carle & Croly, of Sacramento. It will cost about \$10,000.

Mural Painting (new), for \$3.00.
Home Hand-Book, for \$10.00.

San Rafael.

J. Rosenthal is having a two-story frame dwelling erected, at a cost of \$10,000. S.

and J. C. Newsom are the architects, and Quink & Bignama, contractors.

Ruskin's Works (four volumes), for \$6.00.
Industrial Drawing for Carpenters, for \$2.00.

San Diego.

A large brick building for manufacturing purposes is being erected by Frank Kimball.

Limes, Cements, and Mortars, for \$4.00.
Wonders of Art, for \$1.25.

Seattle.

T. W. Bennett will shortly erect a large building for storage purposes.

Building Superintendence, for \$3.00.
American Cottage Homes, for \$3.00.

J. M. Colman will also erect a similar building to the above.

Science of Carpentry, for \$4.00.
Universal Assistant, for \$2.50.

Visalia.

A new hotel will in a short time be built at this place.

Architecture and Building, for \$3.50.
American Cottage Building, for \$3.50.

SAN FRANCISCO.

C
California, bet. Baker and Lyon. Two two-story frames.

O.—G. C. and Annie Fletcher.
A.—Charles Geddes.
C.—Gray & Stover.
\$8,500.

Church, cor. Twenty-ninth. Additions.
O.—Bowers.
\$600.

California, Nos. 1324-1328. Improvements.
O.—W. Dutton.
C.—W. H. Wharf.
\$750.

California, nr. Fillmore. Two-story frame.

O.—A. A. Bennett.
A.—A. A. Bennett.
C.—I. A. Boynton.
\$4,500.

California, nr. Fillmore. Two-story frame.

O.—A. A. Bennett.
A.—A. A. Bennett.
C.—I. A. Boynton.
\$4,500.

D
Dolores, cor. Twenty-eighth. Two-story frame.

O.—B. Blackfield.
\$2,500.

Dolores, cor. Duncan. One-story frame.

O.—B. Comerford.
\$1,000.

E
Eddy, cor. Steiner. Two-story frame.

O.—Kennedy.
A.—M. Balezynski.
C.—Smith.
\$9,000.

F
Fremont, nr. Mission. Four-story and basement brick.

O.—M. P. Jones.
A.—Wright & Sanders.
Mason—J. G. Leiert.
Carpenter—T. H. Day.
\$60,000.

Francisco, cor. Taylor. Three one-story frames.

O.—B. Fontana & Co.
\$8,000.

Fremont, nr. Mission. Four-story and basement brick.

O.—Mrs. Joseph.
A.—Wright & Sanders.
Mason—J. G. Leiert.
Carpenter—T. H. Day.
\$30,000.

Folsom, No. 1039. Additions.

O.—W. Dorgan.
A.—A. J. Barnett.
C.—C. S. Carter.
\$4,000.

Fair Oaks, bet. Twenty-first and Twenty-second. Additions.

O.—J. Bolger.
A.—T. J. Welsh.
C.—Doyle & Son.
\$2,000.

C
Guerrero, cor. Alvarado. Two-story frame.

O.—John Bell.
C.—Geo. Houston.
\$2,000.

Guerrero, cor. Sixteenth. Alterations.

O.—Pacific Improvement Association.
A.—J. Marquis.
C.—D. Perry.
\$4,500.

Geary, cor. Martha Place. Four-story brick.

O.—Chas. Schroth.
A.—J. Marquis.
Mason—G. Watterson.
Carpenter—J. Wilcox.
\$60,000.

Guerrero, cor. Alvarado. Two-story frame.

O.—Fogarty.
C.—McCormack.
\$1,700.

Green, No. 2112. Improvements.

O.—E. Fretwell.
C.—W. H. Wharf.
\$2,500.

H
Harrison, cor. Fifth. Two-story frame.

O.—A. Trobeck.
A.—W. P. Moore.
C.—L. Helbing.
\$2,300.

Haight, nr. Broderick. Two-story frame.

O.—H. J. Shillecock.
C.—W. F. Lewis.
\$3,500.

L
Larkin, cor. Vallejo. Two-story frame.

O.—J. Gandolfo.
A.—Townsend & Wyneken.
C.—N. B. Ritchie.
\$3,800.

L, bet. Seventh and Eighth aves.

S. S. F. Frame building.
O.—P. Riordan.
A.—W. H. Bayless.
C.—M. Murray.
\$1,500.

M
Mission, bet. Tenth and Eleventh.

Three-story frame.

O.—H. C. Patridge.
A.—R. C. Ball.
C.—J. J. Dunn.
\$6,000.

Mason, cor. O'Farrell. Additions.

O.—A. McCartney.
A.—H. T. Bestor.
\$1,800.

Mission, bet. Nineteenth and Twentieth. Two-story frame.

O.—D. P. Smith.
A.—J. T. Kidd.
C.—J. W. Meyer.
\$5,500.

Market, cor. Fremont. Five-story and basement brick.

O.—S. Lachman.
A.—Wright & Sanders.
Carpenter—J. Grant.
Masons—Riley & Loane.
\$180,000.

Market, nr. Eighth. Repairs.

O.—B. Anderson Bros.
\$500.

Mission, cor. Seventh. Additions.

O.—J. Easton.
C.—J. Ross.
\$700.

O
O'Farrell, bet. Powell & Stockton.

Brick building.
Owners—G. Walter, J. H. Roberts, A. Schroeffer.
A.—A. Schroeffer.
Masons—Wilson & Young.
\$5,000.

Oak, nr. Fillmore. Two-story frame.

O.—N. Wynne.
A.—J. J. Clark.
C.—J. G. Adams.
\$5,500.

O'Farrell, bet. Powell and Stockton. Brick building.

O.—A. Ludwig.
A.—H. D. Mitchell.
C.—C. Orr.
\$2,000.

P
Page, bet. Pierce and Scott. Two-story frame.

O.—F. Behre.
A.—B. E. Henriksen.
C.—Harmon & Trotter.
\$2,000.

Post, bet. Gough and Octavia. Two-story frame.

O.—Mrs. J. B. Elwert.
A.—W. Mosser.
C.—J. A. Ehmann.
\$6,000.

Pine, nr. Fillmore. Two-story frame.

O.—J. Paillason.
A.—Huene & Everett.
C.—Moore Bros.
\$5,000.

Post, nr. Devisadero. One-story and basement frame.

O.—A. Klain.
C.—F. Roettger.
\$1,800.

WE WANT A BUILDING CORRESPONDENT IN EVERY TOWN IN THE STATE.

S	Townsend , bet. Fourth and Fifth. Foundations (concrete) for three brick warehouses. O.—Mrs. M. F. S. Hopkins. A.—O. G. Moore. C.—C. A. Warren. \$3,000.
Second , No. 531. Two-story frame. O.—Mrs. M. Hauly. C.—W. E. B. Stiles. \$2,800.	Twenty-first , No. 812. Three-story frame. O.—C. R. Bishop. A.—W. F. Smith. Mason—C. Worrell. Carpenter—W. M. Fletcher. \$35,000.
Sutter , bet. Dupont and Stockton. Three-story and basement brick. O.—C. R. Bishop. A.—W. F. Smith. Mason—C. Worrell. Carpenter—W. M. Fletcher. \$35,000.	Twenty-sixth , bet. Valencia and San Jose ave. Two two-story frames. O.—B. F. Klatt. \$7,500.
Second , nr. Folsom. Four-story and basement brick. O.—Wieland. A.—W. Winterhalter. C.—J. Haaf. \$100,000.	Twenty-fourth , cor. Church. Two-story frame. O.—B. F. Klatt. \$2,000.
Sanchez , bet. Twenty-ninth and Valencia. One-story frame. O.—Anderson & Co. C.—J. E. Loomer. \$1,600.	Twenty-third , cor. Guerrero. One-story frame. O.—B. F. Klatt. \$2,000.
Santa Clara , cor. Mississippi. One-story frame. O.—Mr. Kelly. \$1,800.	Twenty-seventh , cor. Church. Two-story frame. A.—J. J. Crooks. C.—Eagan. \$6,000.
Steiner , nr. Eddy. Two-story frame. O.—P. Mesherrey. C.—Chas. Teuff. \$4,200.	V
T	Van Ness , bet. Sutter and Fern ave. Five two-story frames. O.—I. Kohn. A.—P. R. Schmidt. C.—P. Crichton. \$37,000.
Twelfth , bet. Market and Mission. Frame church. (German Cong.) A.—Kenitzer. C.—F. W. Kern. \$8,000.	

STEEL SQUARE, ITS USES, PRICE \$1.00.

IN selecting house decorations see that the effect is not destroyed by the surroundings; for instance, when the carpet is faded and the furniture shows many years of faithful service, by no means indulge in bright colors, plush and satin chair scarfs, elaborately embroidered table coverings. Where it is necessary to conceal defects, subdued colors have a more pleasing result.

GRIMSHAW ON SAWS, PRICE - - - \$4.00.

EDITOR BUILDING: I should like to have your opinion as to the respective merits of thick and thin mortar joints in brick-work. C. H. B.

The object of mortar in brick walls is to form an adhesive substance between the bricks, and it has little, if any, function beyond. The average bricks of which walls are composed are certainly harder than the hardest mortar, so that the object would seem to be to keep the joints as thin as possible for this reason alone. The wider the bed joints the greater will be the settlement of the building. For these reasons the mortar joints should all be kept as thin as is consistent with perfect adhesion between the bricks, and, without doubt, should be thinner than it is now usual to form them. The side joints will be regulated in size by the dimensions of the bricks. The quality of the mortar in a brick wall is of much more importance than would seem to be generally understood. This was well illustrated in an accident which happened recently in this city. A flour warehouse fell to the ground by reason of the bad mortar used in its construction. The flour barrels were loosely packed in such a manner as to throw considerable thrust upon the walls, and, the mortar being of very bad quality, the bricks were separated, with the result of bringing down the building.

Fire Hose and Garden Hose, W. T. Y. Schenck, 256 Market Street.

ONE thousand brick, closely stacked, occupy about fifty-six cubic feet.

SUBSCRIBE NOW FOR 1887.

ITEMS IN REGARD TO BUILDINGS IN THE COUNTRY THANKFULLY RECEIVED.

RETAIL PRICE LIST

LUMBER.

PINE, FIR, AND SPRUCE.		per M ft.
Rough Pine, merchantable to 40 ft. inclusive.		\$20 00
" " " 41 to 50 "		21 00
" " " 51 to 60 "		22 00
" " " 61 to 70 "		23 00
" " " 1x3 and 1x4, Fencing.		21 00
" " " 1x3, 1x4, and 1x6, Fencing, odd lengths.		19 00
" " " second quality.		16 00
" " " selected.		24 00
" " " clear except for Flooring.		29 00
" " " Flooring less than Dressed Flooring.		1 00
Fire Wood.		9 00
Dressed Pine, Flooring, 1x6, No. 1.		32 00
" " " other sizes, No. 1.		34 00
" " " all " No. 2.		27 00
" " " Stepping, No. 1.		40 00
" " " No. 2.		30 00
Ship Timber and Plank, rough, selected.		25 00
" " " selected, planed, 1 side.		27 00
" " " " " 2 " average, 40 ft.		29 50
" " " " " 3 " "		32 00
" " " " " 4 " "		34 00
Deck Plank, rough.		29 50
" " " dressed (average 35 ft.		34 00
Pickets, rough, B. M.		19 00
Furring, 1x2, per lineal ft.		05
Lath, 1 1/4 ft., per M.		3 50
" " 1 1/4 ft., " "		4 00
Rough dunnage, delivered, per M.		20 00
Spruce dressed shelving, to 14 inches, per M.		35 00
" " 1/2 inch " "		35 00
" " wider, per M.		40 00

REDWOOD.

REDWOOD.		per M ft.
Rough Redwood, merchantable.		\$20 00
" " " second quality.		16 00
" " " selected.		24 00
" " " clear.		33 00
" " " common surface.		22 00
" " " 1/2-inch surface.		28 50
" " " No. 1.		33 00
" " " No. 2.		26 00
" " " T. & G., 1x6, 12 ft. and over, No. 1.		30 00
" " " " " other sizes, No. 1.		30 00
" " " " " 7 to 11 " No. 1.		26 00
" " " " " under 7 " No. 1.		23 00
" " " Rustic, No. 1.		33 00
" " " " " No. 2.		28 00
" " " T. & G. beaded, 12 ft. and over, No. 1.		33 00
" " " " " other sizes " No. 1.		33 00
" " " " " 7 to 11, No. 1.		26 00
" " " " " under 7, No. 1.		23 00
" " " Siding, 1/2 inch.		23 50
Pickets (fancy), 4 feet, B. M.		25 00
" " (rough pointed) " "		17 00
" " " square " "		15 00
Battens, 1x3, per lineal ft.		03
Shingles, per M.		2 00
" " fancy, per M.		3 75
Posts, split.		13
Shakes, split, per M.		9 00
" " sawed " "		11 00

Master Plumbers' Association.

Howard Building, S. W. Cor. Stockton & O'Farrell Sts., S. F., Cal.	
MEMBERS.	
BUSH & MALLETT.	34 Geary Street
BUSH, D.	316 Sutter Street
BUTTERWORTH, J. B.	1809 Polk Street
CONNOR, J. H.	528 Third Street
DANIEL, Wm. L.	234 Post Street
DOHERTY, JOHN.	349 Kearny Street
DOWNES, CHAS.	41 Second Street
DUFFY BROS.	17 Trinity Street
ENRIGHT, Wm. & Co.	39 Sutter Street
FYRMIN, Jno. L. E.	Cor. Thirtieth and Bartlett Streets
FRITZ & KEAN.	130 Geary Street
GRAY, Jno. T.	230 Sutter Street
HUFFSCHMIDT BROS.	637 Clay Street
HOBRO, W. D.	728 Washington Street
REILLEY, C. J.	214 Montgomery Avenue
SHEPARD BROS.	526 California Street
SWEENEY & KEARNS.	623 California Street
VANCE, R. A.	623 Geary Street
WELCH, J. D.	Cor. Tyler and Fillmore Streets
WILSON, Wm. F.	25 Stockton Street
WILLIAMSON, H.	329 Sutter Street

THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

VOLUME VIII

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

NUMBER 2.

THE California Architect & Building News.

The official organ of the San Francisco Chapter American Institute of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO. No. 240 MONTGOMERY STREET, Rooms 11, 12, 13.

Terms per annum - - - \$2.00 in advance.

When money is sent for subscriptions, the receipt of a copy of this Journal is an acknowledgment that it has been received. Unless requested we do not send receipts.

OUR ADVERTISING RATES.

Front Cover, Outside, Each Insertion	Per Square \$ 2.50
Back Cover, Outside, Each Insertion	do. 2 00
Page Preceding Reading Matter	do. 1.75
Page Following Reading Matter	do. 1.50
Inside Pages	do. 1.00
Full Page Inside	One Insertion 40.00
Each Subsequent Insertion according to Agreement.	

A Square is One Inch In Depth By Width of Single Column.

Advertisements alone inserted that refer to materials used in the construction and furnishing of houses, and to matters and trades belonging to the building interest.

No Others Received.

SAN FRANCISCO, CAL., FEBRUARY 15, 1887.

Our patrons are informed that Clarence L. Crabbe has no connection whatever with this Journal. He is not authorized to make any collections, or receive either subscriptions or advertisements.

Bound Volumes of the year 1886 are now ready. We will forward a copy to any address upon receipt of \$2.50.

Mechanic's Lien Law, Twenty-five per cent, Thirty-five Days, Filing Contracts, etc.

THE law as it now is, among its many other maladroitnesses, makes it obligatory upon owners to retain in their hands twenty-five per cent of contract sum, for a period of thirty-five days from and after date of completion of buildings, or works of any kind, with the alternative that if said twenty-five per cent is not so retained, the owner remains liable to creditors of the contractor, who may have performed labor, or furnished materials, for the period of time named, although the owner may, in good faith and with honest intent and purpose, have paid the full sum of agreement to the contractor, at completion, or prior to the expiration of the thirty-five days. Consequently, if an owner presumes to act kindly, and pay promptly upon completion for the materials and labor performed for, furnished to, and enjoyed by him, he must assume all the risks and chances that may follow the payment of more than seventy-five per cent of the amount of contract price, prior to the ex-

piration of the time provided in the statute—nearly one-tenth of a whole year.

The thirty-five-day clause serves no good purpose, nor is it just when made compulsory by legal enactment. Parties to any transaction may agree upon credit payments, but when a form of law is passed by the law-making powers, which proposes to compel men to give and accept credit, whether they desire to do so or not, is an invasion of personal and business rights—"special legislation" in that its operation selects a special class of operators, and subjects these to its special penalties. In addition to this, it imposes positive hardships and inconveniences, more or less upon all concerned, but especially upon those least able to bear them—sub-contractors—who, as a rule, need all they earn as soon as it is earned, and being kept out of any portion of their earnings for thirty-five, or any other number of days, is a deprivation both unjust and unfair. For while some of our building contractors have the means to liquidate all claims against them, promptly, the larger number are possessed of no bank accounts, and can only pay as they receive the contract payments; and as a further rule, stair-builders, plasterers, plumbers, painters, and other sub-contractors, are made to have a part of this thirty-five days' requirement, and it is no wonder that "the Lien Law," is a common expression among those who are compelled to bear the burdens it imposes.

Hundreds of thousands of dollars are continually tied up by this process of law, which should be in circulation. But few owners are benefited by this delay in payments, as but infinitesimally few, if any, commence building improvements with any consideration, if even a knowledge of the fact that the law gives thirty-five days' credit on one-fourth of all contract sums they may enter into, exceeding \$1,000. Nor is it likely that one in one thousand would commence building simply, or to any extent, by reason of this provision of law. Owners, as a rule, see to it that their resources are, or will be equal in proper time to any undertaking ventured upon; and again, as a rule, payment at completion is convenient, and is preferred to having an unsettled balance hanging for thirty-five days. The few who would desire such accommodations, can always make the arrangements, without any necessity of forcing anyone to accept an undesired thing.

It gives no additional security. It is a bad law, in that it does not increase security to any creditor of a contractor, except that it operates as a period or specie of notification, in which creditors may be able to find out that certain contract money, as a whole, has been earned. If upon this is based the merits of the provision in question, it is a heavy imposition upon very many innocent parties, and is a legal circumlocution which could be greatly simplified by aiming directly at the evil sought to be remedied—that of dishonest men receiving the moneys of contracts, and failing to pay their debts. If creditors must be notified, if they are unable to keep the run of things, and cannot rely upon the integrity of their customers, the law otherwise provides—sensibly—a means of protection, i. e., notify the owner, which done, the owner must reserve the amount of claim from the contract amount, or be responsible to the creditor in the amount due him. Thus every creditor, by taking timely precaution, can make himself safe, without the unfair, unjust, and iniquitous imposition of a penalty of thirty-five days' waiting for the payment of moneys due. "Delicacy" toward the man mistrusted is the common excuse for not pursuing the notification course. "Don't like to," for fear of offending—who? The man whose honesty or ability to pay is questioned. But this course would require personal action and individual responsibility; hence the promoters and advocates of the thirty-five days' rule shirk this plain, reasonable, and effective method, and skulk behind the bulwarks of ungenerous legal construction, to avoid a course that might, perchance, displease a customer who had been suspected as more dishonest than he proved to be, even if this shirking disposition has the effect of paralyzing the circulation of a few hundred thousand, or, perhaps, a million dollars.

Banks and loaners gain, borrowers lose. Loans, particularly

EACH SUCCESSIVE ISSUE OF THIS JOURNAL WILL SHOW A MARKED IMPROVEMENT.

when money is tight and interests comparatively high, are charged to the borrower from the time the loan is granted, upon the theory that the amount of the loan is "set apart to the borrower," at the time the loan is passed upon. This, however, is not practically true in all cases, but when applied, operates as a grinding process upon the borrower, who receives no abatement of interest during the thirty-five days, while the bank or lender is at liberty to speculate with the moneys "placed to the credit of the borrower," for the full period of the law's delay, and thereby receives double interest on the amount.

Designed to head off rogues. Yes; at whose expense? Every body concerned specially, and the entire building trade in general. The framers of the preposterous proposition failed to take in the whole situation, or to exercise intelligent comprehension as to effects, in that in the attempt to catch the dishonest, good men's rights are throttled. Legislation which proposes to withhold moneys due, rightfully belonging to other parties, is ill conceived and unjust. As a matter of course the law is general in application, and good men may be punished by its provisions, in that they may be deprived of moneys due them by right, if not by law. Of course, owners under contract with good, responsible men, may pay the contract moneys at pleasure, and assume the risks in doing so, but some are apt to utilize the legal privilege of holding onto their coin as long as the law allows, and this is more likely to be the case in large jobs, involving large sums, more than in those of moderate cost. Take, for instance, the Flood building, on Market Street, the contract of which for carpenters' work alone, amounts to over \$100,000, and with the other contracts, a total of over \$300,000, which leaves in the hands of the millionaire owner, under the thirty-five days' clause, of the contract amount earned at completion of the building, seventy-five or more thousand dollars of moneys rightfully due others, who may stand, hat in hand, and beg, while the owner may laugh and reply: Wait the law's appointed time; and I will pay you what you have already earned.

The intent of those who manipulated the framing of the present law, was, in the main, good, in that it proposed to provide better security for the payment of material men, sub-contractors, and workmen, with that other nicely worked in, objectionable joker, which makes those furnishing materials the second in class of preferred creditors, labor being first, leaving "sub-contractors" third, with no chance to get any pay, provided the balance due on contract amount at final settlement should be no more than sufficient to pay, first, workmen; second, material men. To claim fairness or equity in such an arrangement of law, is simply a ridiculous absurdity. In cases where there are shortages in the contract sum, imposing the only alternative—pro rata settlement, every individual creditor is, by every consideration of right, entitled to a fair and just proportion of the money to be divided. But the last amendments to the law, those now in operation, were brought about through the efforts, and at the expense of those who were personally interested in classifying the "rank of each lien," as follows: First, all persons performing manual labor; second, "persons furnishing materials;" third, "sub-contractors;" poor fellows, how gratifying to them to stand by and see the wealthier class, the class abler to lose, step in and take all that is due them, if there is enough for that purpose, and if not enough, then to take all there is, and those who have furnished both material and labor, as "sub-contractors," be smiled at as unfortunates, because in the third class, yet as justly a creditor, and entitled to pay as much as those who receive all, or the larger portion of their claim.

The filing of contracts in the manner provided by the law, to wit, "prior to the commencement of the works," is mischievous, oppressive, and unjust, in that it jeopardizes and endangers the rights of owners and contractors, if not so filed in point of time, the Superior Courts holding that the plans and specifications are parts of the contract, and must also be filed, and sometimes to do this, the commencement must be delayed, which should not be rendered necessary by unwise, and impractical legislation. Yet if the filing is not done in time, the contract obligation is rendered void, and the owner must suffer, while all the purposes of filing might be as well accomplished, if filed within five (or ten) days after "commencement" was inserted for the arbitrary "before." The less than one dozen of those interested in the entire building business in San Francisco, who hold to the "before," use a very unfair argument in defense, by claiming that there are contractors who, in less than ten days after commencement of the work, can and do practice deceits and rascalities which would not be possible by an earlier filing. To admit this as true, it does not reflect much credit upon the intelligence or acumen of those who allow themselves to be caught by such (very few) disreputable fellows, for none but men without busi-

ness standing or reputation would do any such rascally things; and if such persons can ply their games, and beat men of long business experience as material men, mill men, etc., those beaten ought to acknowledge themselves beaten, and keep quiet through shame at the own want of fair business smartness, rather than seek to impose onerous exactions upon ninety-seven-hundredths of those who are square and upright in all their transactions. There is a moral debasement running all through the law, as it is, which aims at protection to material men, etc., without any consideration of the rights and conveniences of honest mechanics, architects, or owners, for which reasons the law should be, and likely will be amended during the present session of the Legislature.

Contract Equities.

THE greater number, in fact nearly all building contracts, are made up from the owner's standpoint, and either the architect or attorney who formulates the obligation, is very careful to include and guard his client's every interest, with no special provisions protective of the party of the second part—the contractor. Building contracts, in a general sense, propose two things: First, that the contractor shall furnish and provide the material and labor required to carry out and fulfill the requirements of the plans and specifications, and, second, that the owner is to pay the agreed sum of contract for the proper execution of the work contemplated by, and defined in, the agreement.

If there were no contingencies involved or possible, a contract containing no more than is written above, would serve all practical purposes. But as it is, there are numerous possibilities that may arise during progress, in reference to quality of materials sought to be used, character of workmanship, delay in progress of the work, liabilities for debts created by the contractor, injury to person or property, and a variety of mishaps that the owner must be protected against. This is usually carefully attended to in preparing the contract, with scarce a word not intended to obligate the contractor. He must do this, and that, and the other thing, just in the way and manner prescribed by the plans and specifications, subject to penalties and charges for all neglects and failures that may occur; but it is seldom that contracts provide against hardships that may be imposed upon the contractor. Yet alike, the man who builds a building, using his skill and mechanical abilities and his means and credit to fulfill his agreement, and he who pays coin for such fulfillment, have rights and equities, which should be respected and properly treated in the one as much as the other.

The figuring and valuations leading to contracts, are usually based upon the plans and specifications, and if the plans do not show and fairly represent what may afterwards be claimed as the "true intent and meaning" thereof, the architect producing the plans being the "conclusive" authority upon the point of intent and meaning, the man most affected by the interpretation, is obliged to accept the rendering of the architect, and proceed accordingly, although doing so may add materially to the costs of the work, more than would be required if the plans were interpreted by disinterested parties. Plans intended to show, and properly showing true intent and meaning, may be widely differing propositions.

The specifications are another most important factor, and if so sufficiently clear and intelligently drawn as to cover all requirements, there can be no issues in regard to them; but if vague, and possible of more than one construction, they thereby become misleading; and if "conclusively" read and interpreted by the man who in haste put them together with omissions, or through incompetency failed to incorporate all that was wished for by the owner, the effect upon the contractor is the same, if bound to submit to an arbitrary rendering.

Again, under rulings of the courts in this State, if an owner neglects or refuses to make the progress payments, the contractor is not thereby relieved from progressing with the work, nor can he claim such non-payments as "prevention of contract" by the owner; but he must go on and complete before he can lien the property or commence legal proceedings to recover the contract moneys. Or an owner may not be prepared at the time called upon to make a payment, or he may hold the moneys due the contractor for speculative purposes; meanwhile the contractor must go on, nurse his credit, provide the necessary cash to pay workmen, and suffer many hardships, because the owner pleases, or is forced to delay payment.

Certainly these, and numerous other considerations, which space will not permit us to recite in this issue, should influence both architects and owner to a reasonable and just appreciation of the equities which should be incorporated in building contracts.

San Francisco Chapter American Institute of Architects.

THE regular monthly meeting was held on the evening of the 4th inst., A. Piasis, president, presiding; B. E. Henriksen, Secretary. The committee appointed to interview the freeholders in reference to the Board of Public Works, reported that nothing had been accomplished in regard to the subject matter of its appointment.

James E. Wolfe, of committee to confer with a like committee from the Builders' Association, in reference to a uniform builders' contract, reported that the conference of committees had prepared and submitted a form of agreement, which was thought to adjust the rights and equities of both contracting parties, in lieu of the usual rather one-sided obligation generally used, in which the binding claims are more oppressive than generous to and upon the contractor. The new form presented for the consideration of the Chapter, suggested clauses of contract which, while compromising none of the owners' fair and reasonable rights, extended such reliefs and qualifications to the parties of the second part, as were consistent with fair dealings between man and man. A motion to accept and file was debated, the Chairman of the committee urging that the Chapter should express its approval or rejection, or suggest such amendments to the proposed form as would make it acceptable; but the sentiment prevailed that each architect should enjoy the right to draw up contracts to suit his own and his client's notions, and if the building clauses should be distasteful to the party of the second part, he could exercise the right to decline signature, leaving the architect the alternative of letting the work to some other party less scrupulous in regard to obligations which might, under certain conditions and circumstances, be made severely oppressive. The motion to receive and file, prevailed. Hence the time and labors of the joint committee resulted in waste, as far as concert of action by the Chapter was concerned.

A report was also received, through the same source, in reference to the amendments to the mechanic's lien law, stating that material changes and amendments have been formulated and forwarded to Sacramento for legislative action, with the hope that our law-makers, now assembled at the State Capitol for the ostensible purpose of legislating for the common weal, will oblige nine-tenths of their constituents engaged in the building business, by expunging many of the hardships and weaknesses of the law as it now exists, and substituting fairer and more equitable and practical features, much better calculated to insure the purposes of the statute, without imposing any of the many—at present impractical and bad—conditions of the present law. Two of the most important changes modifies the present requirement that twenty-five per cent of the contract sum shall remain unpaid until thirty-five days from and after completion, to a delay of ten days; also, that instead of the contract being filed before the work is commenced, the time for filing to be extended to within ten days after commencement.

A paper was read by Mr. Gash, on the subject of ancient and modern plumbing, which, by order of the Chapter, is published in full in present issue of this journal.

Contractors Should Secure Fair Prices.

IN a short time building activities for the year 1887 will be fairly begun. Let each contractor resolve that he will maintain prices throughout the year. There is nothing so detrimental to the building trades as dishonorable competition. If you cannot figure to do good work, furnish good material, and pay reasonable wages, leave the job alone. If builders could combine and hold to fair prices, there would be a great deal of money made this year. Do not charge exorbitant prices for your work or owners will invest their capital in other ways. But figure so as to make a fair margin and enough to allow for extras. The common complaint among builders has been that such close figuring was done that legitimate contractors could not get enough work to keep their men going. Somebody gets beat. Is it the owner, the dealers in building material, or the contractor? We think in many cases it is the three. Why disgrace the profession in this way? Just as much work will be done if contracts are figured so as to leave a fair margin as there will be if the figures are so low that everybody will be beat. Turn over a new leaf this year and make some money.

JUDGE MILLER recently decided a case in the New York Court of Appeals, in which he held that if the owner of a building employs a mechanic to make repairs upon the same with no specific arrangement as to terms and conditions, such employment is in the nature of an independent contract, which imposes upon the employe the responsibility incurred by the negligence of himself or those who are aiding him.

Building Summary for February.

THE past month has been dull, as far as letting new contracts is concerned. Allowance must be made for the bad weather of the past few weeks. During the month just passed, the following summary will show the number of building engagements, and the value thereof:—

30 frame buildings, value.....	\$126,000
5 brick ".....	53,250
13 alterations and additions, value.....	25,200
48	\$204,450

Why Are Bath and Water-Closet Combined?

MODERN houses located in cities, all contain a convenience the names of which are too numerous for mention. Perhaps the French No. 100 is as good as any. "Retiring Room," is a euphemism which will meet the same fate as the once delicate word "privy," which signified a private retiring room. Whatever its name, we all want it, but we want it perfect of its kind, able by its mechanical construction to remove from us without injury to our senses or our health those matters for which the body has no more need.

Most modern houses also contain another convenience, to some extent a necessity, but in great part a luxury. This consists of a tub, usually resembling a coffin in shape, and capable of containing enough hot or cold water to cover the body. At its simplest, a bath is a matter of cleanliness; but in its most developed condition it may be considered one of pleasurable sensations, and it is to be noted that unless the latter are received by the bather, he is much inclined to omit the bath.

No matter how carefully the privy, water-closet, retiring-room, or whatever else it is called, be constructed, the sense of smell will always find some offense there, and that of sight may at times have its delicacy offended. Since this is the case, the question may be asked, "Why is it usual to locate the water-closet in the bath-room? Why is the bather condemned to have his sense of smell offended by emanations which proceed from matters excreted either by his own body or those of other members of the family? What natural connection is there between a water-closet and a bath."

If the matter were simply one of smell, or even one of smell and sight combined, it might concern delicacy, but would have no grave import. But in fact it is a matter of health also. Even though the closet be as perfect as plumber and sanitary engineer can make it, it ought not to be combined with the bath-room because of the possibility of derangement, the probability of its use by members of the family suffering from sickness or disease, and the fact that it requires conditions different from those of the bath-room in order to maintain it perfect. For half the year, at least, through our long winters, the bath-room, if it is to be at once a source of health and of pleasure, requires to be heated, while the closet is decidedly better without any artificial heat. The former is, or ought to be, a place in which we spend some little time, while the latter is, or ought to be, for actual necessity only.

It is comfortable, no doubt, at times, to have the closet handy, and handy it can be, but should be accessible from the bath-room only by passing through a door. It should be so placed that access to it can be obtained without entering the bath-room, so that it can be used by one member of a family while another is bathing. Who among us does not know the misery of waiting until another has bathed, or the equal misery of bathing while the too handy necessity beside the bath is in use?

A great deal of modern delicacy is opposed both to convenience and health; but here is a matter in which convenience and health are consonant with delicacy, since the last is in the highest degree outraged by the usual arrangement; yet delicacy has not yet taken umbrage at the unholy union of privy with bath, nor have convenience or health brought in their batteries against it.—W. N. Lockington, in Builder and Decorator.

Something to Be Remembered.

SWING all doors to the right as you enter an apartment; they are thus handled conveniently.

It is better to oil floors than to paint them; a monthly rubbing will make them as good as new.

Soiled wall paper may be cleaned with dry bread carefully applied.

Leaks in sewer or plumbing pipes may be detected by injecting oil of peppermint into any portion of the apparatus.

If varnish or oil does not flow easily, add powdered camphor. Shellac and borax boiled in water produces a good stain for floors.

NOW IS THE TIME TO SUBSCRIBE FOR 1887, \$2.00 PER ANNUM, IN ADVANCE.

BUILDING CORRESPONDENCE DESIRED FROM EVERY PORTION OF THE PACIFIC SLOPE.

Evolution in Architecture.

BY H. M. HUGUNIN.

THE gradations that have occurred in architecture from the earliest period to the present day are as marked as those that distinguish every other branch of art. The earliest dwellings of which we have any record were caves, or grottoes, which date to a time before ancient Troy was built. Some of these

ANTIQUE CAVERN-DWELLINGS

Are said to have recently existed in the Island of Sicily; and on the coast of Syria, not many years ago, was an extensive subterranean city, constructed like a beehive. Mud buildings were imitations of martin's nests, and Plutarch mentions cottages made of framework and mud. In the days of Abraham the nomadic tribes

DWELT IN TENTS,

Which they removed from place to place as the exigencies of their herds required, and in Arabia the wandering tribes still live in their primitive houses. These, with the caverns, the mud kraals of the Hottentots, and the wigwams of the American Indians, were the first habitations of man. In form the kraal and the home of the Esquimaux resemble each other. The one, however, is built of mud, and the other of ice.

Towns were originally built for protection, and erected like fortresses, and to them the herdsmen and tillers of the ground retired when endangered by their enemies.

Of the cities now existing, Damascus, in Syria, is the oldest, and to this day retains many of its early characteristics. The

WIGWAM OF THE AMERICAN INDIAN.

In all tribes, from the arrival of Columbus, in 1492, to the present era, displays its original features, although native skill has sometimes produced a few changes in the material. Poles united at the top, and so spread at the bottom as to encompass a few square feet of ground, form the accustomed frame. Upon this are fastened strips of bark or the skins of animals. The ground is the floor, on which a fire is built in the center, the chimney consisting merely of an opening left in the covering at the summit of the structure. Here the family reside until a scarcity of food or other social need compels them to remove to another locality.

THE HOME IN THE FOREST.

When white men began to emigrate from the Old to the New World, the conveniences to which they had been accustomed, and the inconveniences of the Indian wigwam, led them to erect dwellings more suitable to their tastes and habits. Unlike the Indians, they were producers of various crops, and required more land or a homestead. Shelter was a prerequisite while they were clearing away the forest and preparing the soil for cultivation. Building materials and tools were scarce and of the rudest sort; and the home was made of branches of trees for framework, covered and floored with slabs or boards roughly hewn from fallen trees, with fireplaces and chimneys wrought with stones and clay. In other cases the trunks of trees were piled one upon another, leaving great intervals of space between, to be filled with strips of wood and mud. Roofs were constructed of rough slabs, boards, or bark. Windows were few and consisted, in the warmest season, principally of open spaces in the walls. In such dwellings were born and reared some of the noblest men and

women whose names and deeds emblazon the records of this nation. The ancient cottages of Great Britain, were a trifle in advance of the first home in the wilderness, but still devoid of elegance in either construction or material. Low walls of stone, the doorways reaching nearly to the eaves, the diminutive, latticed window, and the roof thatched with straw, composed a dwelling both picturesque and comfortable for the rustic family. In such a residence was born the favorite Scottish poet, Robert Burns, near Ayr, in 1759.

The house where George Stephenson, "the father of English railways," was born, at Wylam, England, shows a better class of rural cottages, but is lacking in every element of beauty, indicating the rude, practical rearing of the common laboring class. But the genius of Burns and of Stephenson have cast about these cottages haloes of glory that make them very attractive.

EARLY HOMES IN AMERICA.

In America, also, the early homes of many of our millionaires, statesmen, and warriors were no better than those in which the great and noble of Europe were first cradled. General Grant's birthplace on the banks of the Ohio; the log cabin of Abraham Lincoln, in the wilds of Macon County, Ill., in 1830; and the first home of Jay Gould, in Connecticut, are fair examples of the dwellings in which many of our most noted men have been reared.

But as the country gradually developed, and its varied resources were brought into requisition, one by one, the agriculturists became competent to erect better dwellings, and with the increase of commerce, merchants acquired more room and means for the exercise of their social tastes, and soon

RURAL AND METROPOLITAN MANSIONS

Began to beautify the natural surroundings of town and country. The plain stone or brick mansion, with its square windows and corners, its porticoes with massive columns, its general air of solidity and comfort, with here and there an ornamental gable, a bay-window, and graveled walks in the gardens, filled with beautiful flowers, succeeded to the uncouth wooden tenement of former years of frugality and privation.

VARIATIONS OF ARCHITECTURE.

Architecture, like the fashions in dress, has varied with each succeeding age, governed by the necessities of the people quite as much as by their tastes. In the old medieval days of knightly lords and fighting henchmen, arose the turreted strongholds, the impregnable castle, the moat, the drawbridge, and the guarded approach; and the edifices of that age, ruined and picturesque, now adorn many a landscape in the European States. Then rose the abbey and

THE BUTTRESSED CATHEDRAL,

With their quaint forms, their solid masonry, their gorgeous windows, their imposing towers, and their fretted interiors, dignified, solemn, and inspiring throughout.

Later ages brought more cheerful ideas of social and religious life. The knights, henchmen, and monks passed away. The new generation was more peaceful. Taste succeeded strife and spoil. Learning and the arts of peace became popular, and genius evolved new and more pleasing forms of architecture. Mansions grew less like castles and dungeons, cathedrals became churches, with more of light and love in their worship, and dignity and arrogance gave



ARCHITECTURE AMONG THE NORTH AMERICAN INDIANS.

A primitive home, easily taken to pieces, and carried about the country.



THE LOG HOUSE.

The style of building common among the early settlers in the United States.

place to gentler emotions. Sociability led to frequent exchanges of opinions; men cultivated those things in architecture and art that tended to elevate the mind, educate the taste, and develop comfort, convenience and elegance in the home.

THE PROGRESS OF IMPROVEMENT.

As the arts and sciences expanded, they were pressed into service for the improvement and adornment of the residence.

Old-fashioned systems were discarded, and new materials and new arts were brought into requisition for the expression of the spirit of the age. The grate superseded the fireplace; the stove succeeded the grate; the furnace took the place of the stove; the steam-heater crowded out the furnace. The whale-oil lamp pushed the candle out of the family room; kerosene oil superseded whale-oil; coal-gas threw both oils out of the household economy, and electric lights drove gas-light into the background. So in architecture. Antediluvian granite and costly marble succeeded the limestone and brick in masonry, as common stone and brick had superseded wooden building material.

SECURITY AND GRANDEUR

Were born of iron and terra-cotta; and with each recurring change in building and building material came increased elegance, convenience and luxury.

It is true that in this growth of architectural display the styles and rules of the old arts in building have been largely

ignored and sacrificed, and new forms and features, unknown in other times, have been pressed into the service of

THE MODERN ARCHITECT AND BUILDER. But in all this is manifested the changing spirit of the ages. Just as the arbitrary sentiments of the medieval times have passed away, and as the more liberal spirit of the nineteenth century now prevails, so the architecture of the past has succumbed to the more independent, versatile and attractive shapes assumed in the buildings of to-day. This is the epoch of ORIGINAL AND ELABORATE ORNAMENTATION,

And the expansion of these grand architectural achievements is limited only by the capital of the individual who desires to build.

If we compare, for example, the beautiful villa of Alexander Pope, at Twickenham, England (exhibited in the poem on another page), with the magnificent family mansion of James C. Flood, at Menlo Park, in California, twenty miles from San Francisco, we shall be struck with the contrast they present.

PUBLIC EDIFICES.

We call attention to one more striking contrast in the architecture of the past and present. A representative of a past age is Independence Hall, Philadelphia, where the Centennial Congress held its sessions, and where the Declaration of Independence was adopted July 4, 1776. Venerable in its architecture and associations, it did honor to the social and political era in which it became famous, but, in contrast with the present Capitol of the United States, it shows the difference that a century has wrought in American architecture.

THE PRESENT CAPITOL AT WASHINGTON. Critically considered, externally and internally, may not strictly be termed a grand architectural triumph, but in its vast proportions, imposing elevations and valuable art-works, it sheds luster upon the nation which it represents.

In America, for several generations, architecture scarcely kept pace with the improvements in other branches of art throughout the country, and has been more especially developed within the past decade, so far as residences are concerned, than at any former period. For nearly a century there were but few radical changes, and these were improvements rather in securing convenience and comfort than elegance.

WIGWAM AND SHANTY.

It is true that the wigwam and the board shanty had their places, just as they have now, among the Indians and lumbermen of the wilderness, and in these, there was, of course, little or no improvement. Shelter was the only object sought, and everything among these primitive classes was sacrificed to secure comfort, even in its rudest form.

FIRST FARM HOUSES.

The pioneer settler on new lands felt the necessity of ample shelter for himself and his family, but beyond this his ambition did not extend until he had gained cultivated soil sufficient to yield him all the

necessaries of life. Then the log house and the board shanty were supplanted by the neat, plain frame house, without paint, or cornice, or blind, or a single ornament in its construction. In time a cornice, shutters, and a coat of paint were added. As prosperity increased, a back kitchen was attached. Later on, a wing was projected on one side, with a small portico in front. Next year the growing family required another wing on the other side, with another portico.

THE HOUSE OF SIX GABLES.

Wealth continuing to accrue, a new site and a new house of larger size and more imposing appearance was planned and built. It had a stone cellar, or basement, was two stories high, built of wood, with high ceilings, and had long windows, green venetian blinds, a six gabled roof, dormer windows, and several entrances, reached by steps.

THE RURAL MANSION.

A few years later, a new location suggested the large square tenement, two stories high, with a substantial cellar, a center hall running through the building, large rooms, immense windows, a square hip roof with heavy cornice, and chimneys on every side, a covered piazza extending around three sides of the lower story, and venetian shutters to every window.

THE MANSARD VILLA.

A town residence becoming desirable, brick, stone, and mortar grew into a mansion of two stories and a basement, with bay-windows, or a swell front, a mansard roof, stone steps, and iron balusters, a fanciful porch at the front door, and a general air of gentility pervading the whole. Lawns, walks, and flower-vases distinguished the front yard.

THE HOME OF A BUSINESS MAN.

Cultivated taste soon induced the wealthy citizen to invest in a more attractive residence. Fifty or a hundred thousand dollars were expended in a family mansion of more elaborate grandeur, the finest material, the most delicate ornamentation, and a degree of architectural beauty seldom realized, and of which the house-owner had seldom dreamed. To build it, marble, granite, freestone, iron, pressed brick, terra-cotta, and hard woods in great variety were brought into requisition; curves and oblique lines were diversified in its elevation, and a towering cupola embellished with the numerous artistic designs of modern architecture, topped the stately edifice.



BIRTHPLACE OF ROBERT BURNS.

The old style cottage of the English peasantry, common in England in the past century.



HOUSE IN WHICH JAY GOULD WAS BORN.

The form of dwelling which succeeded the log house in New England and the Middle States.



MODERN RESIDENCE.

The style of dwelling with mansard roof which was largely in fashion in the United States from 1860 to 1870.

THE PALACE OF THE CAPITALIST.

But the millionaire was not content with this, the most notable architectural triumph of his times. Money bought a noble situation; purchased the taste and skill of the best architects for its design, and ship-loads of the most costly stones that modern quarries, east or west, can produce, the best skilled builders, the choicest of everything, native and foreign, that can be used in its construction were ordered, until the expense mounted into a million or more of dollars. Of such is the mansion of James C. Flood, the work of which occupied several years, and it is undoubtedly one of the finest dwellings ever designed and erected in America. In it are combined all the elements that make architecture beautiful.

Architecture possesses the versatility that characterizes the kaleidoscope; it can produce a thousand varied charms, which depend solely upon the good taste of the designer and the skill of the artisan to perpetuate forever.



RESIDENCE OF J. C. FLOOD.

The summer home of Mr. J. C. Flood, at Menlo Park, near San Francisco, California, is of unique modern architecture, constructed from new and original designs, regardless of cost.

EGYPTIAN ARCHITECTURE.

The records of ancient architecture are replete with wonders and curiosities, and as history is often said to repeat itself, it would not be strange if modern innovations in this art should develop styles of private and public edifices just as unique and worthy of attention. The ancients built, undoubtedly, with a view to the perpetuity of their houses, and, therefore, endowed them not only with permanency, but also with a degree of ornamentation that still excites the admiration of the beholder. Some of these peculiar structures form a pleasant study.

The earliest Egyptian column resembled a stalk of the lotus plant, capped by its calyx, and this flower possessed a powerful influence in forming the public taste of the past ages, when Egypt was in the height of its prosperity.

But its early style of architectural ornament was heavy, and suggested no repose. Everything was built on a grand scale, suited only to the vigorous careers of her despots and conquerors. Her buildings were characterized by forests of columns, avenues of sphinxes, lions or rams, of colossal size. They also made large moles, with giant statues in front of them, with obelisks, gateways preceded by avenues, and detached from the moles.

The general plan of the great Egyptian temples is thus described by Devot: 1. An avenue of sphinxes. 2. Two colossal figures on each side of a gateway formed by immense towers of truncated pyramids and overhanging cornices. 3. This gateway led into a court full of columns, and chandeliers around the walls. 4. Passing across this, there are other courts, likewise full of columns, through gateways ornamented with colossal figures and obelisks. 5. In the center was the sanctuary, without light, consisting of a single excavated block. One, at the Temple of Latona, was seventy-one feet broad in front, carved out of one entire stone, and roofed by another.

The palace of the kings of Babylon, now in ruins, is a vast mass, measuring 2,100 feet each way. The walls are eighty feet thick, one within another and strengthened with buttresses.

The most astonishing collection of finished and costly architecture in the world, now a mass of splendid ruins, is at Baalbec, in the valley between

Libanus and Anti-Libanus. The platform, on which was raised a temple to Baal, or the sun, contains stones thirty feet above the level, more than 60 feet long, 24 feet thick, and 16 broad. Each of these stones measures 23,000 cubic feet, and weighs 2,500 tons, squared, sculptured, and brought from distant quarries. Six of the columns are each 72 feet high, formed of three stones each 7 feet in diameter, with finished Corinthian capitals and friezes. It is believed to have been the work of the giants who formerly, as all authorities agree, dwelt in the mountains of Lebanon.

Three stones still remain in a wall at Baalbec, 63 feet, 64 feet and 67 feet long. It is stated that the place was in existence in the days of Solomon, when it was called Baalath, but it was not built by him.

The modern Arab tent is said to exactly resemble that of three thousand years ago, and is made of black and brown cloth, the product of

camels' or goats' hair. Arabian architecture advances slowly.

Pliny says that the Cyclops of Greece were the inventors of the fortifications of towns and towers, and from them is derived the Cyclopean style of architecture, which is noted for its extraordinary magnitude. The Cyclops were distinguished for their power, prowess, and mighty structures, and are believed to have been the giants referred to by the prophet Isaiah. The peculiarity of their

The Homes of England.

BY MRS. HEMANS.

THE stately Homes of England! How beautiful they stand. Amidst their tall ancestral trees, o'er all the pleasant land:

The deer across their greenward bound

Through shade and sunny gleam, And the swan glides past them with the sound of some rejoicing stream.

The merry Homes of England! Around their hearths by night, What gladsome looks of household love

Meet in the ruddy light. There woman's voice flows forth in song, Or childish tale is told, Or lips move tunelessly along Some glorious page of old.

The blessed Homes of England! How softly on their bowers Is laid the holy quietness that breathes from Sabbath hours!

Solemn, yet sweet, the church-bell's chime floats through their woods at morn; All other sounds, in that still time,

Of breeze and leaf are born.

The cottage Homes of England! By thousands on her plains,

They are smiling o'er the silvery brooks

And round the hamlet-fauns. Through glowing orchards forth they peep,

Each from its nook of leaves, And fearless there the lowly sleep.

As the bird beneath their eaves.

The free, fair Homes of England! Long, long in hut and hall,

May hearts of native proof be reared

To guard each hallowed wall!

And green forever be the groves, and bright the flowery sod, Where first the child's glad spirit loves its country and its God.

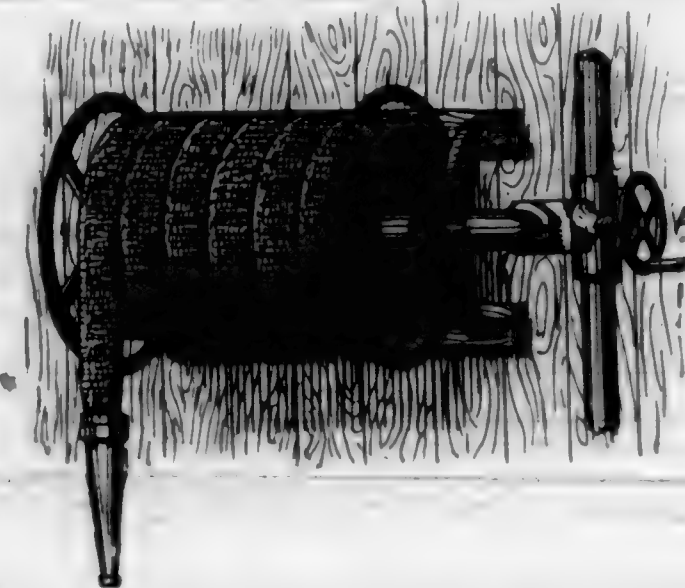


style was the piling up of immense blocks, without cement. Tyrrus, now in ruins, is mentioned by Homer as a well-walled city, and was undoubtedly the work of Cyclops, as was, also, the ancient city of Mycenae. The Gate of the Lions, at the ruins of the latter, was built by the Cyclops, and the lions, from which it derives its name, are said to be the only existing specimens of the sculpture of those ages. They have no tail, a circumstance observable also in the sculptures of Persepolis, where animals like those at Mycenae are represented. The Cyclops appear to have been a nomadic class of artisans, for two fine specimens of their architecture are found at Ausidonia and Saturnia, towns of Italy, anterior to Rome. In view of these facts, Sir Richard Phillips says: "There can be little doubt that the fraternal association of Masons originated in the traveling jobs of the Cyclops and early builders."

A characteristic of the architecture of the ancients was massive solidity, necessary, probably, as a means of defense against enemies.

We are indebted to Thos. E. Hill, Esq., editor of the *National Builder*, for the matter contained in the foregoing article, as well as the beautiful cuts illustrating the same. The *National Builder* is published in Chicago, at 103 State Street. Price, \$3.00 per year.

Fire Protection.



PROBABLY one of the most useful inventions of late, is the "Paragon" Hose Reel, represented by the above cut. It is designed for use in warehouses, public buildings, manufactories, hotels, etc., and especially in buildings where there are times when only a watchman or a few persons are about. It is permanently fastened to the wall, out of the way, supported by suitable brackets, and connected directly with the supply pipe through a hollow journal and packed joint, which allows the water to pass freely into the hose, the hose being connected to the hollow journal inside the reel, and reeled up as shown in the cut. Upon the discovery of a fire, the party present quickly turns on the water by the valve "A," takes the hose pipe and runs off toward the fire, the hose running off of the reel freely, without a twist or a kink, and the water following immediately, thus saving the very valuable time usually lost in straitening out the kinks and twists in the hose, and in going back to turn the water on.

Every hotel, public building, and manufactory should have one or two of these reels, with hose to reach to every part, on each floor.

The packed joint is simple, allows the reel to turn freely, and automatically becomes more tightly packed as the pressure increases, thus obviating all danger of leakage. They can be seen in the Market Street Cable Railway Co. building, California Cracker Co., American Cracker Co., Fireman's Fund Insurance Co.'s building, H. S. Crocker & Co., the new Oriel building, at the junction of Page and Market Streets, and in many other public buildings, factories, etc.—W. T. Y. Schenck, 256 Market Street, is the patentee and manufacturer, and furnishes them for any size or quantity of hose. He is also agent for the "Eureka," "Paragon," "Red Cross," and "Eureka Mill" brands of cotton rubber-lined hose, the latter being especially adapted for inside fire protection in mills, factories, public buildings, hotels, churches, etc.

STEEL SQUARE, ITS USES, PRICE \$4.00.

TRANSFER VARNISH FOR ENGRAVERS.—Take six and a half ounces mastic in tears, twelve and a half ounces resin, and of genuine pale Venice turpentine and sandarac, of each twenty-five ounces. Dissolve, add one quart turpentine varnish, agitate well, and strain.

Scarcity of Competent Draughtsmen.

ALREADY, architects are beginning to feel the scarcity of competent draughtsmen. This office is naturally looked to by the profession as the headquarters of disengaged draughtsmen; but for months there has not been on our books a single name the owner of which really claimed to possess the abilities required to well and truly delineate the plans and details of an ordinary building. Even second-rate men are very scarce, while the small army of "tracers," copyists, etc., that so infested the various offices two years ago, seem to have disappeared entirely.

The principal reason for this lack of the proper kind of talent, lies in the fact that the surrounding country has drawn off everyone who thought their condition could be bettered. The southern part of the State now has about as many draughtsmen as the northern part. Just before the holidays, architects from San Diego, Los Angeles, Pasadena, and other places, visited this office, and left *carte blanche* orders to have their wants supplied, no matter what the wages demanded were. Even with this pressing need to be supplied, but one draughtsman could be found to take the offer.

Several firms in this city have applied for the first disengaged men of whom we may hear. Repeated inquiries, however, develop the fact that there are no idle draughtsmen in this city, and none whose engagements will shortly expire. We need about a dozen more to be added to our regular corps in San Francisco.

Our Eastern friends who read this article, and who may desire to come to this place, must give serious consideration to the following facts. For nine months in the year there is a considerable amount of building going on; the remaining three months being slack months, as statistics will show. During the past year, in this city alone, 3,732 buildings have been erected at a cost of \$19,648,505.

Wages vary from \$2.50 to \$3.00 per day, depending altogether on the ability of the draughtsman. The hours are the same as in most Eastern cities. Above all things, do not come here with the idea that you know it all. Our details are essentially different from those East. There, stone and brick buildings are in the majority as far as numbers are concerned. Here, the exact opposite is the case. FULLY NINE-TENTHS of the buildings in California are built altogether of wood, the chimneys, and in some cases the foundations, alone excepted. We do not think in the whole State of California, that there are fifty buildings on which stone "trimmings" are used, and yet there are buildings costing up in the hundreds of thousands. So a new draughtsman must be prepared to spend a little time in studying our details.

Should anyone desire to make the Golden State his future home, we will take pleasure in informing him of the chances of employment. When writing, state age, qualifications, etc., so that ample information can be given to those who will bid you come. Be sure to state the number of years engaged in the profession, and the degree of skill to which you consider that you have arrived. No charge is made for any advice we may give.

Do not—California like—pack up and start for this place as soon as you read this article. From twelve to fifteen good draughtsmen are all we want at present. Write to this office first, give all information necessary, and then wait for our answer; when you get the latter you can depend on any statements we make.

HAND IN OR SEND
Your SUBSCRIPTIONS for 1887

To those who so promptly responded to our request for immediate settlement of subscription and advertising balances,

WE SAY, THANK YOU.

To those against whose names remain unpaid balances, we say,

PLEASE PAY UP AT ONCE.

Remembering THAT—Defrauding an editor is considered one of the meanest kinds of peculation; THAT—"Honest men are the gentlemen of nature;" THAT—"The man who pauses in his honesty, lacks but little of the rogue;" THAT—"A rogue in spirit is a rogue in gain."

Therefore,—Let every one who receives or reads this journal, forthwith forward to this office its subscription price for 1887, and any and all unpaid indebtedness.

ARCHITECTS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.

ASKED, ANSWERED, AND COMMUNICATED.



Free to All.

The columns of this journal are open to all who differ with us upon any subject presented. We are too old in years and experience to assume that we have passed the reef of human liability to error, or for one moment to suppose that we have reached the realms of thought where perfection reigns supreme. But this we do assure—that whatever of error there may be contained in our columns will be speedily corrected, as soon as attention is directed thereto, and we are convinced of the error. We will give place to a reply in any case, when a mistake or wrong statement has occurred. It is our desire and purpose to be fair, just, and correct in all things, and do no person or subject any violence. We therefore invite free discussion and criticism, and again state that the columns of this journal are at the service of all who desire to differ with us upon any theory or subject, or who take exception to anything at any time appearing in our columns.

We intend to make a specialty of this department of our journal, and, in order to make it thoroughly interesting, we desire the co-operation of all architects, mechanics, etc., whether subscribers or not. In this column there is a great opportunity for comparison of ideas on the practical questions of the day; and we hope to receive from those interested, and especially amongst builders, questions arising in their daily practice. No matter what may be the solutions given to the various problems presented, we shall only be too pleased to receive replies from our readers, where they see other and better solutions for them. If a general interchange of ideas can be brought about great advantages will ensue to all. Let not a month go by without bringing up for discussion practical topics in the architectural, mechanical, or scientific pursuits. We desire a general expression of opinions, for or against, of every article presented by us. Every communication will receive deliberate and careful consideration.

The Right Ring in a Letter.

WINTERS, YOLO CO., JAN. 25, 1887.

To the Publishers of the CALIFORNIA ARCHITECT—

Inclosed please find \$2.50 for the CALIFORNIA ARCHITECT and a copy of Mr. David Saffeld's new work entitled, "Country and City Homes."

I am glad to notice the gradual improvement in the CALIFORNIA ARCHITECT from year to year. At first I was not a subscriber, but after receipt of the first few copies, I found it indispensable and so secured the back numbers. I have now a complete set. I feel interested in the permanent success of your journal, and were I a younger man, would gladly contribute to your columns. I hope that Mr. Wolfe will stick to being its editor until there is a *su e* thing of having his place filled (which, by the way, is no easy thing to do). Respectfully,

T. D. BALL.

Thanks, Mr. B.; the years you complain of are just the best argument why you *should* contribute to our columns. Age gives experience, and the latter is the best teacher. We shall be pleased to hear from you as well as many others from your delightful county.

"STUPID" sends a communication in regard to the "Diagonal Brace Question." No name or address being given, it will lay over for the present.

Table for the Use of Nails.

THE *National Builder* gives the following table for the use of nails:—

For 1,000 shingles allow $3\frac{1}{2}$ to 5 pounds fourpenny nails, or 3 to $3\frac{1}{2}$ pounds threepenny nails.

For 1,000 laths allow about 6 pounds threepenny fine nails.

For 1,000 feet clapboards, about 18 pounds sixpenny box.

For 1,000 feet boarding boards, 20 pounds eightpenny common.

For 1,000 feet boarding boards, 25 pounds tenpenny common.

For 1,000 feet top floors, square edge, 38 pounds tenpenny floor.

For 1,000 feet top floors, square edge, 41 pounds twelvepenny floor.

For 1,000 feet top floors, matched, blind nailed, 35 pounds tenpenny floor.

For 1,000 feet top floors, matched, blind nailed, 42 twelvepenny floor.

For 1,000 feet furring, 1x3-45 pounds tenpenny common.

For 1,000 feet furring, 1x2, 65 pounds tenpenny common.

For 1,000 feet pine finish, about 30 pounds eightpenny finish.

Lumber Measure. Save This Table.

BELOW will be found, in a very convenient form, a table by the use of which the number of feet in any given size of timber, can be readily and accurately obtained.

The column on the left gives the size of the timber; the figures on the top the length in feet. It will be readily apparent that any quantity can be found besides those given. Suppose the timber was 14x28, 100 feet long. This in length would be 2 pieces 30 feet long and 2 pieces 20 feet long=1,634 feet; double this=3,268 feet, the correct answer.

A piece 16x16=30 feet long, can be found similarly, being equal to 4 pieces 8x8 of same length.

Every mechanic should have a copy of this table pasted on the inside of his chest lid.

TABLE OF LUMBER MEASURE.

Size in Inches.	12	14	16	18	20	22	24	26	28	30
2x3	6	7	8	9	10	11	12	13	14	15
2x4	8	9	11	12	13	15	16	17	19	20
2x6	12	14	16	18	20	22	24	26	28	30
2x8	16	19	21	24	27	29	32	35	37	40
2x10	20	23	27	30	33	37	40	43	47	50
2x12	24	28	32	36	40	44	48	52	56	60
2x14	28	33	37	42	47	51	56	60	65	70
3x4	12	14	16	18	20	22	24	26	28	30
3x6	18	21	24	27	30	33	36	39	42	45
3x8	24	28	32	36	40	44	48	52	56	60
3x10	30	35	40	45	50	55	60	65	70	75
3x12	36	42	48	54	60	66	72	78	84	90
3x14	42	49	56	63	70	77	84	91	98	105
4x4	16	19	21	24	27	29	32	35	37	40
4x6	24	28	32	36	40	44	48	52	56	60
4x8	32	37	43	48	53	59	64	69	75	80
4x10	40	47	53	60	67	73	80	87	93	100
4x12	48	56	64	72	80	88	96	104	112	120
6x6	36	42	48	54	60	66	72	78	84	90
6x8	48	56	64	72	80	88	96	104	112	120
6x10	60	70	80	90	100	110	120	130	140	150
6x12	72	84	96	108	120	132	144	156	168	180
8x8	64	75	85	96	107	117	128	139	149	160
8x10	80	93	107	120	133	147	160	173	187	200
8x12	96	112	128	144	160	176	192	208	224	240
10x10	100	117	133	150	167	183	200	217	233	250
10x12	120	140	160	180	200	220	240	260	280	300
12x12	144	168	192	216	240	264	288	312	336	360
12x14	169	196	224	252	280	308	336	364	392	420
14x14	198	229	261	294	327	359	392	425	457	490

GRIMSHAW ON SAWS, PRICE - - - \$4.00.

An illustrated article by Fred Lacey, on the "Diagonal Brace Question," will appear in our next.

STEEL SQUARE, ITS USES, PRICE \$1.00.

MECHANICS, and all others interested, should remember that we can furnish any books printed, at the shortest notice and the lowest prices. We have reduced the price of "SCIENCE OF CARPENTRY MADE EASY," to \$4.00.

CONTRACTORS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.

Paper Read Before the S. F. Chapter, American Institute of Architects, Feb. 4, 1887, by Fellow John Gash, Esq.

MR. PRESIDENT AND GENTLEMEN: In my papers for this evening's reading, I would say by form of preface that my object is not directly to speak of the way or how plumbing should be done, as of this subject, like many others, much has been already said and written; it is rather to show the growth and progress of the sanitary system of the home, both in the comfort of the supply of water for culinary purposes, as also for the bath.

Like most of the subjects that are partially lost in the sands of time, we find dim references of both of these in Biblical lore. The tales of Abraham and Jacob watering their flocks, and the daughters drawing water from the wells for domestic use. Nor was this labor unattended by a blessing, as we read of Rebecca, the daughter of Bethuel, going to the well to fetch water, and there meeting the servant of her future husband, Isaac, a domestic romance that has and may well be read and copied by Rebecca's daughters from then till now.

The refreshing advantages of the bath are too well known to the whole animal kingdom and to man in all ages and countries, and its luxuries may be read of in the history of the Jews, Romans, Grecians, and Egyptians, and those ruins of the baths of Caracalla and Diocletian stand as monuments telling of the luxury to which the bath had been carried in those days.

But the drawing of water from the well for culinary purposes has long been abandoned, and the introduction of water into dwellings by means of piping, and the conveying of water therefrom, has perhaps occupied the attention of more persons in the present age than any other factor in building. The architect, sanitary and civil engineer, with the army of physicians, have jointly and severally handled this subject until, I am happy to say, our system of plumbing is pretty thoroughly understood, nor indeed has any foreign or European country made such advances in this, as has been made in our own country; and I would say, perhaps no city in the Union can boast of as thorough a system of plumbing as we can in our own city of San Francisco, without, of course, any reference to its sewerage, which, perhaps, runs to the other extreme, and can scarcely be found any worse.

For many centuries physicians had a practical monopoly of what little was known of the conditions affecting the public health, and there seemed to be no incentive to original investigation and experiment, even if the means of prosecuting an inquiry so important to all classes of the people, had been at the command of those who, under more favorable circumstances, would doubtless have made important contributions to the literature of plumbing.

To the medical profession we owe the greater part of what has already been learned and placed on record, of the truths which form the basis of sanitary science. Indeed, so strongly has this matter been taken hold of by the public mind that they no longer attribute the visitation of the "Angel of Death" to the "afflictive dispensations of providence" which are so mysterious and past finding out.

People often wonder why we do not have such fearful visitations of epidemics at the present day—as the plague of London, the ancient spotted fever, sweating sickness, etc.—yet we have outbreaks of cholera, yellow fever, and typhoid, with other diseases, which may be traced to that most deadly foe of the household, sewer gas, which stealthily creeps through our house through the night, and midst the dazzling splendor of the beautifully draped parlors and rich and modern upholstery, leaves its deadly trail, whose odor is inhaled by some dear member of the household, perhaps a loving child, a fond parent, or an affectionate brother or sister.

This foe of the fireside, you gentlemen, as architects, should most assiduously battle against.

When you hear of persons desiring to have their houses filled up with all the modern conveniences, so-called, bear in mind an unseen stranger as above referred to, may be also introduced.

By sewer gas I mean the gaseous emanation from decomposing sewerage which, when it mingles with the confined air of our unventilated living and sleeping rooms, retains its terrible power for mischief long enough to do its deadly work effectually. And here I would say the worst features of sewer gas poisoning are very often found where sewer gas proper does not penetrate.

In most houses the so-called sewer gas, which is both a nuisance and a danger, is chiefly manufactured on the premises, and does its fatal work none the less effectively because it is called by a wrong name. The worst defects of the commonest plumbing done by contract are rarely noticed in new houses.

All the sewer connections are made that ever will be made, but

we pass from room to room without noticing any unpleasant smell, and therefore never suspecting danger. When the pipes are fouled by the waste of the house, the trouble begins, and it increases from month to month, and year to year, as the foulness within the waste pipe system accumulates, and until the gaseous products of decomposition within pipes are prevented from mixing with the air we breathe in living and sleeping rooms.

From the most careful analysis of sewer gas, it shows that it is composed chiefly of carbonic acid, nitrogen, sulphurated hydrogen, and some fetid vapor. The elementary gases and those of known compositions which are commonly found in sewers and unventilated cess-pools, though mostly capable of destroying life under favorable conditions, are not considered responsible for much, if any, of the fatal effects properly attributed to sewer gas. Carbonic acid is the gas usually found present in greatest volumes in sewers, both ventilated and unventilated.

The proportion as determined by analysis varies according to circumstances, but it is usually large. This gas is an invariable product of the decomposition of all substances containing carbon. Inhaled in concentrated form it quickly produces death, and even when considerably diluted with atmospheric air, produces asphyxia, and unless the victim is quickly rescued from its influence, death follows promptly. It does not readily leave sewers and cess-pools, however, owing to the fact that its specific gravity is considerably greater than the air, and so much of it as would naturally find its way into a house from a sewer or cess-pool, has been proved beyond a reasonable doubt to cause typhoid fever.

In one case in the town of Croydon, where the gas was known to have entered the house, it did not smell offensive, only a faint, sickly odor being recognized. In this case the gas was driven into the house by a shower filling the conductors with water. The problem of the present a seems to be the thorough ventilation of sewers, and so many ways and means have been suggested that a description of even a few of them would be more than my paper would allow; but the most universally adopted seems to recommend "man-holes" in our streets, covered with gratings as open as might be consistent with strength, and these kept free from street cleanings; and to oblige every house-owner to vent his soil pipe (unobstructed by any form of trap along its line) to a point above his roof; the ventilation of sewers might be a success. The stopping of sewerage by the incoming tide, etc., the difficulties attending steep grades, and other such obstructions to be met in many cities, would admit of many theories, a paper on which, by one of you gentlemen, would be, I am sure, warmly received by our Chapter.

But the sanitary conditions of cities and towns nowadays, and those of a couple of hundred years ago, are very gratifying. After the fall of the Roman Empire to the end of the Middle Ages the people of Europe may be said to be unwashed. Of Paris it is recorded, by Rigord, physician to Philip Augustus, that one day looking from his window, he saw a carriage passing, and the substance forming the streets being stirred up by the revolution of the wheels, emitted a stench so powerful as to overpower the king. This so disgusted him that he urged the citizens to pave the streets, and to assist in the purification of the city he built walls round the cathedral to prevent it from remaining any longer a common corner for convenience.

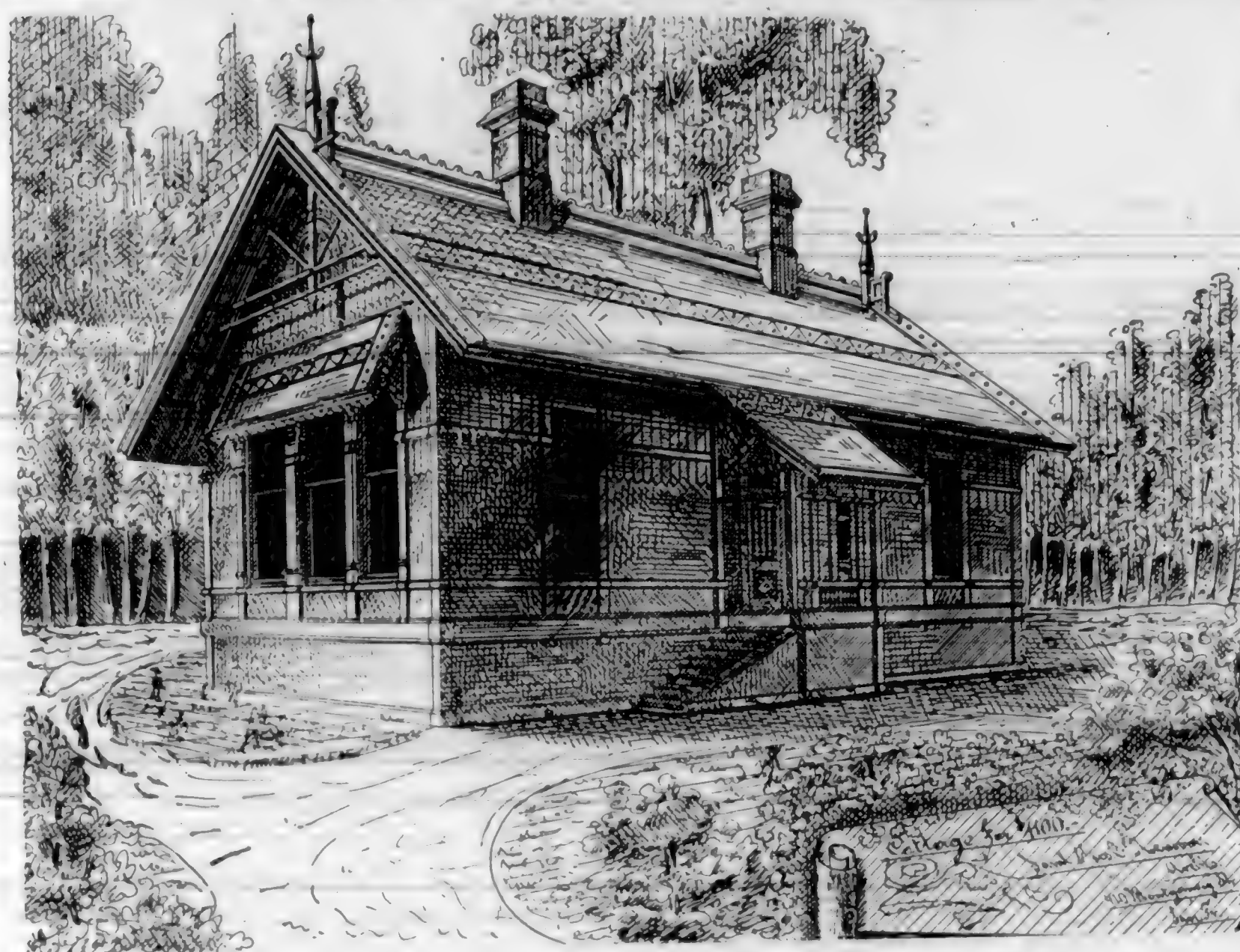
Nor was the city of London any better. A writer of the period says that the streets around St. Paul's were covered with horse manure a yard deep. Floors were of clay, covered with rushes which grew in the fens, and which were so slightly removed now and then that the lower part remained for many years undisturbed and in it such a collection of foulness as only can be found in a scavenger's dog-cart. Cleanliness of the person was a thing almost unknown.

One old writer says the better classes of people wore clean garments on the outside, but the inner ones were often worn until they fell piecemeal away from their unwashed bodies.

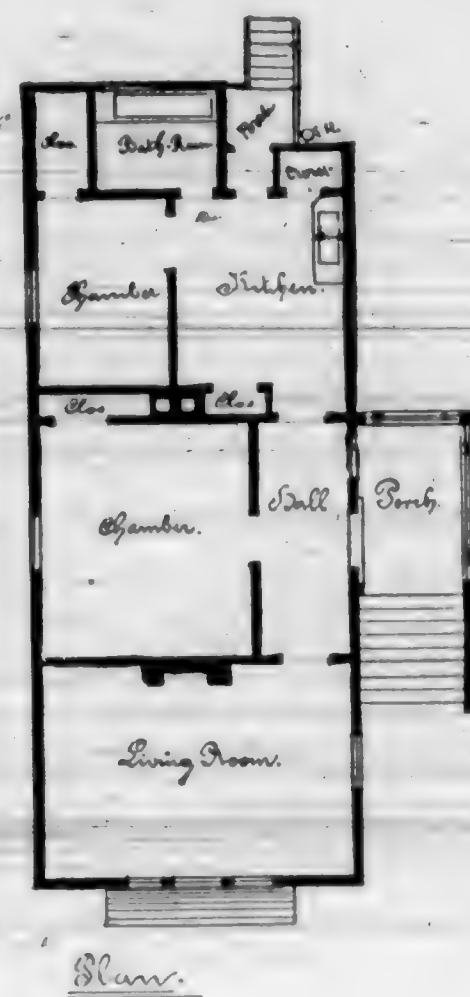
Comparing this account with the advance the present generation has made in cleanliness, we bring as if ourselves to that age in which Rome could so boastfully speak, amongst other things, of her aqueducts for water supply, her public baths, giving facilities to her citizens to take at the rate of 70,000 baths per day. A revival of the luxury of the bath, known under the name of Roman, Turkish, Russian, German, Jewish, Medicated, Vapor, Hot Air, Gas, and Animal Baths, have become almost universal in our own age and time. Many of which are well represented in our own city.

The continuation of my papers on "Baths, Ancient and Modern," their history, manner of construction, the ancient and modern system of heating, the luxury of the baths of Caracalla, Titus, and Diocletian, their arrangements adorned with the most valuable column paintings and statues; in a word, for every

OUR MARCH ISSUE WILL BE REPLETE WITH INTERESTING INFORMATION.



A PICTURESQUE COTTAGE.



A Picturesque Cottage.

species of polite and manly amusements,—to give them any sort of a description would, in fact, require another paper with this, when I will be able to furnish with them a few drawings, showing their internal arrangements, and sections showing their mode of heating such quantities of water, etc.

Warner's Hangers.

IT is a pleasing duty to bespeak attention to one of the most ingenious of modern architectural conveniences, a device, indeed, which justly claims rank among the necessities of home building.

Warner's Patent Sliding Door Hangers, owned and manufactured by E. C. Stearns & Co., Syracuse, N. Y., are as nearly perfect in producing the effects desired by their users as human ingenuity may hope to achieve.

That over 100,000 sets of these hangers are now in use, that some 1,200 leading architects accord them an unqualified approval, are but the logical sequence to established merit.

The main features of "Warner's" are too well known and appreciated to need more than a bare summary. They obviate cutting the carpet; do away with the floor rail; always remain on the track; are easily adjusted to shrinkage; are entirely concealed, and run so true that the heaviest doors are easily moved.

"Warner's" is the pioneer hanger in the market. It has suggested numerous imitations which have done valuable service to the public by advertising the original; for the sale of Warner's is at present greater than the combined product of its many competitors.

In a word, Warner's Patent Sliding Door Hangers completely and perfectly fill a great public need, and admit of no rivalry, because they exactly and economically produce the effects required.

Thermometers.

PERHAPS not one in a hundred can tell off-handed why a point thirty-two degrees below freezing point on Fahrenheit's thermometer is called zero. For that matter, nobody knows. The Fahrenheit scale was introduced in 1720. Like other thermometer scales, it has two fixed points, the boiling point and the freezing point, or rather the melting point of water. The Centigrade and Reaumur scales call the freezing point zero, and measure therefrom in both directions. Fahrenheit kept the principle on which he graduated his thermometers a secret, and no one has ever discovered it. It is supposed, however, that he considered his zero—thirty-two degrees below freezing—the point of absolute cold or absence of all heat, either because, being about the temperature of melting salt and snow, it was the greatest degree of cold that he could produce artificially, or because it was the lowest natural temperature of which he could find any record. The grounds on which Fahrenheit put one hundred and eighty degrees between the freezing and boiling points are likewise unknown.

OUR engraving portrays a one-story cottage very conveniently arranged for a small family. The hall is so situated that easy access is obtained to all the principal rooms. If found necessary a fire can be had in every room, the chimneys being so placed that accommodations in this line are very convenient. The elevation is plain, but just suited to those whose purses are not of the longest. As shown, the house, with present prices of materials, can be built anywhere from \$1,250 to \$1,500.

Useful Hints in Building.

SEE that chimneys are built on good stone foundations; settlement will be avoided and one of the causes of unexplained fires will be removed.

Do not finish windows to the floor; the circulation across the floor is one of the causes of cold houses.

Stops to doors and windows should be fastened with round head screws, so as to be easily moved.

Do not construct solid doors of two kinds of hard wood; the action of the atmosphere on one or the other will cause the door to warp.

In building book-cases let there be a half-inch space between the back of the shelf and the wall; dust can then easily be brushed back, falling to the bottom.

Do not locate a furnace register next to a mantel, that is, if you wish to utilize the heat.

Do not build a cistern in the cellar of a house unless you wish to generate unhealthy atmosphere.

A closet finished with red cedar shelves and drawers is death to moths and insects.

Porch floors should be of narrow stuff and the joints laid in white lead.

The ceilings of closets may be made lower than the apartment adjoining; it saves plastering.

A ventilating flue from the kitchen into the chimney often does away with atmospheric meals.

In building frame houses, fill the studding one foot high above the sill with brick; this discounts the use of rat traps.

Ash pits in cellars under fire places and mantels save taking up ashes, for they may be raked down through a hopper.

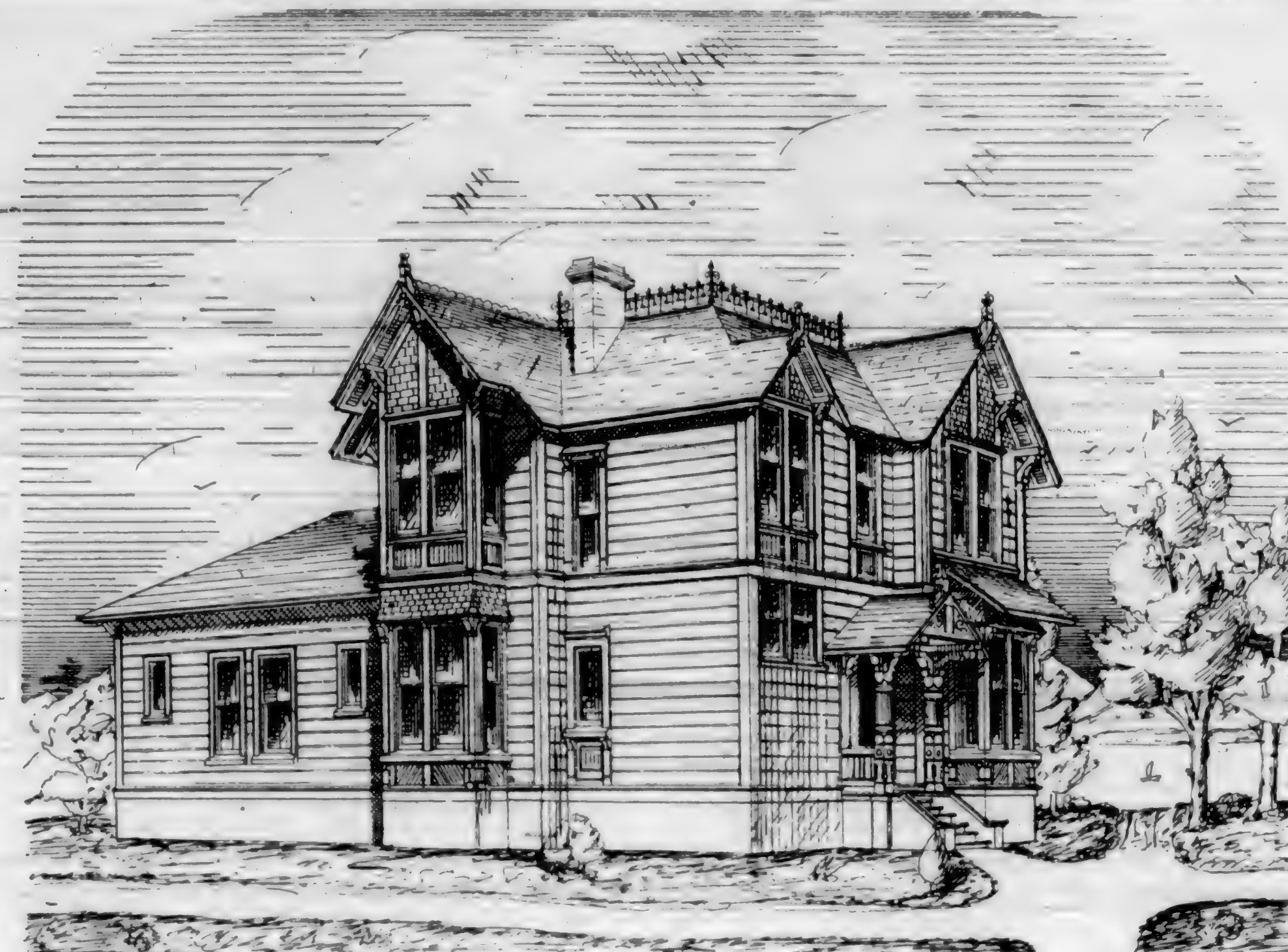
Plaster cornices and center-pieces are relegated to the past. Paper and fresco work is the proper thing.

Sliding doors into small apartments are to be preferred in place of folding.

Don't inclose the sink; no place in a kitchen is so much neglected.

Do not use one chimney flue for two stove-pipes; the draught of one will counteract that of the other.

Lime water is a fire-proof protection for shingles or any light wood-work.



PERSPECTIVE ELEVATION OF A COUNTRY OR SUBURBAN DWELLING. D. SALFIELD, ARCHITECT.

The accompanying plans below, and the perspective above, illustrate a design for a nine-room suburban or country home, suitable for a small refined family wanting all the privacy and elegance of a first-class dwelling, and yet embodied in a small space without any great outlay or expense.

The broken outline of the building, with gables in every direction, finished with fancy shingling, carved brackets, ornamental finials, and high pitched roof, and the square bay-windows on the front and on the side, would make a very picturesque, attractive building, if surrounded by shade trees or shrubbery. A careful examination of the floor plans will show at once the convenience and beauty of arrangement. The front entrance door opens into a large hall, with the parlor on the right, and doors communicating with dining and sitting-rooms in front.

A beautiful conservatory, with glass sides and roof, opens off the rear hall and sitting-room.

The cuts illustrating this article were kindly furnished us by David Salfeld, architect, whose office has lately been moved to 339 Kearny Street.

Architects, Attention!

We want every architect on the Pacific Coast to contribute a short article for the March number of this journal. It should be your aim to make your home journal interesting to all who may read it, and there is no surer way to obtain this end than by each one writing a short article. Illustrate it, if need be; we will make the

cuts. Be sure that the articles reach this office by the 5th of the month.

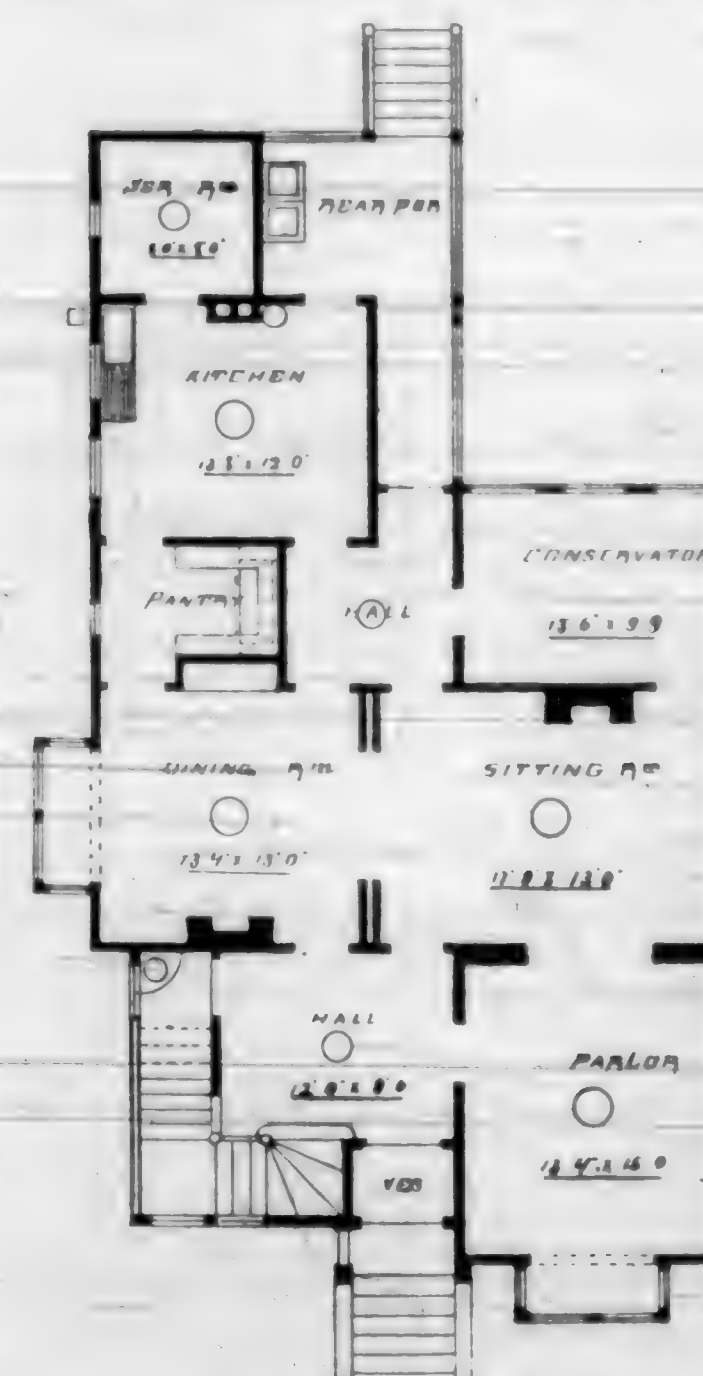
To Contractors.

What contractor in the city but knows of some little idea that would be beneficial to our readers. Help to build up this journal by a free interchange of thoughts. It will pay you tenfold to be in communication through our columns with all the master mechanics of the Pacific slope. Do not let the thought enter your mind that you cannot write well enough. Do the best you can, and we will see that your ideas are presented in proper shape.

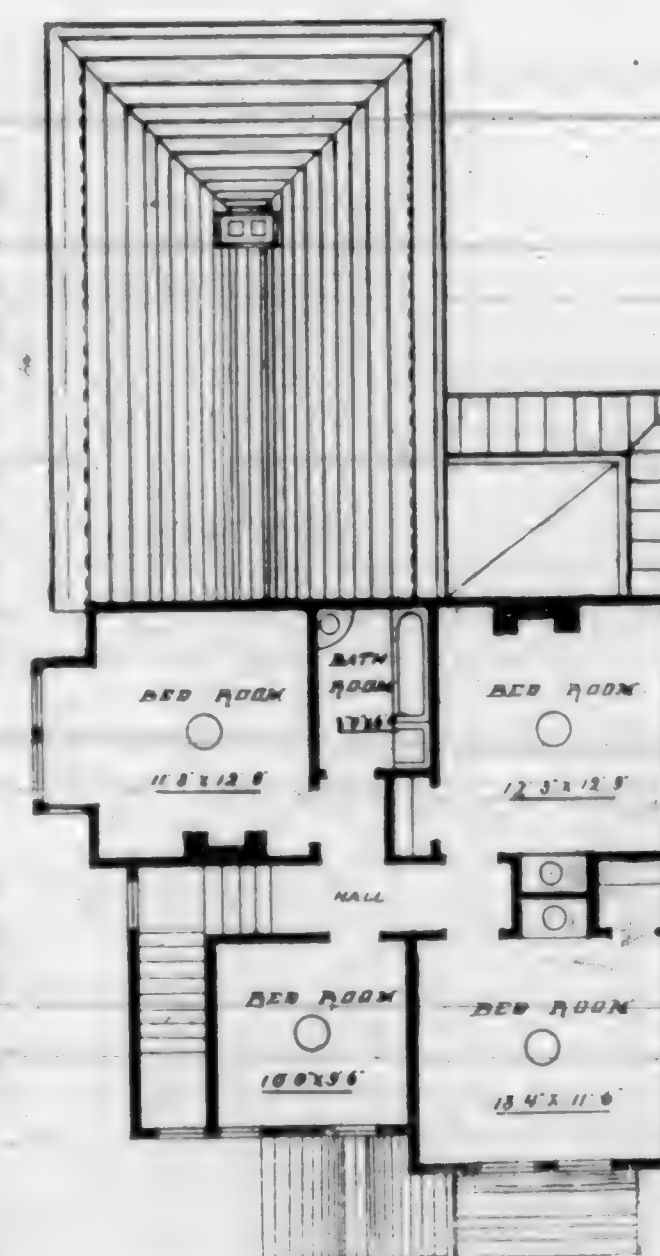
Apprentices.

When you have found out any ideas that should be known by every one, forward them to us, and we will publish them under your own names, that others, hearing of your good deeds, may go and do likewise.

TREDGOLD'S CARPENTRY,
Price, - - - - - \$7.50.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

ARCHITECTS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.

BOUND VOLUMES OF 1886 ARE NOW READY. PRICE \$2.50 EACH. POST-PAID.



COUNTRY BUILDING INTELLIGENCE

In this and succeeding issues we intend to devote considerable space to information in connection with buildings, from every portion of the coast.

Only reliable news will be found in this column. Our custom has been for the past eight years, to furnish only data which could be relied upon. We will not publish rumors of "THIS AND THAT IS GOING ON" unless we are reasonably assured that such is truly the case. We have been busy the past two months in perfecting arrangements by which we can secure information from every portion of the Pacific slope. In all cases we will file our authority for any statements made in this column. No doubt mistakes will sometimes occur, but these we intend to be a rare exception to our rule of reliable news.

For eight years there has appeared in this journal, building news from every portion of the country. But in its condensed form it did not attract the attention it deserved. We begin the New Year by making a specialty of the item mentioned.

We desire the co-operation of country editors and mechanics to this department of this journal. By spreading the news of building engagement in your part of the country, you enhance the value of your section by proclaiming it a go-ahead community.

Architects should also notify us of "plans to figure on;" we do not charge anything for the insertion of such notices. Remember this journal is in the EIGHTH YEAR of its existence, and is the only journal published this side of the Rocky Mountains in the interests of Architects, Contractors, and Material Men.

Alameda.

J. Maristany is erecting two six-room cottages on Alameda Avenue. Cost, \$4,500.

Hand Railing and Stair Casing, for \$1.50.

Drawing for Carpenters, for \$1.75.

Mrs. Bromley will soon erect a new building on Everett Street.

Painter, Gilder, and Varnisher, for \$1.50.

Architects' Companion, for \$2.50.

Henry Godfrey has contracted for a \$2,500 brick building.

Manual for Furniture Men, for \$1.00.

Common-Sense Church Architecture, for \$1.00.

Fresno.

Mr. Timothy Paige is about to erect twenty cottages in the western part of town.

Woodward's Farm Homes, for \$1.00.

Woodward's Graperies, for \$1.00.

Wm. Pool and Robt. Minto are building handsome residences near town.

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

Haywards.

John H. Boden is about to erect a \$3,600 dwelling.

Lumberman's Hand-Book, for \$2.00.

Practical Geometry, for \$1.00.

Los Angeles.

A large building for a passenger depot will be shortly commenced for the A. T. & S. F. Railway Co. It will be of brick, and two stories high. A large freight depot will also be built near the above. The latter, however, will be of frame.

* Artistic Homes, for \$3.50.

Modern House Painting, for \$5.00.

For the winter season there is a vast amount of building going forward. Residences continue to spring up all over the expansive area of the city, which embraces thirty-six square miles, as if by magic. There are not less than two hundred new homes now in course of construction in the municipality. Many of these are very elegant edifices, each of which will cost a great deal of money. Foremost among such are Mr. W. T. Lambie's new house, which covers a slightly knoll in the extreme east of East Los Angeles; the new mansion of Mr. A. Classell, on Fort Hill; and still another in close proximity to this, the B. adbury palace, on the hill at the corner of Court and Hill Streets; the residence of Mr. Tyler Longstreet, and that of Mr. A. H. Judson nearly side by side in the Dana Tract on Figueroa Street. The cost of these will range at from \$10,000 to \$30,000 each.

In business blocks, there are notably the improvements made by Mr. Hellman and Colonel Baker, near the new post-office, which embrace a vast area of space between Main and New High Streets, at the intersection of Sonora Street; the great blocks of brick buildings going up at the corner of Main and Second Streets, for Mr. Newell and others; the big block to cost \$80,000 for the Los Angeles Improvement Company on the corner of Second and Fort Streets; a new block on the corner of Upper Main and Walters Streets, for W. A. Clinton; the giant block for Louis Phillips on the corner of Spring and Franklin Streets; a small brick block on the corner of New High and Marchessault Streets; the large block for Martin Bastincherie on the corner of Commercial and Wilmington Streets. Less magnificent buildings, both for residence and business purposes, are going up all over the city, in all parts. These remarks apply equally to East Los Angeles, Boyle Heights, the hills west of the city, the plains near the

river, the region around the University in West Los Angeles, and all the sections that lie between these quarters of the municipality.

As to the future, the architects say the prospect is most excellent. They are ready to gamble heavily on the proposition that there will be more bricks laid in the year of grace, 1887, than were laid in its predecessor, within the city of Los Angeles. This is without reference to the new county Court House, of course.

Plaster, How to Make It, for \$1.00.

Shavings and Sawdust, for \$1.50.

R. B. Young, architect, is preparing plans for a new building for John Wigmore.

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Modena.

Collections are now being made for a new church building at this place.

Building Superintendence, for \$3.00.

American Cottage Homes, for \$3.00.

Monrovia.

A two-story building, to cost about \$4,000, has just been commenced; Johnson & Parker, owners.

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

Combs & Banning will shortly commence the erection of a business block.

Every Man His Own Mechanic, for \$3.50.

Tredgold's Carpentry, for \$7.50.

Rev. J. B. Greenfield, A. Fell, Stewart & Perham, John Thomas, and others, are all contemplating building in the spring.

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

Baptist and Methodist Churches are under way, and also a planing mill.

Builders' Construction (three volumes, very fine), for \$14.00.

People's Encyclopedia (three large volumes), for \$20.00.

Monrovia is in Los Angeles County.

Lumberman's Hand-Book, for \$2.00.

Practical Geometry, for \$1.00.

Piedmont.

The inhabitants of this place are much elated over the prospects of having a new \$100,000 hotel building.

Cutting Tools, for \$1.50.

Cummings' Details, for \$5.00.

Pasadena.

J. E. Howard has about completed arrangements for a \$10,000 residence.

Album of Mantels, for \$8.00.

History of Architecture, for \$15.00.

Milton Stratton, Dr. Whittier, and J. P. Day, have each purchased property, which they intend to improve in the spring.

Drawing for Stone Masons, for \$1.50.

Building Construction, for \$1.25.

Mr. Keefe the credit for the job, but, as he failed to give bonds, Gee Brothers at once qualified. Total cost of the building will be about \$65,000.

Grimshaw on Saws, for \$4.00.

Mechanics' Geometry, for \$4.00.

R. E. Davis is erecting a \$2,800 dwelling.

Artisan, for \$5.00.

Builders' Guide, for \$2.00.

Pacific Grove.

A large new hotel building will shortly be erected at this place.

Drawing for Bricklayers, for \$1.50.

Drawing for Cabinet Makers, for \$1.50.

Petaluma.

Mr. Gerkins intends shortly to build a house on corner of Fifth and D Streets.

Artisan, for \$5.00.

Builders' Guide, for \$2.00.

San Diego.

According to the papers here, active work is steadily in progress for the new hotel to be erected on Coronado Beach.

Artistic Homes, for \$3.50.

Modern House Painting, for \$5.00.

Suisun.

Extensive repairs are being made to the Catholic Church.

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

San Bernardino.

The contract for the new Stewart Hotel has been let to Gee Brothers. Consideration, \$62,263. In our last issue we gave

The Episcopal Church Society have already secured \$2,500 towards their proposed new building.

Limes, Cements, and Mortars, for \$4.00.

Wonders of Art, for \$1.25.

Stockton.

About \$6,000 has been subscribed towards the erection of a \$30,000 agricultural pavilion in this place.

Kuskin's Works (four volumes), for \$6.00.

Industrial Drawing for Carpenters, for \$2.00.

San Jose.

H. Grees and R. Emmett have been buying property upon which, in the spring, they will erect desirable residences.

Plaster, How to Make It, for \$1.00.

Shavings and Sawdust, for \$1.50.

The residents of this place are much elated over the prospects of a fine large hotel to be built at this place. The sum mentioned for its construction is not less than \$300,000. James Phelan is the moving spirit in regard to the enterprise.

Architecture and Building, for \$3.50.

American Cottage Building, for \$3.50.

Tyler Beach proposes to erect a \$50,000 building on St. John Street.

Mural Painting (new), for \$3.00.

Home Hand-Book, for \$10.00.

Selma.

A new hotel has just been commenced. It will be three stories high, and front 120 feet on two different streets.

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

Tulare City.

Brick building. Owner, G. W. Weybert; architect, H. D. Mitchell. Cost, \$40,000.

Hand Railing and Stair Casing, for \$1.50.

Drawing for Carpenters, for \$1.75.

SAN FRANCISCO BUILDING NEWS.

B
Bartlett, bet. Twenty-fifth and Twenty-sixth. Two-story frame. O. and B.—John T. Grant. \$5,000.

Bluxome, bet. Fourth and Fifth. Two-story brick. O.—Mrs. M. E. S. Hopkins. A.—O. G. Moore. Mason—T. Whitehead. Carpenter—T. H. Day. \$10,000.

Bartlett, cor. Twenty-fifth. One-story brick. O.—Co-operative Factory. \$750.

Baker, cor. Hayes. Brick work of building. O.—F. Heywood. A.—C. I. Havens. C.—O. E. Brady. \$5,000.

C
California, nr. Devisadero. One two-story frame and one one-story frame. O. and B.—L. Bruns. \$4,700.

California, bet. Maple and Cherry. Additions to Children's Training School. A.—McDougall & Son. C.—P. Griffin. \$1,500.

Cliff House. Repairs. \$3,000.

California, cor. Battery. Additions to brick building. O.—Sherwood. A.—J. T. Gaynor. C.—Thos. White. \$35,000.

California, cor. Mason. Additions. O.—W. H. Crocker. A.—Curlett & Cuthbertson. C.—C. L. Ferris. \$1,000.

E
Eddy, bet. Octavia and Laguna. Additions. O.—A. Marks. C.—H. Keenan. \$4,500.

Everett, bet. Third and Fourth. Three-story frame. O.—P. J. Grey (Parochial School). A.—T. J. Welch. C.—Bateman Bros. \$10,000.

F
Florida, nr. Twenty-second. Additions. O.—P. Sullivan. C.—Jos. Dutton. \$1,700.

Fulton, bet. Octavia and Laguna. Two-story frame. O.—Eliza Baum. A.—Townsend & Wyneken. C.—O. E. White. \$6,000.

Fillmore, cor. Germania. Two-story frame. O.—E. H. Perry. C.—T. M. Quackenbush. \$3,500.

Fillmore, nr. Clay. Additions. O.—Bennett. C.—J. A. Leonard. \$3,000.

Fair Oaks, bet. Twenty-first and Twenty-second. Two-story frame. O.—Julius Abrams. C.—R. Stephens. \$2,800.

Gough, cor. McAllister. Three two-story frames. O.—Mary Ohngemach. A.—T. J. Welch. C.—S. S. Greene. \$10,000.

Gough, bet. Geary and O'Farrell. Three-story frame. O.—B. Ettinger. A.—J. E. Wolfe. Mason—E. R. Sham. Carpenter—Gray & Stover. Additional contracts, \$1,500.

H
Haight, bet. Broderick and Devisadero. Two-story frame. O.—J. P. Murphy. A.—Townsend & Wyneken. C.—P. Laherty. \$4,000.

J
Jones, nr. California. Two-story frame. O.—Geo. Whittell. A.—Clinton Day. C.—Ingerson & Gore. \$5,000.

M
Market, nr. City Hall Avenue. One-story brick. O.—Chas. Baum. A.—Townsend & Wyneken. C.—Geo. Richardson. \$2,500.

McAllister, nr. Lyon. One-story frame. O.—L. Zinnamon. C.—B. Dryer. \$3,000.

Mission, bet. Fourth and Fifth. Two frame buildings. Additional stories to each. A.—O'Connor. C.—R. McCann. \$3,000.

Mission, bet. Twentieth and Twenty-first. Additional story. O.—Garrity. C.—B. Dryer. \$3,000.

N
Natoma, nr. Sixth. Two-story frame. O. and B.—A. Norton. A.—Miller & Waugh. \$3,700.

EACH SUCCESSIVE NUMBER WILL BE COMPLETE IN ITS BUILDING REPORTS.

WE WANT A BUILDING CORRESPONDENT IN EVERY TOWN IN THE STATE.