

association just, we would be the last to enter a protest against any rule that should be made; knowing as we do, however, that there are members of the association who count their money by the hundreds of thousands, lying idle in the bank, made from an exorbitant profit on an essential material of the growth of a city, we feel justified in uttering our protest against some of the methods used to maintain high rates. Fifteen per cent. off the prices now charged would leave an ample profit to the manufacturers, and would be a material benefit to those erecting buildings.

S. F. Chapter—American Institute of Architects.

The regular monthly meeting was held at the usual place, on Friday evening, February 1, 1884.

An unusually large number of members were present. President John Wright in the Chair.

Committee on a seal for the use of the Chapter, reported that they did not deem it wise to place the design for seal in the hands of the students. They had engaged the services of F. Marion Wells, who was preparing a model; when finished, the committee would have the seal prepared from the model.

Committee on plumbing reported that they had met the members, composing the Board of Health, and that the latter favorably received the ideas advanced by the architects.

Mr. Pissis reported his class as getting along finely. He called the attention of the members to the prizes offered by the President and the Chapter four months ago. Mr. Pissis said his class would be ready to offer drawings in about one month.

Mr. Curlett suggested that book prizes be offered instead of money, and four prizes instead of three.

Mr. Macy suggested diploma prizes in place of books. But, on discussion, it was decided that the classes were not far enough advanced for diplomas.

After an animated discussion, it was decided that four book prizes be given to the students showing the most marked increase during the time they have been under the tuition of the class teachers. It was left to the latter to make the recommendations and select the prizes. Mr. Wells was added to the committee. It was decided, if necessary, the committee could purchase books to the amount of \$50.

After a lengthy debate, it was definitely settled that no student or draughtsman can belong to the classes unless the architect for whom he works, is a member of the Chapter.

Committee on incorporating reported that as soon as the seal was obtained, the Chapter would be incorporated.

Warren H. Williams was unanimously elected a member of the Chapter.

Proposition of L. Stone was received as a student member. Referred to Henriksen, Moore, and Macy.

A lengthy debate then followed in regard to the premiums offered by the "Pioneers"

for their new building to be erected on Fourth Street. Mr. Macy had the honor to belong to the Pioneers, and from what he knew of the man to whom that Society would owe their new building, he did not think that if he were alive, such ridiculous offers of premiums would be made. The labor required for the production of the drawings was far in excess of value of the premiums.

Mr. Henriksen claimed life-membership in the Pioneers, but he did not propose to enter the competition. He would do so, provided that the successful competitor be awarded the superintendency of the building, with \$500, and \$450 for second and third premiums, and plans returned to the latter two.

Mr. Pissis then offered the following resolutions:—

1. *Resolved*, That the members of the S. F. Chapter of the A. I. A. refuse to compete for the proposed new building of the Pioneer Association, unless the conditions for the competition are altered to the satisfaction of this Chapter.

2. *Resolved*, That a committee be appointed to confer with the committee of the Pioneer building, in relation to the competition and whose duty shall be to obtain more acceptable conditions.

3. *Resolved*, That a copy of these resolutions be forwarded to the committee advertising for competition plans, and that every member of this Chapter be notified of these resolutions.

4. *Resolved*, That the President be requested to call a special meeting within a week, which shall be devoted to the subject of architectural competitions in general, and to the present one in particular.

Discussion then ensued upon the objectionable features in the pamphlet containing the offer for premiums for plans of the Pioneers' building. The main points were as follows:

The committee reserved the right to reject any or all plans.

This very bad feature should be changed so that the three premiums offered would be given for the three best plans.

The committee desired the architects to name their own fees.

This feature opened the way to any incompetent architect, by giving them a chance to place their fees at one, two, or three per cent. Professional services have a standard value, and by common consent the world over, five per cent. is the regular fee of all first-class architects. Nothing less than this should be given.

The committee called for contractor's estimates to verify those made by the architect.

This feature was especially condemned, as no first-class contractor would prepare estimates for such a large building much short of \$100. This the architect would have to pay; the committee from Pioneers, by rejecting any and all plans, would thus leave the architect minus all moneys paid for contractor's estimates, besides their own time and trouble.

The adoption of the first premium plan did not give the successful architect the right to superintend the building.

Thus after months of study and labor the successful competitor might have the pleas-

ure (?) of seeing some one else superintend a design, the details of which he would be in entire ignorance. This fact debarred at once first-class architects from entering the competition.

The above were the principal objections raised, although many others were noted. The following resolution was then adopted.

Resolved, That it is the sense of the S. F. Chapter American Institute of Architects, that it is opposed to enter into any such arrangements as have been offered by the Building Committee of the Pioneers' Association.

Unanimously carried. A committee was then appointed to wait upon the Building Committee of the Pioneers, and endeavor to have the conditions of the competition changed in conformity with the proceedings of this meeting.

Mr. H. G. Knapp, an architect from New York, was invited to address the meeting. He alluded to the fact that he had entered many architectural competitions, and was fully conversant with the conditions imposed in Eastern competitions, but in all his experience he had never been called upon to present plans, under such ridiculous propositions as have been offered by the Pioneers' Association. He considered it an attempt to make architects cut their own throats by naming the amount of their fees.

It could be also styled architects vs. manual labor, as all estimates would have to be verified by a contractor. He most certainly would not enter the competition under such terms as were presented in the pamphlet.

The original resolutions were then put to a vote and unanimously adopted, and the following named gentlemen appointed as the committee to wait upon the Pioneers: Messrs. Wright, Curlett, Macy and Pissis. The whole subject matter was left entirely in the hands of the committee.

"Chock Full of Days' Works."

THAT is an interesting and suggestive anecdote that is told of the young countryman who asked the hand of a young girl in marriage from her parents, and in response to the inquiry whether he had any property, replied that he had not, but that he was "chock full of days' works." These are the true source of wealth, and the surest basis of credit. The person who has health, energy, ability and honesty, who is full of "days' works," can generally be trusted. To such a person the extension of credit is a benefit which words cannot measure. The best help in the world is that which helps one to help himself—which puts in his hands the tools wherewith to carve the fortune of life; and this is oftenest done by the judicious granting of credit.—*American Artisan.*

A PROCESS FOR FROSTING GLASS.—To give glass this appearance, it is only necessary to coat it with the following composition: Sulphate of magnesia diluted in beer, with a little dextrine added.

George H. Wolfe.

SECRETARY S. F. CHAPTER OF ARCHITECTS.

WE publish in this issue the accompanying likeness of the Junior Editor and Business Manager of this Journal, not because of his being such, but as an officer—Secretary—of San Francisco Chapter of Architects, to which position he has been twice elected by the Chapter, in addition to his serving in the same capacity in the Pacific Coast Association of Architects during its existence.

Mr. Wolfe was born in the city of Baltimore, Md., December 29, 1843, and is therefore a little over forty years of age. He arrived in this city in the early part of May, 1852. Attending the public schools, he finished the scholastic course by graduating from the high school contemporaneously with several of the gentlemen engaged at the present time in the practice of architecture on this coast.

Upon leaving the high school, he applied himself to the study of architecture in the office in which he is now junior partner, remaining there for some time, until smitten with the "mining fever," of '63, which at that time raged throughout the State as a great moral and financial pestilence, exciting and overpowering the better judgment of thousands who were then following avocations and pursuits which if

adhered to, would in due time have yielded a pleasing if not bountiful harvest of profit and comfortable wealth. But the excitements and allurements of the times gaining the mastery, he wended his way "to the mountains," part of the time at Virginia City, and part in California, only to share the disastrous reverses which in 1864 carried down and crushed to poverty and want so many who were by the catastrophes of the times swamped and ruined. After this he applied himself to practical constructive pursuits, until the early part of 1880, at which time he returned to this city and became associated with, and soon after was admitted as full partner in the pub-

lication of this Journal, and as a member of the architectural firm of Wolfe & Son.

Those who know him personally will accept the fact that he is earnest, attentive and diligent in the department of the editorial and managerial work specially under his care, and in assisting in placing this Journal upon the pedestal of pre-eminent success, and achieving for this, the pioneer architectural publication upon the Pacific Coast—a reputation world wide for its correctness and fairness in the presentation of all matters connected



GEORGE H. WOLFE.

with building interests and other relative matters and sciences.

The object of our series of likenesses is in no way intended to mitigate adversely to any member of the profession nor in Chapter fellowship, but to provide a practical means whereby the features of the Chapter members of the present period may be preserved and handed down to coming generations. This will be the case, as thousands of the yearly issues of this Journal have been bound and placed in private and public libraries, to remain as books of interest and reference; so that when we who are now occupying our time and energies in architectural pursuits shall

have passed beyond present conditions, those who shall fill our places will have it in their power to look upon the picture countenances of those who were before them.

In addition to the Chapter members, we shall be pleased to re-produce the likenesses of other prominent and worthy gentlemen in the profession, feeling that "not to the Chapter and Chapter members alone belongs all the glory" of architectural worth and abilities, but that among those who have not indented themselves in the Chapter work, there are worthy and excellent gentlemen whose like-

nesses are entitled upon professional considerations to rank with those who have assisted in founding and sustaining an organization which we believe is destined to accomplish a vast amount of good in a general sense—as far as the profession is concerned; and especially toward the student of the present time, in the promulgation of advanced thought, and the elevation of the profession to that high and honorable standing which its greatness and magnitude demand; and in perfecting and fulfilling the several excellent purposes contemplated by, and under the fostering care of the Chapter.

A Good Retort—Picture Architects.

ONE of our young architects, somewhat noted for his lack of harmony with members of the profession who have worked at the mechanical as well as the professional part of their

calling, while conversing with a prominent citizen in regard to a building shortly to be erected, took particular pains to run down another architect who had worked his way upward, after first becoming conversant with the use of the saw and jack plane. "Why, sir," said our young man, "Mr. — is nothing but a carpenter architect."

The answer came, short and decisive, "Better that, sir, than a picture architect."

The young man subsided and was not engaged, the "mechanical" architect receiving the preference.

Engravings made from Photographs. Address California Electric Engraving Co., 240 Montgomery St., Room 11.

Country Architecture.

BY A. CURTIS BOND.

THE illustration upon the opposite page shows the perspective and plan for a country cottage.

The general outline is sufficiently out of the ordinary to make it noticeable, a feature by no means to be ignored in country architecture. Painted in warm and striking colors, this building should be unusually striking and effective, but such a design requires more, I think, than a plain house, good judgment in laying on of exterior ornamentation and decoration.

The specifications for this building the architect suggests should be as follows:—

Plan.—To be as shown at length in the sketch.

Timber.—Sills, 4x10; posts, 4x8; interties, 4x6; plate, 4x6; first and second story floor joists, 2x10; third tier, 2x8. All joists supporting partitions to be 3x10; rafters, 3x5. All doors and window studs to be double, and above to be of good sound spruce timber.

Framing.—All frame to be well pinned together, and all partition, where possible, to rest on partition below and not on floor joist. All joist of ten-foot space to have one row of bridging.

Exterior.—To be first covered with mill worked, tongued and grooved hemlock boards, then with good quality of sheathing paper, over which lay pine clapboards, and where shown on perspective sketch, to have rounded shingles; all to be free from loose or black knots. Cornerboards 1½x4 inches, water-table, 1½x6.

Cornice.—To be formed where shown and to project not less than one foot eight inches.

Roof.—To be covered with hemlock boards, then with blue roofing slate with corners trimmed off (or shingles may be employed at builders option). Ridge to be covered with zinc, valley of best brand tin, cutter formed at eaves with leader of sufficient size to carry all waters from roof to cistern.

Plumbing.—Fit up W. C., bath and stationary tubs, where shown on plan.

Painting.—All woodwork painted two coats of best white lead and linseed oil, of such color as may be selected.

Mason work.—Foundation nine feet high, cellar eight feet high and three and one-half feet above grades. Chimney where shown on plan and carried up above roof.

Specifications and drawings are intended to correspond so that any work shown on the drawing and not mentioned in the specifications, or *vice versa*, is to be executed the same as if it were particularly expressed.

There has been considerable comment and no little diversity of opinion upon a design submitted for the building of the American Institute of Architects in this city. The suggestion has been made that the *facade* employ and present examples of all the preceding styles in architecture, or, as the architect

says who submits the design: "In a building designed by occupancy by the American Institute of Architects, I consider that no *motif* could be more appropriate than an embodiment of a history of our art. I have therefore attempted to solve the problem of designing our historic *facade*, where every epoch in architectural history shall be represented by details from the best examples now obtainable, following each other in regular and orderly sequence. Thus, the first story represents the prehistoric period; in the second the Greek appears, followed by the Roman classic, closed in by the moresque arch. . . . Commencing with the Byzantine I have introduced the Romanesque, followed by the three periods of the Gothic. . . . Following the Gothic, which in the last period covers the whole width of the *facade*, typical of its universal acceptance by the building world, I have introduced sixteenth-century *renaissance* with modern *renaissance*, including Victorian Gothic, and the latest phase of all architectural design, Queen Anne. The gable is surmounted by Foley's statue of 'Caractacus challenging the World,' thus symbolizing the fact that whatever may be said of American skill and learning, there is nothing the matter with our ambition."

As may be surmised, this design presents a marvelous combination of all that is possible to gather from the permanent and refuse features of all manner and kinds of the worlds as architecture. The Indian rock-temples and the Stonehenge are patterns for the pre-historic periods, and then the tide of history aspires to the Temple of Dendero and Karnoc, the hall of Xerxes, the Eretheium at Athens, the Pantheon, St. Sophia, Canterbury Cathedral, Notre Dame, and so on down to Vanderbilt's new house in New York, all have been laid under contribution to complete a genuine *alla podrida* of brick and stone. Yet withal it is harmonious, this is the marvelous part of it, it demonstrates that an unlimited amount of appropriating may be indulged in without even the courtesy of changing the forms appropriated, and yet produce a presentable, even a handsome appearance. Of course this design may never be accepted, or even considered, it probably never will, yet it is an original idea, and one worthy not only of encouragement but of imitation in a certain way. There is no American style, there is not even a nineteenth century style, and our architects cannot do much better than devote some of their time and talents to bringing forth one. What can be shown in the year 2100 as the prevailing form of 1900? Nothing distinctive certainly, nothing but a rehash of the *renaissance*, or an occasional resuscitation of early English and Queen Anne. Why would it not be well to accept the hint thrown out by the architect who made the design I have referred to, and if we must adhere to the antique take a quantity of antiques and have at least the merit of new combinations and temerity in making them.

An English architectural paper has devoted considerable space recently to a comparison between English and American architects, showing, it must be said, a particularly pleasant appreciation of the talents of the American. A letter from their New York correspondent very cleverly closed the case by saying that in this country the architect worked much harder than in England; he had no half-holiday at the end of the week, and must exercise his wit and ability to its full capacity if he would compete with others in his line. The correspondent also took occasion to revert to the very damaging custom prevailing in the old country of admitting students to the architects' offices and making use of their services, regardless of their adaptability for the profession or their ability to learn it, simply because the students' parents pay a stipulated sum to the architect to tolerate the learner. Here, on the contrary, the student is paid for any services he may render, and in consideration of such payment he must possess an adequate amount of intelligence and capacity. We have too much business to demand our attention to spare time to incompetent assistants. This is as it should be.

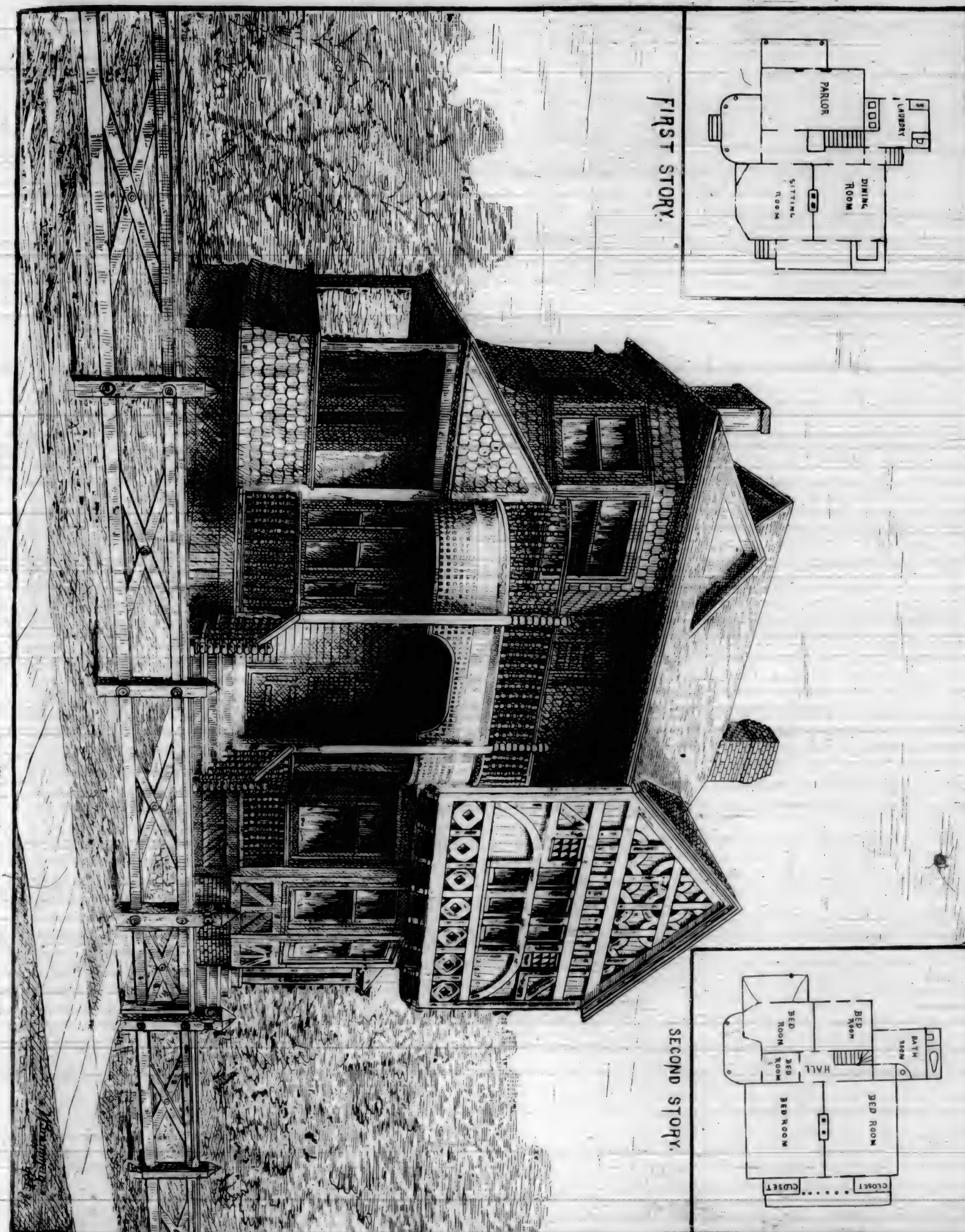
"The fashion now is decidedly in the direction of wall lamps," says a London paper. "Some are of great beauty. Two of a set I have seen are opal-tinted glass and two rose-colored. The sconces in which they are fixed are fitted in frames of mirrors, with beveled edges. These, in their turn, are framed in brass, beautifully chased. These lamps are placed near the four corners of a pretty drawing-room, the opal-tinted and the red alternately. As the wall paper is a pattern of daisies in gold and pink on a ground of warm cream color, the effect is very good. Candles with pink shades are scattered about the room in pairs, and at a table in a corner a low reading lamp sheds a softened radiance upon books and writing materials."

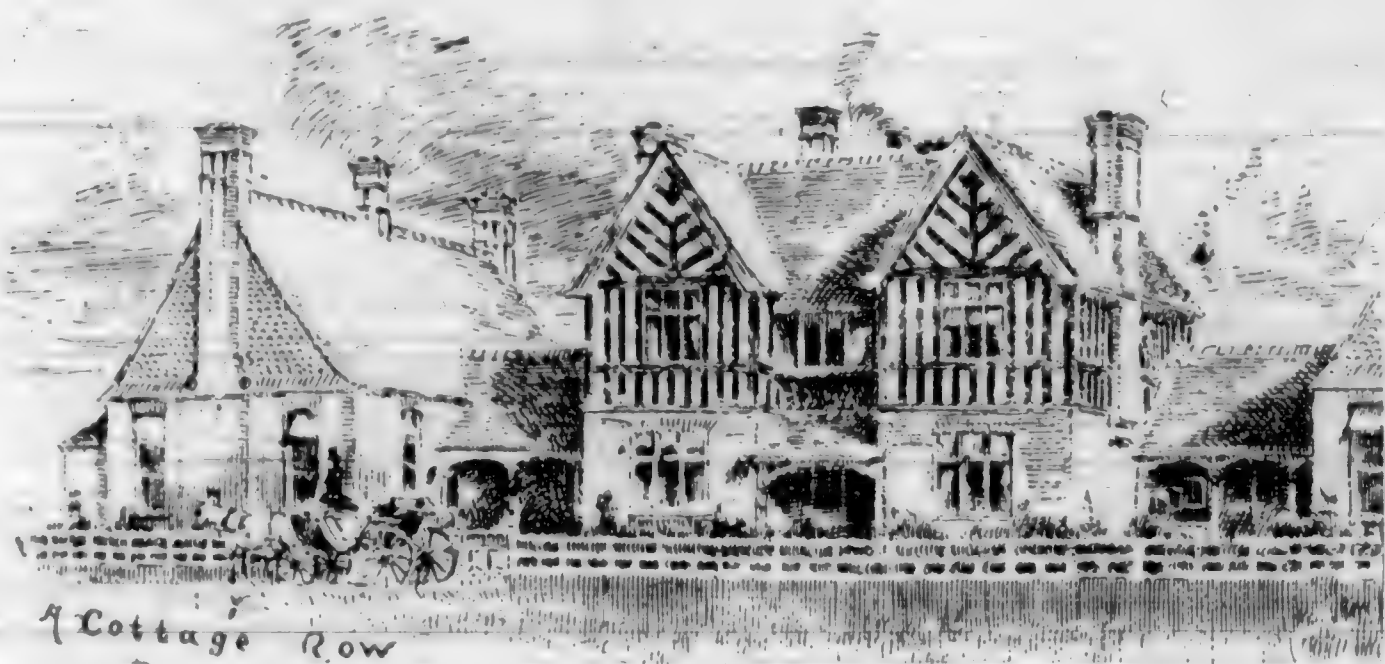
MORE AFFECTATIONS NAILED. — "That's right young man, say 'gaz' just because you heard some one else say it. Don't look into a dictionary to find there is no such word in the English language. Just keep right on saying it and people will know that you fasten your scarf pin by note, but pronounce your words by ear. For the same reason, do not say vawz, say vawz. Then, in speaking of yourself, pronounce the double s like z, to make yourself rhyme with your kind of gas."—*Burlington Hawkeye*.

CLINKERS may be loosened from fire-bricks by throwing in the fire box, when very hot, two or three quarts of oyster or clam shells, or a less quantity of salt, allowing the fire to go out; then cleave off the clinkers.

PAPER gas pipes are made. The fact that they will not freeze up will be sufficient to turn all plumbers against them.

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Illicit Commission.

OWING to protracted illness, we have not been able to notice in due season several matters of interest which have come to the surface within the past two months.—SENIOR ED.] Among these is an article which appeared in the *London Truth*, October 18, 1883, in which assertions are made and insinuations thrown out in reference to architects obtaining and receiving illicit commissions, which if true according to the writer's one-sided views of the case, would place the personals of the architectural profession in all civilized countries in no enviable light. The matter was taken in hand by the *Royal Institute of British Architects*, and a positive denial of the charges made, as far at least as the reputable and competent, and the larger proportion of the profession, are concerned.

Correspondence passed between the officers of the institute and the editor publishing the slanderous statements, with the result that the offending journal, *unable or unwilling* to substantiate its charges, was placed in the position of a common villifier upon *speculative, presumptive, and unsubstantiated* by proof-assumptions of a state of possible facts, applying and spreading the odium of moral irregularity over the garments of all alike, reserving no virtues for the larger proportion of truly honorable men in the profession, whose hands are unsoiled as to any unjust or dishonorable transactions as far as their clients' interests are concerned. The controversy has been entered into and reviewed by some of our European and Eastern contemporaries, and several interesting articles, editorial and correspondent, have appeared, sustaining the proposition that while there may be, and doubtless are, men practicing the profession in all parts of the world who would feel but slight if any compunctions of conscience at anything they might do within the law to fill their purses with coin, no matter how obtained. There are also a very large proportion, and we hope a large majority of architects against whom the *Truth's* charges cannot be sustained.

The matter of "trade discounts" is given prominence in the article in question, and the effort made to make it appear that architects receive the financial advantages arising from this trade rule. But it seems to us that no

man of respectable intelligence would, upon due reflection, assume any such theory. If the architect in any particular case occupied the position of purchasing agent for his client, then the opportunity *might* be utilized by him as such agent in the purchases made. But all such opportunities disappear when the purchasing is done by the contractor in his own interests. A specification may call for Brown's patent this, or Jones' patent that, etc., upon which there may be trade discounts. But every intelligent contractor understands the fact of such discount as well as the architect, and every contractor is sure to avail himself of the benefits arising therefrom, thus closing the door against the architect as far as receipts from such sources are concerned. As a rule, the intelligent classes of contractors are far better informed as to prices, trade discounts, etc., than architects can very well be. For a knowledge of market values, costs, and prices, is one of the most important and necessary qualifications to successful contracting. And when men's interests are surrounded with doubts and uncertainties, as in the case of competitions, which often result in the low bidder being but a few dollars and sometimes only a few cents below the second, every advantage of trade discounts and all others are utilized to the fullest extent, and the owner, not the reputable architect, receives the benefit of such trade rule.

OWNERS AT FAULT, AND ARCHITECTS FOOLISH.

Whatever grounds there may be for charges and complaints against a *portion* of those practicing architecture in San Francisco, and to a certain extent by influence reaching every member of the profession, the fault is largely on the part of owners in seeking and often succeeding in breaking down the legitimate charges for architectural services; and architects who yield to the grinding down process, and undertake work for no more, and perhaps less than the *actual cost* of producing the plans, specifications, and details, assume one of two positions, *first*, of being absolute business simpletons, or, *secondly*, caring nothing for the understood pay to be received from the owner, relying upon the outside resources possible of manipulation, by and through which the owner is made to pay, *indirectly*, the full legitimate commission of five per cent., an

perhaps much more. As long as owners will run to and accept the services of that low order of architectural pretenders who neither possess nor care anything about moral integrity or architectural qualifications, just so long will irregularities exist; and we heartily rejoice every time we hear, as we often do, of owners being badly used by those whose services they have accepted upon the basis of pretended cheapness.

Cheap architects, *cheap* doctors, *cheap* lawyers, and every other *cheap* thing is within the same category, intrinsically of little value, and cannot be made to fill the place of the better kind. And it is greatly to be regretted that the services of good, faithful and competent architects are under-estimated by so many owners, and that trustworthy and honest men in the profession are refused engagements simply because some one else, perhaps of infinitely inferior qualifications, is willing to render services at almost any rates of compensation that may be offered them.

Lincrusta-Walton.

A SPECIES of decorative material known as Lincrusta-Walton, an English production, is meeting with considerable favor where it has been introduced. The material is composed of linseed oil, pulverized cork, and other ingredients, mixed and pressed into carefully made moulds of various designs. It is said to be impervious to moisture, and if this be true, it will prove a valuable addition to decorative material. It is a pleasant substance to paint upon, and the artistic patterns into which it is stamped render the painter's work easy. It is put up like wall paper, with a strong paste made of glue and paste. The chief drawback to its use is its high price. This is, of course, very much less than wood-carving, which it resembles in effect, would be; but as compared with wall paper and some of the other cheap means of decoration, it is considered expensive. It bids fair, however, to find its way into some of the better grades of buildings, when its merits become fairly known. Perhaps its cost will be reduced in time, when the demand for it shall have become large enough to warrant its manufacture on a larger scale than is done at present. We are informed that furniture and picture frame manufacturers think of substituting Lincrusta for the carved wooden, or raised ornaments on their products, on account of its cheapness and clearness of outline.

ACCORDING to the best scientific authority on the interior finishing of dwelling-houses, wall-paper should not be manufactured, as has always been the case heretofore, in a manner to be perfectly air tight. The reason of this is that, hygienically considered, the walls of a house, like the materials of clothing, should be porous, having free intercourse with the open air. It is also believed that water proof paper such as has come into such extensive use causes increased dampness of the walls, the stoppage of all circulation of air necessarily preventing their drying—this prolonged dampness of the walls being unhealthy and productive also of other evils.

Henry C. Macy.

TREASURER OF SAN FRANCISCO CHAPTER.

PIONEERS of San Francisco include those who came to this city prior to the admission of California as a State into the Union, and the subject of this sketch is one of the rapidly decreasing numbers that are justly known by the term Pioneer.

Mr. Macy was born on Nantucket Island, on the 4th of August, 1821. Having a natural gift for the use of tools, he was early apprenticed to the carpenter's trade. His career as a contractor began in the city of Providence, Rhode Island. He left that place to establish a sash and blind factory for Mr. Davenport in New Bedford.

Shortly after this his native place was almost destroyed by fire, and he went home to devote his time to rebuilding the burnt district. About this time the gold fever in California broke out, and his attention was attracted towards the New El Dorado. The staid New England ways had no more attraction for many ambitious and energetic men, and so, in company with scores of others, Mr. Macy started by the way of Cape Horn to the Golden State. He arrived in San Francisco in the fall of '49, a memorable year in the history of this State.

For ten years Mr. Macy practiced his occupation as a master mechanic. We also find him at this time closely identifying himself with the Mercantile and Mechanic's Institute Library, and the facilities offered by these institutions were duly appreciated and taken advantage of by Mr. Macy, in preparing himself for the profession which he had chosen for his future course.

In 1860 he began his first work as a professional architect, and since then has attained a well-deserved rank in the profession. We say well deserved, because we think the title well earned. From 1849 to 1860 was a very stirring time in the history of California, and to become a professional architect, much time and study was required, and when a person passes through such busy times as were then experienced, giving up his evenings to study, he is honestly entitled to due credit.

Mr. Macy, in September, 1883, was elected for the second term as Treasurer of the Chapter. He is one of those who can nearly always be counted upon as being present at every meeting. His whole soul is in the idea

of a general spirit of harmony among all the members of the architectural profession. He is also one of those who are truly earnest in encouraging the younger members to adopt a high standard for the future. The "traveling studentship," mentioned in our last issue, receives his warmest support.

During the past twenty years, several different architectural organizations have been started, but owing to the lukewarmness of many of the members, they gradually went out of existence. In all these different attempts to establish a society, Mr. Macy was very earnest in his endeavors to place them on



HENRY C. MACY.

a sound basis, but his efforts were not as successful as they should have been. After a silence of several years, the present movement was started, and we again find Mr. Macy ready and willing to devote part of his time and energy to the formation of a Chapter. This time he has seen the effort a successful one, owing to the general unanimity among those engaged in the profession, with this advantage, however, over former attempts: A successful architectural journal, devoted specially to the architectural and building interests of the Pacific Coast.

Mr. Macy's conversational powers are such as to render him a pleasing companion, and his extensive researches of ancient and modern historical and scientific works, enable him to deliver very entertaining addresses upon any subject connected with the profession.

Domestic Architecture.

OUT of our century of bareness in art we have at least gained this truth: that no art will at present flourish here which does not aim at the benefit of the million. Domestic architecture will, therefore, be our first general artistic success. For every fourth or fifth man promises himself, some day, the best house he can afford. And when he learns that architecture is not a costly superfluity, but the soul of his building, which moulds the brick or wood of its bodily form into beautiful, because truthful expression, our noble orders will begin to appear. To be American they must be inexpensive. For the theory of republicanism is, that the only worthy ends of earth—culture and refinement—are attainable without wealth. The mad haste to be rich, so characteristic of this time, springs largely from an awakening but still ignorant love of the beautiful, which imagines that its price is money. The remedy lies in the propagation of the gospel taste. That declares the first law of beauty to be honesty of intention. Thus a house which costs three thousand dollars may be as good art as one which costs thirty thousand dollars, if it will own its cheapness and derive its beauty from true proportions and harmony of hues. The moment it pretends to an effect which its cost forbids, it is remanded to the great limbo of the vulgar.

What is true of the house is true of its furniture. Cost has little relation to beauty, whose first element is honesty.

esty, grace of form, and richness of color following after. Thus a kitchen poker may be artistic, if made in the manner and of the material exactly adapted to its use, while a pink satin and gilded parlor chair is inartistic, because too fine to be sat upon.—*Builder and Wood Worker.*

THE best way to clean mirrors, the glass of pictures, etc., is to take a soft sponge, wash it well in clean water, and squeeze it as dry as possible; dip it in some spirits of wine, and rub over the glass, then have some powder blue tied up in a rag, dust it over your glass, and rub it lightly and quickly with a soft cloth; afterward finish with a silk handkerchief.

PLINY says that four-wheeled carriages were invented by the Phrygians.

The Trade Element in Professional Practice.

It has been frequently and by no means inconsequently asked whether architecture is a profession. To such a query, when addressed to us, as it has been more than once, we have emphatically replied in the affirmative. At the same time we cannot help feeling that in the increasing development of the trade element in architectural practice there is much that is calculated to inspire a contrary belief. If we take the profession as a whole we shall find it made up of two distinct classes (1) those who reduce architecture to the dead level of a means of livelihood, and (2) those who live for, as well as by, their art.

To the first-named class belong all the attributes of the commercial speculator, with identically the same motives. Their success in life depends on their general capacity for business rather than upon any intimate acquaintance with the art of the profession into which they have inducted themselves. If, by any means, they can secure a fair modicum of clients, their course is tolerably easy. The accomplishment of the work devolves upon the clever assistants and competent foremen with whom the architect-tradesman is shrewd enough to surround himself. Now, it is this class of "architects" who have developed the trade element in the architectural profession to its present inordinate degree, and which we cannot but regard as damaging to the status of the profession and obstructive to its art. The close assimilation of the art of architecture with the business of building renders the introduction of this trade element comparatively easy, and all the more insidious in its growth. A knowledge of the latter by no means implies the ability to practice the former, yet how often does not this theory find actual exemplification?

In many ways well known to our Friends in Council, and also to our readers generally, does this trade element disclose itself; but its nursery is undoubtedly amongst the class of men who prostitute architecture to the mere pursuit of mercenary ends.

Wherein shall we find the remedy? Surely in a united and concentrated effort to raise the status of the profession beyond the reach of all future intruding "speculators." The character of a "profession" and its right to the dignity of such a title is determined by the qualifications of its individual constituents for the legitimate practice of that profession. In the professions of law and medicine there are practically no charlatans or quacks; in the architectural profession their name is legion. To rid our profession of these is a duty we owe no less to ourselves than to our art, and our hopes lie rather in measures that shall prevent their future admission than in ousting those already established. It ought to be impossible for a brass plate to constitute a sufficient diploma for a man to set up as a qualified architect.

We have raised the standard of the Institute examinations, and we have done much in

the establishment of educational classes in connection with our metropolitan and provincial associations. But what of the many practices which now obtain in the profession, and which not only merit censure, but deserve total abolition? The Institute has talked, and it has rebuked offenders, but what has it done? The offenders may sever their connection with the Institute, but they continue practicing all the same. In the law profession, if any member of it is found guilty of conduct unbecoming the status of a gentleman and of the profession, he is not only cut off from membership, but his profession knows him no more. A barrister, though he may remain briefless for the whole term of his natural life, is not permitted to solicit briefs; he has simply to wait. But an architect may advertise himself right and left (and does); he may "tout," and use every influence, direct and indirect; yet it is not deemed an undignified thing to do; and, trade-manlike, he reaps his reward. This practice itself must, as we urged long ago, have a material influence on the status of the profession, and there is no disguising the fact that it is one of those trade elements which tend to the lowering of such status, and incline school boards and other public bodies to find out, by advertisement, for *how little per cent.* an architect can be found to work.

Is it not time this trading spirit, so surely developing to the hurt of the profession at large, was checked, if not entirely stopped? The evil is widespread, and therefore the more dangerous. The question of a remedy for it is, we maintain, a personal one—personal as it concerns the welfare of our art, and personal as it affects the professional status of each individual who practices it. To put down those practices which are detrimental to the best interests of the profession requires not an individual outcry, or a single bright example, but a strong, united protest, and earnest, concerted action; it is for this we appeal. Then, in a profession purified of the abuses which have been allowed to creep in during these latter days, we may hope to see less of that trading spirit which now animates so large a section of our profession, and more of that spirit which has Art as the source of its inspiration. So shall we emulate the master-spirit which should be the mainspring of all our work, and of which Carlyle wrote: "Thou canst not hire him by thy guineas; nor by thy gibbets and law penalties restrain him. Thou canst not forward him; thou canst not hinder him. Thy penalties, thy poverties, neglects, contumelies. Behold, all these are good for him!"

ARCHITECT.

We are told that Solomon's Temple at Jerusalem cost over seventy-seven millions of dollars complete. There were evidently Government contractors in those days.

GUN cotton is insoluble in water, being unaffected even by long soaking. Strong sulphuric acid dissolves it with some difficulty.

Bound volumes of 1883 now ready. Price \$2.50.

Oils and Driers.

It is very necessary that the painter should know something about the oil he uses, as well as the pigments. It is apparent to every one that has used linseed oil that, as it dries, it undergoes certain changes. One authority computes that on the average linseed oil paint or varnish takes about three months to dry. As the oil grows harder it protects itself against the air—that is to say, its surface prevents the air from getting at the oil underneath the surface. It assumes the character of a solid hard leather, which contracts in drying and pulls itself together; the effect of this pulling or contracting is to produce cracks. The contraction of oil in becoming hard, and its sudden contraction under cold, are the chief causes of the difficulty experienced in varnishing. Varnish and oil usually crack in a direction across the grain of the wood, the chief reason of which is that wood does not contract in its length, and therefore the varnish in contracting cracks. Mr. C. L. Conder, in his useful book on painters' materials, observes that "oil dried in the sunlight and exposed to the direct rays will not last nearly as long as oil in the shade. Painters assert that oil dried in the coldest weather lasts the longest; it is difficult to see why this should be so, unless on account of the small loss of not-drying oil. When the oil is dry, or hard, the loss of not-drying oil goes on very slowly." We must refer the reader to the work of Mr. Conder for an examination of the causes of cracking; suffice it to observe that all painters are aware that too thick a coat or too many oil coats in one painting will cause cracking. Speaking of driers or "siccatives," which have an important bearing upon the subject, Muckley says that gum mastic, in the mediums used by English artists, has been a great injury to their pictures, and recommends copal varnish as the best drier. Others find the siccative of Harlem, made with gums, of value; but copal was largely used as a medium by the old masters. Driers harden the oil by turning it into soap; but this also may be destructive if the oil is made too hard.—*Building News.*

The "Columbus" Wrought Steel Kitchen.

THESE sinks are entirely new, being stamped from one plate of steel and superior to cast iron sinks in every particular, being lighter, stronger, and more durable.

Being made of *wrought steel* they will not break from heat, cold, or any cause whatever.

Prices range from \$1.80 each for 16x24x6 size, to \$4.00 for 20x40x6 size.

Richards & Snow, 406 and 408 Market St., are agents on this coast for these sinks.

THE temperature at which dry-rot of timber proceeds most rapidly is 80° F.

We cannot supply single numbers complete for the year 1881. A few bound volumes of that year can be had for \$2.50 each.

Thomas J. Welsh.

THE subject of this sketch may be justly termed a Californian, for, although born in Australia in 1845, his advent on this coast occurred when he was but a child. The Junior Editor of this Journal can speak from personal knowledge of Mr. Welsh's career, as each attended the same school, and for many years their paths of study and duty lay in the same general direction.

During the whole course of study, through all the gradations from primary to high school, Mr. Welsh's career was marked by an earnest thoughtfulness coupled with an anxious desire to excel. His especial attention was given to geometry, history, and the natural sciences. The principles of the first study he early mastered, and the benefit therefrom can be seen in the ease with which to-day he masters the intricate problems so often met in the practice of his profession. His love for history led him to study the monuments of ancient Rome, Greece, Carthage, and Egypt, and the record of the architectural ability there displayed.

Passing from school life, we next find Mr. Welsh engaged in mastering the practical part of his chosen profession. Under the instruction and guidance of some of the master builders of the times, he early became proficient as a mechanic.

(We may be pardoned for making a little digression here. Many of the more prominent architects—both in the present and in the past—are, and were those who have thoroughly mastered the building trade while young. Most of the prominent architects now practicing their profession in this city, are those who have first become conversant, in a practical way, with the saw, jack plane, and trowel.)

His course of mechanical study being completed, Mr. Welsh next engaged in office duties. Under such instructors as Messrs. Farquharson, Kenitzer, and George Bordwell, he made rapid strides in the study of Architecture. In 1872 he commenced business for himself in his present location, and his success has been very flattering to himself as well as to his friends.

The earnestness in every study which marked Mr. Welsh's scholastic career, is still evidenced in the works of his later life. Many of our churches owe their architectural beauty

to his thoughtful study and skill. Some of the finest monuments and memorial tablets now gracing Calvary and other cemeteries are the result of his ability. Many of our private dwellings—from the costly mansion to the humble abode of the mechanic—have been planned and erected under the same superintendence.

During the past year Mr. Welsh was elected Architect of the School Department of San Francisco, a position which he now holds. He is also President of the San Francisco Mutual Building and Loan Society, a member of the San Francisco Chapter, also a Fellow of the American Institute of Architects. In each of these, the duties involved upon him, whether



THOMAS J. WELSH.

as member or officer, are attended to with earnestness and a general endeavor to advance the interests of all concerned.

During one term Mr. Welsh was Treasurer of the San Francisco Chapter. In all his dealings with the Chapter as a body, and the individual members thereof, Mr. Welsh has endeavored to carry out ideas of professional courtesy among his architectural brethren, and to sustain a dignity and harmony of action that should always characterize men in artistic callings.

METHYL alcohol, or wood naphtha, is an alcohol obtained as one of the products of the destructive distillation of wood.

The Demand for Skill.

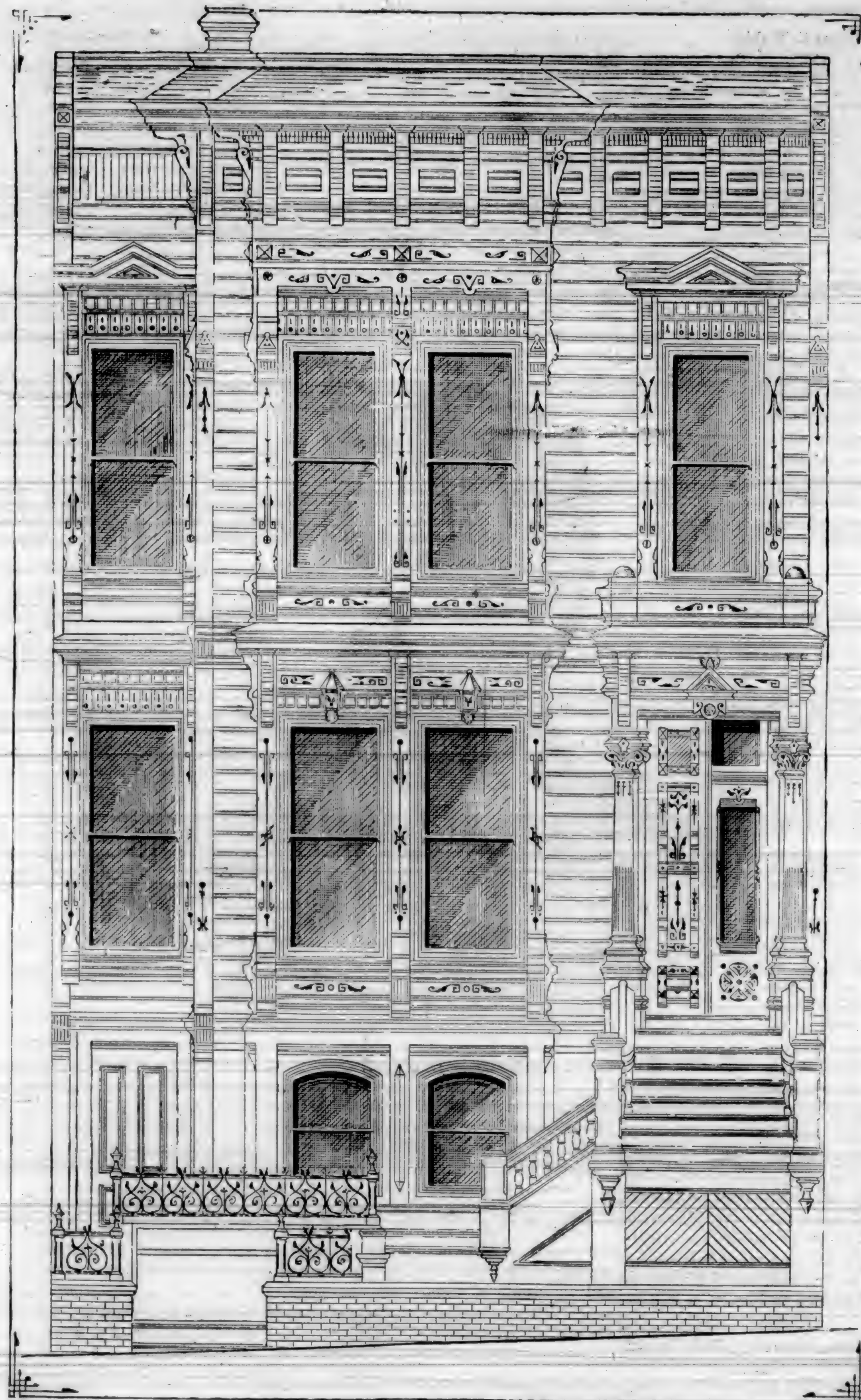
NOTWITHSTANDING the present slackness in business, there is a demand for skill in the mechanic arts now, as there usually is. The proprietor of a manufactory of machine tools recently supplemented a jeremiad on the dullness of the times by an inquiry for several first-class workmen. In explanation he said he had more than he needed of the qualities of "main strength and stupidity" in his establishment, but still had room for cultivated eyes and hands guided by judgment; in short, skilled workmen were in demand.

There is reason for this condition of affairs. The more nearly absolutely automatic machinery can be made, and the more exact hand tools and appliances can be made, the more exacting are the demands for personal skill and judgment. Machines are made, they do not grow, and they are made by the intelligent and skillful mechanic. They will not even keep in useful operation and continue in useful life except by constant care and the oversight of the skilled mechanic.

The time has passed when the idea of working materials was to hammer and bang them into shape somehow, with crude tools and cruder appliances. In the case of the metals especially, the workman uses good judgment with fine tools. No finer work is done and no more perfect results are obtained in any department of human production than in that of the working of metals, and to accomplish such results the most exact of tools must be wielded and guided by the most skillful hands and the most careful judgment.—*Scientific American.*

PAPERHANGER'S PASTE.—First heat water to boiling, then add flour, with constant stirring. To prevent the formation of lumps the flour may be passed through a sieve, so as to ensure it more equable distribution. Agitation is continued until the heat has rendered the mass of the desired consistency, and, after a few moments' further boiling, it is ready for use. In order to increase its strength, powdered resin in proportion of one-sixth to one-fourth of the weight of the flour is added. To prevent its souring, oil of cloves or a few drops of carbolic acid are added.

CARPETS are now being made from paper.



ELEVATION FOR CITY RESIDENCE COSTING ABOUT \$7,500.

"Architectural Competitions in General and the Pioneer's Competitive Plans in Particular."

A PAPER read before the San Francisco Chapter, A. I. A., on Saturday evening, Feb. 9, 1894, by Horace Greeley Knapp, late of New York.

Mr. President and fellow-members of the American Institute of Architects: With your kind fraternal courtesy I gladly avail myself of the present opportunity of submitting to your consideration a few thoughts and ideas on the subject which you have assembled this evening to discuss, namely, "Architectural competitions in general and the Pioneer's competitive plans in particular."

With a due regard to the limited time at your command for the business of the evening, I shall be very brief, touching only upon such points and features of the subject as are, I trust, especially suited to the occasion and as may be most worthy of your attention.

The subject of architectural competitions is unquestionably one of the most vital and formidable problems that is now presented to the architects of this country, and so long as a due appreciation of its importance and its true relations to the profession and the public is not established, so long will the master art have but a languid vitality and the domain of true architecture be usurped by the aberrations of incompetent tyros. Well-conducted competitions may possess certain apparent advantages to both architect and client, but these seeming advantages are so unreal or insignificant compared with the inevitable evils by which they are attended and offset, that many of our best architects, those whose lives and whole energies are devoted to advance the art and sustain the dignity of the profession, are beginning to hold aloof from all competitions as being baneful in their tendency and dishonorable in their requirements. All architectural competitions are thus deprived of some of the best skill and talent in the profession, and many, by the peculiar conditions imposed, engage only the worst. In the latter event, which under the present system will soon become the rule rather than the exception, the client and the public are forced to accept the most worthless productions, and respectable architecture is judged by this miserable criterion. And herein lies the chief source of the discouraging impediments to architectural progress in the United States. The demand for superior work must arise with the public. The tendency of unrestricted competitions is to corrupt and vitiate public taste and bring the noblest of all professions into contempt. There is no profession in which the highest degree of thorough proficiency and skill is attained by such assiduous toil and study, and there is no other profession that is subjected to such beggarly humiliations. Since arriving in San Francisco, I have received from a well-known physician in New York, a letter, which, together with my reply, may be of interest. The doctor writes as follows:

"MR. H. G. KNAPP—My Dear Sir: I wish to procure and consider plans for a suburban residence, which I intend to build in the 23d Ward, this spring. If you wish to submit one of your designs in competition with other architects, I shall be glad to send you full particulars.

Truly yours, etc."

To this I sent the following reply:

Dr. —, Dear Sir: In reply to your favor of the 18th ultimo, I would say that I must decline your kind offer. By way of reciprocating your generous intentions, I beg to advise you that I am suffering with a severe cold, and have concluded to have it cured sometime between this and spring. Should you wish to tender your services in competition with several other physicians, I shall be pleased to receive and examine your prescriptions, etc. To save time I will state that the terms and

conditions of the competition are as follows: The dimensions of the cold, upon which you are to exercise your best skill, are very great, and must be determined accurately by the competing physicians. It was perhaps contracted by exposure to climatic changes, but this you are to ascertain by careful diagnosis and a detailed analysis of all matter bearing upon the subject. Your conclusions, in the form of a voluminous treatise on the subject, in the preparation of which you shall have expended at least two weeks labor, must accompany your prescriptions. The prescriptions will be submitted to the examination of a drug clerk, who will be required to vouch for their wholesomeness and efficacy. Physicians will also tender proposals naming the amount for which they will cure the said cold in case their views and suggestions meet the patient's approval and their nostrums are favorably reported by the drug clerk. The patient reserves the right to reject any and all medical services after the same shall have been rendered.

Very truly yours, etc."

Now, to the professional physician, the foregoing proposition could only be regarded as a ludicrous joke. Yet this is a fair example of much of the condescending patronage with which the architect is favored, and so long as these indignities are tolerated and encouraged by the profession, the public will have little desire and feeling for the art, and little respect for its practitioners. When professional practice has been reduced to a mad scramble after the naked bone which is generally offered as a competition prize, architects lose all self-respect, and entirely forget the courtesies that are due to their professional brethren.

When we consider the lavish waste of labor involved in architectural competitions, and which falls entirely upon the profession, we are amazed at its magnitude, and we might well seek to destroy this parasite that has so effectually sapped our practice of its virtue and vitality. A recent competition in New York brought in over two hundred designs, not one of which met the given requirements as fully and intelligently as might have been done by any skillful architect who could command the advantages of constant verbal intercourse with his client, and who was not hampered and hedged in by the unwise restrictions of the circular of instructions.

About four years ago Mr. Thomas Porter, a Fellow of the Royal Institute of British Architects, gave to the Institute some very interesting statistics of the number and enormous cost of competitions in England. After careful analysis of all the competitions advertised for two and a half years, he found that the average annual cost of competitive drawings was \$125,000, and this enormous sum only represented, not the actual value of the drawings, but the mere cost of preparing them, making no allowance for the time and labor of the architects themselves, who submitted them.

If this is the situation in England, where the profession commands prerogatives and a general respect, which is denied it here, we need not wonder that with this vast and perpetual waste of energy and substance, American architects are prone to employ unprofessional expedients to recompense their losses, and that building committees are frequently captured by *ad captandam* artifice.

Competitions must be accepted, however, as a necessary evil, the fruits of which fall alike to the architect and the client, and the question with us is not, How can they be abolished? but, How can they be properly regulated? There is, to my mind, but one practicable method, and that is the general adoption by the leading architects of the United States of a carefully considered schedule of terms. This has already been done by the St. Louis architects, and resolutions affecting members

engaging in competitions were passed by the Institute in 1878.

Without attempting to suggest the regulations in detail by which architects should be governed in open competitions, I will briefly offer the following hints for a general schedule of terms.

The amount of the premiums should, in the aggregate, be equal to the amount to which an architect would be entitled for such work were there no competition.

The author of the first premiated design to be employed to take charge of the work at the rate of compensation established by the American Institute of Architects.

The designs to be submitted to a jury, one member of which shall be an architect of acknowledged ability who is not directly or indirectly interested in the competition.

All the designs, excepting the one adopted, to be returned to their respective authors.

A definite date to be fixed for final judgment on the designs submitted, and the decision to be announced and the rejected designs returned on that day.

Regarding the Pioneer's competitive designs, I am perhaps not so well qualified to express an opinion as yourselves, being a comparative stranger in San Francisco. I am impressed with the feeling, however, that the committee, in fixing their terms and conditions, have been governed by local precedent, and their best judgment based on the existing public estimate of matters architectural. They have, at least, made some little gracious concessions, having, in their amended circular, eliminated two very objectionable paragraphs.

Personally, I would say that, having entered this new and inviting field in response to the demands of my wife's health, I must confess the temptation to embrace any just and honorable opportunity for establishing my practice in so pleasant and promising a clime. I shall therefore await the result of your deliberations with interest.

Lumber Receipts in 1883.

THE Secretary of the California Lumber Exchange has furnished us with the following statement of the amount of lumber, etc., received in this city during the past year. It will prove interesting in comparison with other cities.

Redwood, rough, ft.	52,296,987
Redwood, rough, clear	7,675,922
Redwood, dressed	41,570,386
Redwood, dressed, 4-inch	142,169
Redwood, siding, 4-inch	196,176
Redwood, battens, 4-inch	237,003
Redwood, pickets, rough	1,603,527
Redwood, pickets, dressed	554,983
	105,274,133
Pine, rough	131,204,003
Pine, dressed	14,893,844
	146,097,847
Spruce, rough	21,510,513
Spruce, dressed	563,824
	22,074,337
Cedar, rough	3,092,561
Hardwood	233,611
	3,326,172
Total	276,772,489
SUNDRIES.	
Shingles	134,360,300
Laths	33,599,500
Shakes	9,114,325
Ship Knees	1,437
Piles, lineal feet	1,736,776
Redwood Posts	793,118
Railroad Ties, rift	1,557,879
Broom Handles	373,600
Wood Slats	151,000
Spanish Cedar Logs	1,423
Laurel Logs, ft.	14,500
Primavera Logs	896
Spar, lineal ft.	5,967
Poles, lineal ft.	240

Special Meeting San Francisco Chapter.

A SPECIAL meeting of the San Francisco Chapter was held on Saturday evening, February 9th, to consider "Architectural Competitions in General and the Pioneers in Particular."

A large attendance was present. The President, John Wright, in the Chair.

The committee appointed at the last regular meeting to wait on the Building Committee of the Pioneers, reported as follows:—

SAN FRANCISCO, February 4, 1884.

THE San Francisco Chapter of the American Institute of Architects respectfully submit the following modifications to the Building Committee of the Pioneer's Hall Association in their circular addressed to architects, inviting them to compete for the proposed new building of the said association:—

1. That the drawings shall all be of a uniform scale of one-eighth inch per foot, and shall consist of a plan of each story, including basement, a roof plan, two sections, and two elevations. No colored drawings or perspectives to be considered. The plans and sections be colored to indicate the style of construction.

2. That the value of the premiums shall be increased on account of the great amount of work necessary to make complete plans. The increase in the value of the premiums will benefit the society inasmuch as it will insure a larger number and a better class of competitors.

3. That the premiums be paid in all cases, and be considered as a reward for the most meritorious design, and be not deducted from the amount of commission.

4. That the clause relating to a guarantee by contractors of the architect's estimate be stricken out.

5. Considering that the plans chosen will be the ones which will best answer the requirements of the society, and that the matter relating to the architect's commission would be only of a secondary consideration compared with the merit of the design, we desire that the clause implying a degrading underbidding from professional men be stricken out.

[Signed.]

JOHN WRIGHT,
ALBERT PISSIS,
Com. Mittee.

The report was received and committee discharged. An interesting paper was read by H. G. Knapp, which was ordered printed in full in the official organ. (It will be found in another column.)

Mr. Pissis offered the following:—

Resolved, That the Chapter disapprove of the present competition, as the terms are unjust and the premiums insufficient.

After a long debate the resolution was unanimously carried.

The following resolution was presented:—

Resolved, That in future no competition shall be entered into by any member of this Chapter, unless the terms are in accordance with rules to be made by a committee, and these rules be approved by the Chapter, said committee to be appointed at next meeting.

Amended so that the committee shall consist of five Fellows, whose duty it will be to take into consideration the whole subject matter, and also to take cognizance of the above resolution, the committee to be appointed by the President.

Messrs. Pissis, Chairman; J. E. Wolfe, Curlett, Macy, and Gash were appointed to act as such committee.

Adjourned.

Some of the Objectionable Features Contained in the Circular to Architects for Plans, Specifications, and Estimates for Pioneer Building.

THE first part of the pamphlet contains a description of a building to cost about \$150,000; all modern conveniences generally found in buildings of like cost, are to be placed in the one under consideration.

"The committee will receive, examine, and consider all plans, specifications, and estimates so presented to them, and will select therefrom—subject to the modifications hereinafter named—the three which, in their judgment, seem nearest to meeting their requirements, returning all the others to the respective architects submitting them. The three so selected will be carefully considered and passed upon by the committee. For the plans, specifications, and estimates which most nearly meet the committee's requirements, they will pay the sum of \$500. For the next in order, considered from the same standpoint, they will pay \$300, and for the next \$150, retaining all three as the property of the society.

"The committee reserve to themselves the right to reject any and all plans.

"It is distinctly understood that the committee incur no responsibility, either for themselves or the society, for any plans, specifications, and estimates other than the three to be selected as hereinbefore set forth, all the others being at the disposal of the parties submitting them, without any cost whatever to the committee or the Society of California Architects.

"It is further understood that all estimates furnished by architects shall be indorsed by some well-known contractor or contractors, with the proviso that such contractor or contractors are willing to contract for the erection and completion of such building for the amount named in such estimates.

"Architects competing will advise the committee when their plans are submitted what their professional charges will be in case their plans are adopted by the committee, and approved by the Board of Directors. The plans for which the first premium of \$500 is to be paid, if adopted by the committee, and approved by the Board of Directors as those from which the building will be constructed, will be subject to the condition that the premium will be considered part of the architect's professional charges, and will be deducted therefrom in final settlement."

LEBANON, Pa., Jan. 23, 1884.

GENTLEMEN:—In your issue for January, you publish a copyrighted design for a cresting. Wherein does the patent exist? An answer will greatly oblige a subscriber.

Yours, etc.,

HARVEY T. HAVER.

In the simple fact that it is *new and original in its design*. Neither fruits, flowers, leaves, nor any other thing produced by the laws of growth in nature, can be copyrighted *as such*, but in special combination, expressing or delineating *originality of conception* in the thing produced, even by the use and application of things and forms in nature not in themselves entitled to protection under the law in such cases made and provided,—the parties producing can claim exclusive right and find protection from infringement by copyright.

To the San Francisco Chapter.

I AM an old and decrepit pioneer. I also belong to the Independent Order of Odd Fellows. I do not feel as well and as hearty as I did thirty years ago. I might describe my symptoms and the causes which broke down my constitution, but I would rather not; respect my silence.

Three of our most eminent physicians have examined me thoroughly, and their opinions as to the manner of curing my numerous infirmities vary.

I take this occasion to thank them sincerely, and I earnestly hope they understand that, as I have not as yet adopted the modes of treatment which they advised, they shall not send me any bills for medical services.

Through their courtesy I know that I am suffering from a severe attack of the gout, and that my kidneys are badly affected.

Alas! alas! how I regret the follies of my youth; but it is useless to weep. Let us endeavor to recover our health.

Some treatments are long and tedious. Perhaps some physician may have discovered some new remedy which will exactly suit my case.

Let us open a competition. I have been advised to do so.

The terms under which I invite competitive medical consultation and prescriptions are as follows:—

1. I must be restored to perfect health.
2. The treatment must be short, pleasant, and convenient to follow.

3. The maximum cost of doctor's fees and medicine must not exceed fifteen dollars. I will receive, examine, and consider all prescriptions and suggestions, subject to modifications hereinafter named. The three manners of treatment which in my judgment best suit my dilapidated condition, will be selected and passed upon. For the prescription I prefer, I will pay the sum of fifty cents. For the next in order considered from the same standpoint, I will pay thirty cents, and for the next, fifteen cents, retaining all three as my property with the right to use them if I see fit. I reserve myself the right to reject any or all prescriptions.

It is distinctly understood that I will incur no responsibility either for myself or for my family, for any written consultation or prescriptions other than the three selected as hereinbefore set forth, all the others being at the disposal of the parties submitting them, without any cost whatever to myself or my family.

It is further understood that all estimates as to the cost of medicines shall be indorsed by some well-known druggist or druggists, with the proviso that such druggist or druggists are willing to contract for the furnishing of such medicines as are prescribed, for the amount of the estimated cost.

Physicians competing will advise me as to what their professional charges will be in case their prescription and mode of treatment are accepted by me and approved by my family.

The consultation for which the first payment of fifty cents is to be paid, if adopted by me and approved by my family as the one by which I am to be treated, will be subject to the condition that the premium of fifty cents will be considered as part of the physician's professional charges, and will be deducted therefrom in final settlement.

All written consultations, prescriptions, and suggestions must be sent to me on or before March 25, 1884.

AGED PIONEER AND ODD FELLOW.

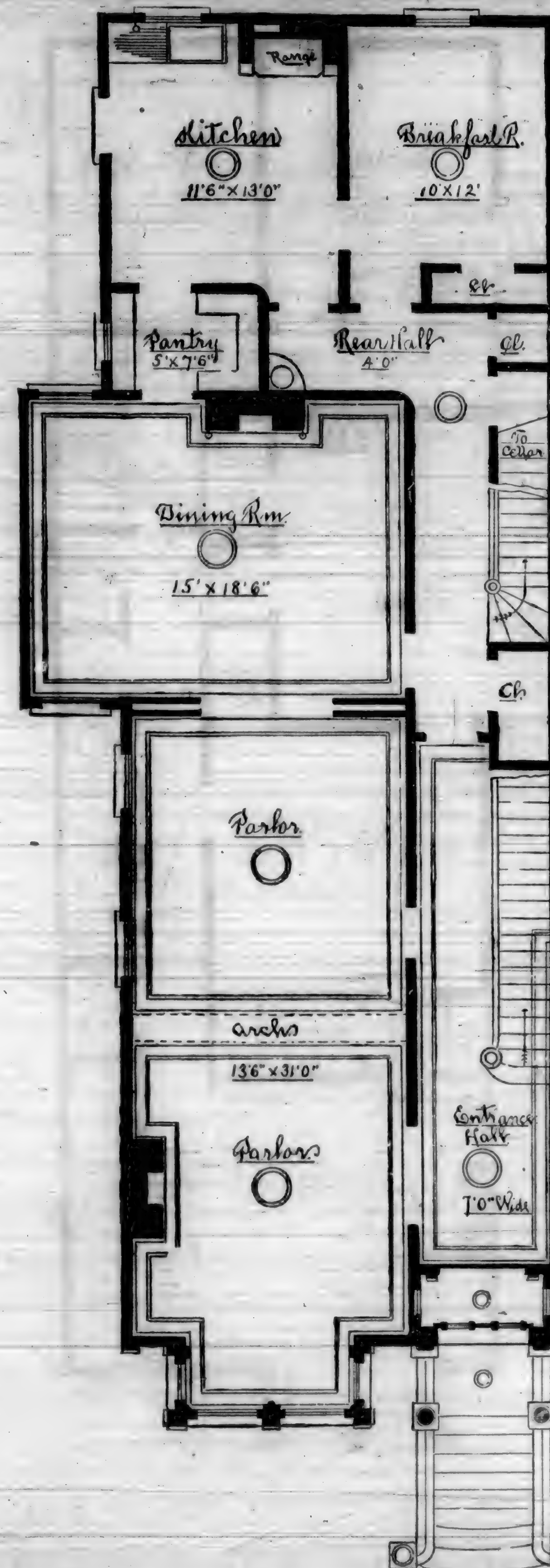
"Lumberman's Hand Book." Price, \$2.00.

Competition Plans for Pioneer Building.

THE Society of California "Pioneers," having determined to proceed with the erection of a building on their splendid gift property on Fourth Street, have appointed a committee of five gentlemen, well known in San Francisco as to their business qualifications and intelligence in matters generally, within the circle of their experiences and information, to procure plans. But unfortunately for themselves and architects generally, as a committee, they have developed either a total incompetency for the duties placed upon them, and a lack of correct understanding as to the rights of architects, and the value of architectural services, or an indifference and disregard of every principle of right, justice, and fairness toward an honorable profession, which, upon the high order of merit due to the honorable and competent of its members, deserves far better recognition.

The fact that gross wrongs have been imposed upon architects in other cases, and architects have meekly allowed themselves to be badly used, by submitting to iniquitous exactions upon delusive, uncertain, and frequently fraudulent pretenses, is at least not a generous basis for men of just and fair minds and honest and equitable purposes to act. This cornering system of competitions, shutting the door against all good and competent men, or compelling them to compete upon a non-paying basis to any except the *one man* who secures its first premium and superintendence, is in no sense or respect right or just. In the present case, the sum of \$950 is offered as premiums for *three* preferred sets of plans, specifications, estimates, etc., much less than the value of a *single set*, as measured by all architectural societies and Chapters the civilized world over. Yet should twenty architects be silly enough to engage in the contest, the collective aggregate cost in coin, allowing that the delineation work is all done by skillful and competent, paid draughtsmen, will not be less than \$6,000, to say nothing of the time, skill, judgment, etc., of the principal, the time occupied in writing specifications, preparing estimates, etc., and the expense of office rent, paper and other things, all of which considered by honest and equitable valuation would reach a total sum of fully \$10,000—for all of which the *grand total* of \$950 is offered to *three* of the twenty is the *ultimatum*, leaving the loss of the remaining \$9,050 as a sweet morsel for the seventeen rejected simpletons to feast upon.

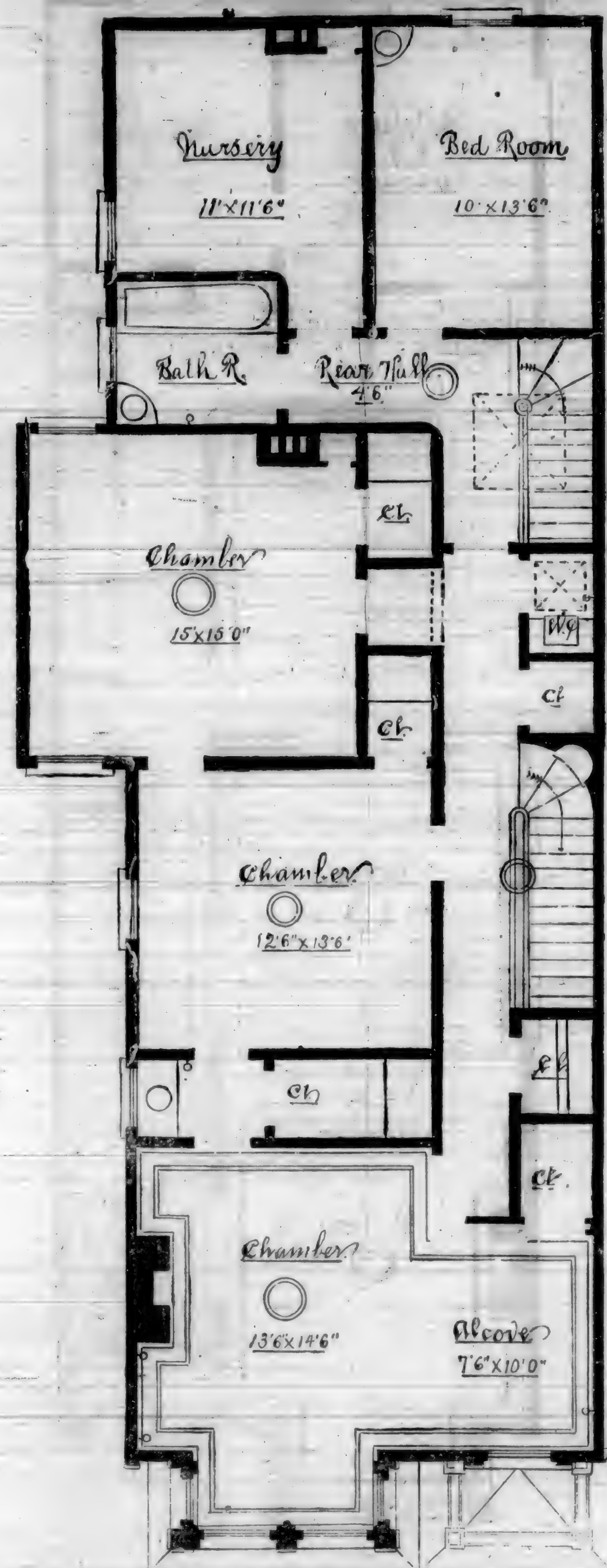
The first "circular" issued by the committee contained "terms and conditions" which were so manifestly wrong in every sense that the Chapter of Architects assembled February 1st, gave emphatic expression to the general feeling of disapprobation entertained by every honorable and intelligent member of the profession upon the Pacific Coast. We say this knowingly and understandingly. The Chapter, at said session, appointed a Conference Committee to meet the five gentlemen representing the Pioneer Society, but before an interview was reached between the committees, a second, modified form of circular had been issued, removing some and retaining other of the objectionable conditions. The omissions in the amended documents are: *first*, the claim which requires that architects should back up their estimates of cost by the indorsements of some competent and responsible contractor who would be willing to complete the building at the stipulated cost. This proposition simply and more fully exposes, at least, the *thoughtlessness* of the committee, for had each estimate been so accompanied, that accompaniment would have possessed an intrinsic cost value of \$100 each, or a total of \$2,000, which, if paid for by the architects, would



FIRST FLOOR PLAN CITY RESIDENCE, COSTING ABOUT \$7,500.

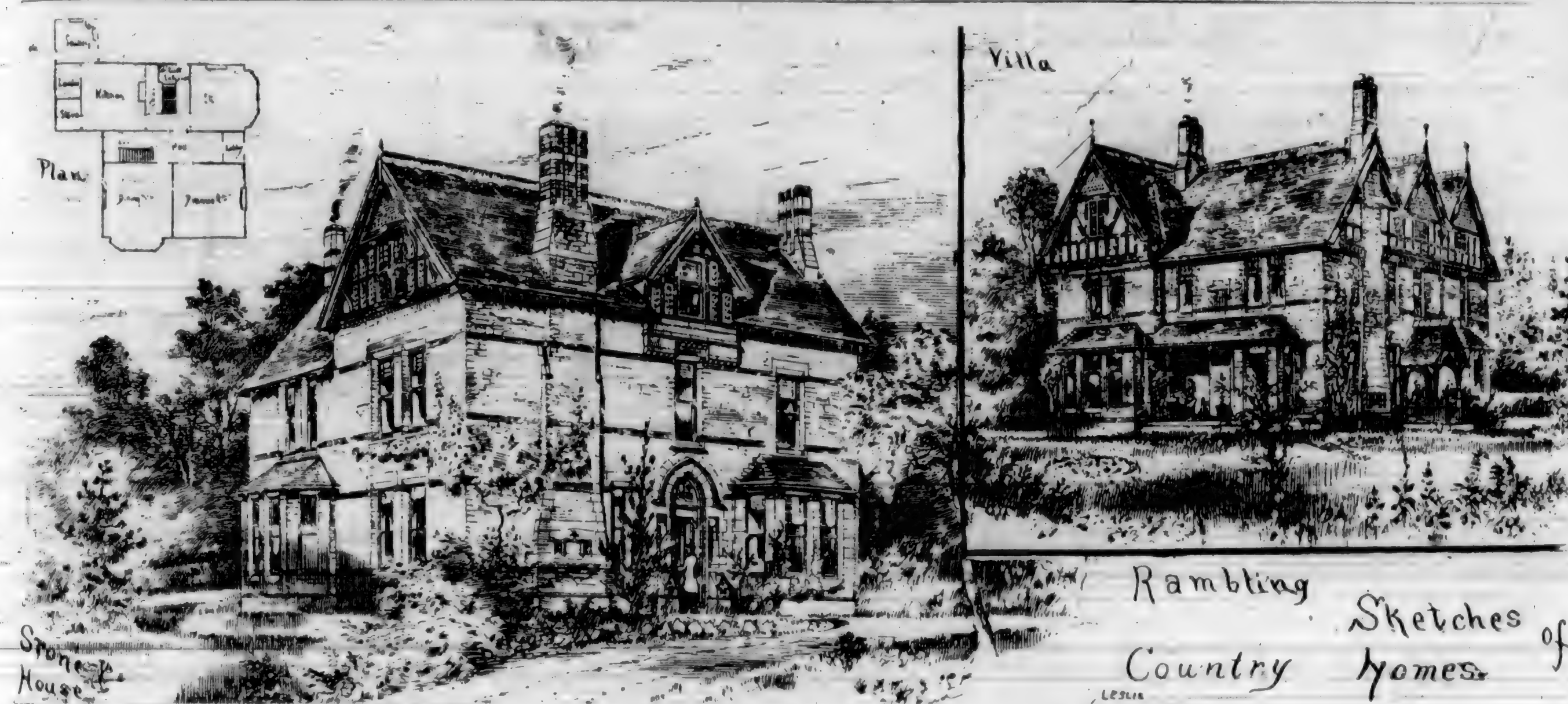
have increased the amount of loss to the deflated seventeen, of \$1,700, which added to the \$9,050 would have raised the amount of actual loss to \$10,750. Or, if not paid for, the loss of the \$1,700 would have fallen upon contractors. The second omission made is in vacating the charge of first premium amount against and deducting the same from the "architects' professional charges" at settlement. Also, that of requiring architects to bid for the job by stating the percentage rates each would require for his services, less than the established rates. The committee, however, retain in the amended circular that *exceedingly obnoxious, unreasonable, and inequitable condition* of "reserve the right to reject any or all plans." But the bad features of the issue are so numerous and vexatious that it would consume more than the entire pages of our issue to notice them in detail. The 1882 volume of this Journal contains six articles upon the subject of competitions, which would improve the understanding of the committee amazingly. The \$950, nor any part thereof, as premium, is a certainty, as the "reserve" is fatal to *certainly* if put in practice.

The Society has had the matter of plans in hand for several years, and plans have been made and submitted. This fact argues the folly of all others to compete against those who have so long had the ear and confidence of the society, and who have so much greater and better information to act upon than is contained in the circular. Whatever loss in time, labor, and money to others, that loss is promoted by the acts and inducements held out by the committee, for the special benefit of themselves and the society they represent. Taken as a whole, with very few and small exceptions, statements and assurances pledging that "the competition will be honestly and honorably conducted," "that the awards will be determined upon fair and equitable grounds, without preference or favor to any," is all well in poetry, but fearfully deceiving and misleading in fact; for as an underlying, well proven fact, such competitions are a something that does not occur ten, if five times in a hundred. This is a strong statement, but we make it boldly because we know the fact, and are able to conclusively verify the same whenever necessary, by a line of testimony which cannot fail to carry conclusive conviction to every unprejudiced mind, although the *legal* proof might be lacking in some cases. As another feature of unpardonable injustice and wrong, is that of indiscriminate competition, which is likely to set to work one-half or more of the competing parties, who upon merit, qualifications, and reputation, would be discarded by the committee, if their names were seriously proposed in the premises, as architects of the building. Is it then a proper course for honorable men to pursue to inveigle others into expense and loss, who possess not a single chance, not one in one thousand of securing the first award, however meritorious their plans might be? Is it a right and sufficient excuse to urge a lack of knowledge as to such parties? To seek to excuse the wrong by pleading non-intent? If the committee had known and desired to do the right thing toward all competitors, they would have selected five recognized, competent, skillful, and trustworthy architects, confining the competition to them exclusively, and giving to each and all right, reasonable, and sufficient competition for the services required. We close this article with a notice of the fact that the generous donor of the property and funds involved in this case, in the contemplation of building improvements during his lifetime, relied upon his own judgment as to the qualifications and integrity of architects, and engaged singly those who he was willing to trust, without huxtering the



SECOND FLOOR PLAN CITY RESIDENCE, COSTING ABOUT \$7,500.

market to secure competitive plans at heavy cost and loss to others, and no special benefit to any; for under any circumstances only one man as an architect profits by the erection of a building. A following of the example of the generous dead would have saved the committee the expense and annoyances attending their "circular to architects."



The San Francisco Chapter of Architects—Its Aims and Its Objects.

NUMBER TWO.

THE formation of the Pacific Coast Association of Architects was not the result of a sudden impulse. Months before the call was made for its organization, a few earnest workers were canvassing the field, making inquiries here and there for the purpose of ascertaining how many of the architects would be willing to lend their aid to a permanent association.

When the call was made for a general meeting, the largest number of architects ever assembled together in this city at one time met in a room at the Mechanics' Institute. Mr. A. Laver was chosen President. Twenty-nine signed the roll—a splendid beginning surely; and to the credit of the original twenty-nine, nearly every one has continued up to date through Association and Chapter, in full membership.

The first six months was rather up-hill work, being of necessity rather prosy in its character. By-laws that would stand the criticism, and yet receive the commendation of their professional brethren in the East, had to be framed and adopted. This work fell into the hands of those well qualified to perform that duty, and the code presented gave general satisfaction.

Not satisfied with a local organization, as an "Association," steps were taken to form a Chapter of the American Institute. The President being the only member of that body on this coast, it was through his efforts that six prominent architects became members of the Parent Institution, and thus formed the basis for a Chapter on this Coast.

Since its organization San Francisco Chapter has progressed finely in the accomplishment of the aims and objects for which it

was started, and to-day it is one of the largest in the United States. Its meetings have been fairly attended, averaging about twenty; a full record of its proceedings is given in the columns of this Journal. Below will be found a full list of the officers and members of the Chapter in good standing.

JOHN WRIGHT, *President.*

WM. CURLETT, *Vice-President.*

GEO. H. WOLFE, *Secretary.*

H. C. MACY, *Treasurer.*

A. LAVER,	T. J. WELSH,
B. E. HENRIKSEN,	H. C. MACY,
J. B. WHITTEMORE,	W. MOOSER,
J. M. CURTIS,	A. SCHROFFER,
J. GASH,	SETH BABSON,
W. KIRK, Oakland,	J. E. WOLFE,
T. A. EISEN,	P. HUERNE,
H. D. MITCHELL,	G. H. SANDERS,
C. C. McDUGALL,	B. McDUGALL,
W. P. MOORE,	J. MARQUIS,
THEO. LENZEN,	O. EVERETT,
San Jose,	O. MORGAN, Los Angeles.
J. D. CEBRIAN,	A. PISSIS,
C. V. PIERCE,	W. H. KIRK, Oakland,
W. G. MATTHEWS,	L. GOODRICH, San Jose,
Oakland,	E. J. MOLERA,
JOS. GOSLING,	N. MAYO,
W. JORDAN,	M. G. BUGBEE,
W. LEE,	W. G. COPELAND,
J. HALL,	WARREN H. WILLIAMS, Portland.

MANY portable mills have been set up in the woods of Maine for the purpose of working up the timber blown down by the winds last season. An unusual number of trees were thus prostrated.

Bound volumes of 1883 now ready. Price \$2.50.

A CHEAP clock may be made to appear very attractive in this way—take two cigar boxes, cut a hole in one just the size of the face of the clock, and tack it securely endwise on the top of the other box, which, of course, is in its natural horizontal position. Cover them both with garnet plush or velvet, glued smoothly to the wood, and fasten the clock with strong wire inside the upper box, to show only the face, as if in a frame. Screw four brass knobs under the lower box as feet for it to rest on, and make a little railing around it of a miniature brass chain upheld by gilt-headed millinery pins. The top of the upper box should be finished in the same manner. The effect is excellent.

SAVE the tea leaves for a few days, then steep them in a tin pail or pan for half an hour; strain through a sieve and use the tea for all varnished paints. It requires very little elbow polish, as the tea acts as a strong detergent, cleansing the paint from all impurities, and making it equal to new. It cleans windows, and sashes, and oil cloths—indeed, any varnished surface is improved by its application. It washes window panes and mirrors much better than water, and is excellent for cleaning black walnut and looking-glass frames. It will not do to wash unvarnished paints with it.

THERE is nothing so tends to shorten the lives of old people, and to injure their health, as the practice of sitting up late, particularly winter evenings. This is especially the case where the e is a grown-up daughter in the family. This sanitary item is published at the request of several young men.

WREN, the architect of St. Paul's, designed more than forty public buildings in London.

Promptly forward your subscription for 1884.

Repeal of the Duty on Imported Lumber.

"SAN FRANCISCO lumbermen are opposed to the repeal of the lumber duty. What would materially benefit the Eastern States would injure them. This is a practical illustration of the difficulty in the way of tariff reform."—*Evening Post*.

It is perfectly natural that this feeling should exist in the lumber combination monopoly of San Francisco, and among its members individually; for if the barriers were removed so as to open a ready market, and encourage the manufacture of lumber within the domain of her Majesty's possessions adjacent to the waters of Puget Sound, the unreasonably high prices from time to time and at the present exacted for all classes of lumber material in California, could not be maintained; for it is not at all probable that the present California and Puget Sound lumber kings would be able to control the prices of lumber manufacture on the British side of the lines. Hence it is bread and butter, or rather bags of gold to the combination to have the tariff duties on imported lumber continued, and if need be increased. No better proof need be desired that the controlling—the manufacturing portion of the monopoly conclave—are massing great wealth rapidly, at the expense of the general public, than the fact that the boast is freely indulged in by representations of the lumber trade, of their firms having accumulated hundreds of thousands of dollars, since the revival of business in 1880, and the increase of prices of lumber materials.

While we wish no ill to the American manufacturers and dealers, there are reasons why—personally—we should like to see the doors opened, which would permit the importation of British Columbia lumber into California upon fair and reasonable terms. We do not advocate the abandonment of all tariff restrictions, but such modifications as would secure right, proper, and healthful competition, such as would pay a fair—even liberal return for the money invested, and sufficient to cover all contingent risks; and at the same time give to owners of real estate equal protection from the payment of very much more than fair, just, and reasonable prices for lumber.

Again, we should like to see a supply of British manufactured lumber in the markets of California, because their standards of measurement are full and honest, in contrast with the abominable, unpardonable, and not intrinsically honest American standard. By the American scale of inches, when one buys and pays for dressed lumber of any kind, as one inch thick, he receives that which is one-eighth less in thickness; and if he pays for lumber two inches thick, he receives that which is one-eighth of the whole thickness less; and the same applies to all the kinds and thickness of lumber as a rule; and if objection is raised to the measurement, the reply is always ready, "The discrepancy is the result of planing,"

and the purchaser is expected to accept the apology, as compensation for the lumber paid for but not received. If the wastage of planing is legitimately on the purchaser, he is cheated in the transaction in this; it is claimed and is a fact, that one-eighth of an inch is the necessary wastage in planing inch boards, nor does it require any more in planing lumber two inches thick; yet in the latter case a quarter of an inch is gouged out of the purchaser, and honest men—as honesty goes now-a-days—consider the transaction all right; right only because a rule, not so in fact. But if this nipping of twelve and a half per cent was all that the purchaser suffered, it would be less condemnable, but beside this he is charged the market rates of difference between the same lumber dressed and undressed, thus adding a double tax—first in the loss in thickness, and again in the direct charges for dressing. A long article might be written, illustrating the fact that in scarcely anything in the building line, particularly of American manufacture, are the sizes, measurements, weights, etc., what they purport to be.

But as we understand matters, and, as far as our personal experiences go, English law compels, in the manufacture of lumber, that, whether dressed or undressed, all thicknesses and sizes shall be up to the full standard; that when sold for one, two, or any other number of inches, it shall be so by actual measurement. And so it should be, whether of American or British manufactures.

Some years ago there was a lot of flooring shipped to San Francisco from the adjacent colony, and while it could be had, it was eagerly sought after on account of its full measurement, which compared with our Puget Sound article of seven-eighths, and sometimes scant at that, the superiority of the imported material was fully comprehended and duly appreciated by its being greatly preferred, because better in fact for all practical purposes, and better certainly as far as business morals are concerned.

The finest glue size is made from the waste of parchment skins.

Promptly forward your subscription for 1884.



Carelessness in Sending Money.

WE cannot impress too strongly upon our Eastern and country subscribers the necessity of exercising care in sending money for subscription. During the past month, three registered letters have been sent to us in which nothing of value was found. Upon writing to the parties, in each case, it turned out that the fault lay with the parties sending the letters. Be sure and send money by postal order, or registered letter. We would sooner bear the expense of either than the annoyance caused by a miscarriage of a letter. In latter case there is always a doubt raised on either side as to the sending and receiving of money. In order to leave no room for a mistake in the future, WE WILL OURSELVES BEAR THE EXPENSE OF EITHER A POSTAL ORDER OR REGISTERED LETTER.

California Electric Engraving Company.

THIS company is now fully prepared to make engravings from photographs. Those contained in last and present issue, are the work of this Co. They are prepared especially for presses running at a high rate of speed. Can also prepare very finely executed engravings suitable for the better class of printing. This company notifies its patrons that it does not accept any cheap work. Only that of first-class character executed. All communication should be addressed to the office of this Journal, 240 Montgomery St., San Francisco.

IRON door and shutters are not the safest in case of large fires; the difficulty consists in their warping when red hot, and in that condition bursting from locks and hinges. The most approved doors are double one-inch boards, well nailed across each other diagonally, and their sides are covered with tin plates. The hinges must reach all the way across the doors and be well fastened. The size of such a door must be two inches larger in every direction than the opening which it is intended to close. Doors constructed on such principles have been known to withstand a fire which would have destroyed the best of iron doors. Tin is preferable to galvanized iron for a covering, because it can be nailed down closely to the wood and thus does not warp in case of fire.

Removing Spots from Gilt Frames.

GILT frames are liable to become spotted and look bad, while it is, as a rule, difficult to remove the spots. Rubbing does not answer, for the stain sticks tighter than the gilding itself, and washing is liable to loosen the gilt if put on with gum or dextrine.

The *Papier Zeitung* recommends the following method of renovating gilt frames. It consists in applying with a camel's hair pencil a gum solution to which has been added gold bronze having the color of the frame. Before mixing with the gum water the bronze must be washed with water until it runs off perfectly clear. If one application does not suffice it may be repeated until the spot entirely disappears, but of course one coat must be dry before the next is applied.

Spots treated in this way look very well at first, but it will not last, for it is not able to resist the moisture in the air unless it is specially prepared. For this purpose an ordinary bristle brush is rubbed with a piece of yellow wax until it is somewhat sticky, then it is passed very lightly over the spot several times as when dusting it. This gives it a very thin coat of wax that hardens in two or three days; in the meantime it must be protected against dust.

Ancient Roadways.

WHETHER in ancient times better roads and pavements were built than at present, or whether only the best ones remain, is uncertain, but it is certain that some of the remains of such structures found in Rome, for instance, evince engineering skill and perfection of work in a high degree. These were laid out carefully, excavated to solid ground, or in swampy places made solid by piles. Then the lowest course was of small-sized, broken stones, none less than three or four inches in diameter; over these was a course, nine inches thick, of rubble or broken stones cemented with lime, well rammed; over this a course, six inches thick, of broken bricks and pottery, also cemented with lime; upon this was laid the *pavimentum*, or pavement, composed of slabs of the hardest stone, joined and fitted together as closely as possible. This was costly—the Appian Way, about 130 miles in length, having almost exhausted the Roman treasury—but it was as enduring as nature's own work. In Peru and Central America similar remains, 1,500 to 2,000 miles long, were found by the Spaniards, which, as Prescott says, were built of heavy flags of freestone, and in some parts, at least, covered with a bituminous cement, which time has made harder than the stone itself. The roads of modern times lack most of the elements of durability which these possessed, and consequently wear out in a very few years.—*Scientific American*.

To cut the largest square from a given circular sheet, multiply the diameter by 7.071, which will give the length of one side of the square.

Our Exchanges.

We have made arrangements with the editors of the following journals, by which we are enabled to offer quite a reduction to any one subscribing for any one of them in connection with this journal.

(The figures in parenthesis denote the price of the journals alone.)

CALIFORNIA ARCHITECT AND BUILDING NEWS.

Terms, \$2.00 per annum.
With *American Architect* (\$6.00), \$7.00 per annum.
With *Builder and Wood Worker* (\$1.00), \$2.50 per annum.
With *Carpentry and Building* (\$1.00), \$2.50 per annum.
With *American Artisan* (\$1.00), \$2.50 per annum.
With *Brick, Tile, and Metal Review* (\$1.00), \$2.50 per annum.
With *Building* (\$1.00), \$2.50 per annum.
With Special Edition of *Building* (\$5.00), \$5.75 per annum.
With *North Western Lumberman* (\$4.00), \$5.00 per annum.
With *Scientific American* (\$3.20), \$4.50 per annum.
With *Leffels' Mechanical News* (\$1.00), \$2.50 per annum.
With *Decorator and Furnisher* (\$4.00), \$5.00 per annum.
With *American Machinist* (\$2.50), \$4.00 per annum.
With *The Wood Worker* (\$1.00), \$2.50 per annum.
With *The Builder* (\$2.00), \$3.50 per annum.
With *American Inventor* (\$1.00), \$2.50 per annum.
With *Hall's Journal of Health* (\$1.00), \$2.50 per annum.
With *Cincinnati Building Review* (\$1.00), \$2.50 per annum.

We will add to the above list from time to time, as our arrangements are perfected with the publishers. We are prepared to furnish any journal printed at the shortest possible notice.

Tin in California.

AN article in the *Mining Review*, by E. N. Robinson, C. E., states that the mine of Cajalco, in the Temiscal Range, California, has assayed 13.1 per cent. from the ore, of a purity of 99.8. This mine is believed by Cornish miners who have examined it to be a true and permanent vein, probably increasing in richness as it increases in depth.

Expansion of Portland Cement.

SOME interesting experiments on this subject have been made by Mr. Bradlee, a Boston architect. Three glass bottles were filled with cement and closely sealed. One burst in two days, one in eight days, and one in ten days, proving beyond dispute the expansive power of the cement.

THOUGH oxygen is heavier than nitrogen, and therefore ought to fall to a lower level than that gas in the atmosphere, no difference has ever been found to exist in the relative proportions of the two.

The "California Architect" is now in the Sixth Year of Publication.

Competition Designs!
ONE HUNDRED AND FIFTY DOLLARS
Cash Premiums!
FOURTH PRIZE,
Box of Drawing Instruments.

In order to promote a general desire to excel among Architects and Draughtsmen in the preparation of drawings for this Journal we have concluded to offer the following premiums for the best 4 designs of a Country Dwelling, the successful plans to be published in the CALIFORNIA ARCHITECT AND BUILDING NEWS.

1st, a Cash Prize of \$60.00
2d, " " 50.00
3d, " " 40.00
4th, Box of Drawing Instruments.

Notice to Competitors.

All plans to be in the office of the CALIFORNIA ARCHITECT ON OR BEFORE the 1st of May, 1884.

All plans not accepted will be subject to the order of the owner, and will be returned upon receipt of the necessary postage.

We claim the right to reproduce in this journal all drawings of which honorable mention is made, and yet not entitled to a prize.

A *non de plume* to be used on all drawings; a letter to accompany the latter, addressed with the name used, containing also the real name and address of the contestant. This is done solely that the person's name and residence will not be known until the committee have made the awards.

A scale of $\frac{1}{4}$ inch to the foot to be used.

Detailed estimate of cost to accompany the drawings. QUANTITY and PRICE of each material used to be given, so that allowance can be made for difference of price between the various sections of the East and this Coast.

Drawings are to show front, rear, and side elevations, with plans of the different floors.

The value of the house when finished to be ABOUT FIVE THOUSAND DOLLARS.

This competition is open to Architects in every portion of the United States.

Drawings to be made on card or bristol-board, to be line shaded; no color but JET BLACK to be used.

All competitors will receive one year's subscription to this journal FREE, that they may see the various plans adopted.

The merits of the various designs will be decided by a committee appointed by the San Francisco Chapter of Architects.

All inquiries in regard to the above will be answered by addressing a letter to the office of this journal, 240 Montgomery St., San Francisco.

WOLFE & SON, Editors and Publishers.

Staining Wood.

SIR: The art of ebonying soft woods, and of curing the toothache, are very much alike! Every one to whom one speaks seems to cherish a pet receipt of his own, and all are declared infallible. My own unfortunate experience, however, is that whereas there are a hundred different ways of successfully staining wood black, very few things indeed exist, save patience, that are really good for the face-ache!

Here are nine ordinary receipts for ebonying, any of which the reader may find more or less useful:—

1. One gallon of vinegar, one-half pound of green copperas, one-quarter pound of China blue, two ounces of nut-galls, two pounds of extract of logwood. Boil over a slow fire, then add a pint of iron rust. Wash the wood with this.

2. First sponge the wood with a solution of chlorhydrate of aniline in water, to which a little copper chloride has been added. When dry, repeat with a solution of potassium, bichromate. Do this two or three times.

3. Boil in four quarts of water one pound of logwood, add a couple of handfuls of walnut shells (or pods). Boil again, and take out the refuse, add a pint of vinegar, and apply boiling. Afterwards dissolve one ounce of green copperas in a quart of boiling water, and apply hot.

4. Boil one-half pound of chip logwood in two quarts of water, add one ounce of pearl-ash, and apply hot. Now, boil one-half pound of logwood in a couple of quarts of water, as before, and add one-half ounce of verdigris, and one-half ounce of copperas, strain and put in one-half pound of rusty steel filings. With this go over the work a second time.

5. Into a quart of boiling water put one and one-half ounces of copperas and two ounces of logwood chips. Lay on hot. When dry, wet the surface again, with a solution formed of two ounces of steel filings dissolved in half a pint of vinegar.

6. Wash the wood with a concentrated aqueous solution of acetate of iron of fourteen degrees Baume. Repeat this until a deep black is produced.

7. Brush with a strong decoction of logwood chips several times, then give it a coat of vinegar in which rusty nails have been laid.

8. Make a solution of sulphate of iron, by dissolving two ounces of sulphate in a pint of hot water. Paint the wood repeatedly with this. When dry, apply a hot decoction of logwood and gall-nuts two or three times. When this has dried also, clean with a wet sponge before polishing.

9. Infuse gall-nuts in vinegar in which rusty nails or steel filings have soaked, and paint the wood with this.

Of course, when the work has become dry again, sandpaper down the grain, and get a smooth face, and as work to be ebonyed must be quite free from holes, oil and fill in any of these with powdered drop black mixed in a filler.

Then give all a coat of quick-drying varnish, and rub down with finely pulverized pumice-stone and linseed oil until a good surface is acquired.

You may get a good, wholesome varnish for ebonyized work by dissolving black wax in spirits of wine.—*Harry Hems, in English Builder.*

The Making of Bits.

THERE are fourteen bit factories in the United States, eleven of which are in Connecticut. The visitor to one of these factories will first enter the forging room on the ground, where a busy and curious spectacle is presented. His sense of hearing at once becomes useless, as the clatter and clang of a multiplicity of heavy running machinery makes conversation impossible except for a man with strong lung power. From the ceiling are suspended long rows of heavy shafting filled with driving pulleys from six inches to as many feet in diameter. Instead of a floor the visitor walks on clay packed as hard and smooth as cement, and on which are carelessly thrown, in heaps, tons and tons of red hot bits. Long bars of cold steel are placed between strong shears, which cut them into appropriate lengths as easily and quickly as a lady would cut a piece of string with her scissors. Here a line of sturdy men stand beside glowing forges in which these bars of steel are placed until they are heated to a white heat, when they are immediately put under trip hammers, which, striking hundreds of blows in a minute, hammer the bars flat on one end, round in the center, and square on the other end. The bit has now started into existence, and is called in this form a "plate." It is next passed to the crimpers, who again heat it to whiteness and run it through machines which twist the flat end into a "pod," or spital of beautiful regularity. The "swedgers" seize it now, and again under the influence of the blow-pipe the steel is soon red-hot, when one blow from a powerful drop fashions the square end into a shank properly beveled for the bit brace; again it is heated and passed under another drop, which stamps on its shank a figure telling the size of the hole it will bore when finished. Once more it endures the fiery ordeal, and, glowing red, passes through the heading presses, which, with a hug and a squeeze, crush two inches of the twisted end into a mass in which you faintly discern the point spurs and cutting edges of the future bit. It is next carried into the annealing room, where, with thousands of others, it is buried beneath heaps of charcoal and thoroughly baked until the steel is well softened or annealed. Next it is pickled for several hours in vats containing a strong solution of sulphuric acid, which eats off all the scale left by the many previous heatings in the forges.

The bit now passes into the machine room, where the rasping machine cuts out all the superfluous stock in the head, forming rude cutting edges. The milling machine cuts the

point smoothly to the correct bevel, ready for the screw to be made upon it. The leveling machine smooths the bottom of the blades, the facing-back machine cuts the edges of the blades straight, the screw-cutting machine forms the threads on the point, and the sizing machine cuts the boring end to the exact diameter required.

Passing into another department, where are seen long rows of skilled mechanics seated upon high stools, each man having in front of him a heap of bits and a lot of files of various sizes and forms, known as "square," "round," "flat," "half round," "humpback," "ground off," and "feather edge," and each of these is used in turn to form and smooth the various parts and cutting surfaces of the bit. The squeaking of a hundred files of almost as many sizes and shapes fills the air with shrill notes, and sets your teeth on edge.

Pausing a moment to watch a couple of men who, seated in front of tiny forges, are heating the bits to a cherry red color and then dipping them into dishes of oil and water, you learn that they are tempering them to the proper degree of hardness for cutting.

In the "polishing room" are seen men with faces blackened by charcoal dust and emery, standing in long rows, while a sheet of fire plays from the hands of each, lighting up their blackened features and making them look like veritable demons. Each man holds in his hand a bit and presses it upon the polishing wheel, which makes many thousand revolutions in a minute, causing by its friction a great sheet of sparks to fly out in front of the operator. You behold the many different processes of finishing as the bits pass on from one workman to another down the row, until at last they look as bright as burnished silver.

In the packing room many men are sharpening the finished bits, and a few inspectors are examining them with magnifying glasses to see if they can detect any scratches that have been left by the polishers. Here, also, the bits are sorted into first-class and second quality, stamped with the manufacturer's name and trade-mark, wrapped in strips of paper, and packed in pasteboard boxes. The variety of sizes and forms run from dowel bits, hardly an inch long, up to car bits, more than two feet in length, and from the little bit cutting a hole but three-sixteenth of an inch in diameter to the great six-inch auger, which requires two strong men to turn it.—*The Wood Worker.*

In England thin shavings of veneers of different kinds of wood are coming into use for book covers. The woods now mostly in use are our American black walnut, lime, oak, holly, etc., but all woods may be used. After being placed upon the wood the veneers can be either rubbed down with oil or French polished.

Bound volumes of 1883 now ready. Price \$2.50.



Hiding Furniture.

IN the days when it was customary to make wall paper pictorially descriptive of Chinese architecture and landscape, to use bulbous furniture, to place mirrors and pictures in tame oval frames, and to balance a lace curtain hung over one-half of a window with an opaque red curtain over the other half, it was also customary to put dresses upon chairs, sofas, ottomans, and nearly everything else that would submit to such treatment. Chintz ulsters concealed the materials, and even the form of chairs; the carpet was hidden by rolls of crash, the piano legs were in pantalettes, the picture frames and chandeliers were swathed in netting, and the very curtain tassels were swathed in bags of tarlatan. Things naturally had a cheap and cloudy look in a room thus furnished, and *noli me tangere* seemed embroidered into every sheet, and bag, and cover. There might be something under all this dusty and faded coating and carpeting that was worth seeing, but you were not in a position to swear to it, or to attest the veracity of the Pinafore axiom, "Things are seldom what they seem." This practice of hiding furniture from view is not entirely defunct, though it is earnestly hoped that it will soon be, for one of the primary essentials of modern decoration is openness and honesty. Veneers and shams are out of date, and upholstery and hangings are made to do service, instead of being concealed beneath common-looking clothes. Better to re-bind a book when its cover is worn than never permit it to be handled. Better to have a chair upholstered anew than to keep what beauty it has from sight. In some houses furniture coverings are never taken off. When "company" is present they are retained lest the furniture be soiled, and when there is no company there is no need of displaying the

treasures of the establishment. Thus reasoned the Arkansas farmer, when asked why he did not mend his leaky roof: "Cause I don't want to go up there and work in the rain," he replied.

"But why don't you mend it in dry weather?"

"Cause then it don't leak."

Concealment is but a form of sham. Better the simplicity of a cottage than that invisible but presumptive splendor, where the visitor is impressed with an idea that the people of the house have come into possession of costlier things than they dare to use, or that they are influenced by a petty spirit of economy that should suggest furnishing and decorating on a lower scale of cost and beauty.—*The Decorator and Furnisher.*

The Importance of the Mechanic.

EACH ensuing day makes more prominent the fact that we have come upon the time when the mechanic is master. We have crowded professions and ill-filled trades. A chance to fill the position of sub-assistant clerk in a wholesale house is eagerly grasped at by a hundred applicants, though the wages received be scarcely more than a "chance to learn the business." Let a master workman try to obtain an apprentice at three times the salary offered the clerk, and his applicants will be poor alike in quantity and quality. A skilled workman in any trade need never want for hire; he is eagerly sought after by a hundred employers; he is independent of the condition of the market; the skill and cunning of his hand and eye are too valuable to lose, and must be paid whether the products are slowly or rapidly consumed. If business ceases, the master hand is eagerly seized by some rival house,

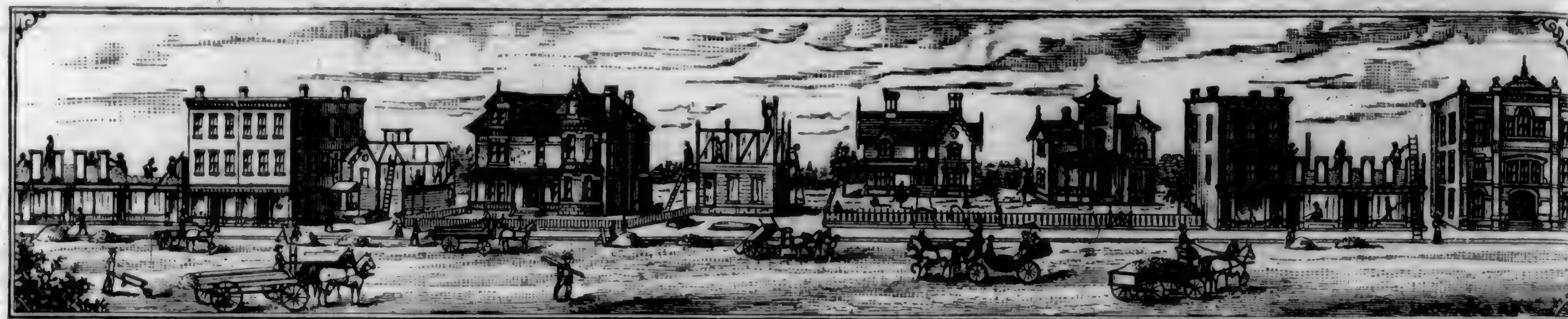
which knows and values the product of his skill. He who would crush down the obstacles to success in our own days must have, as well as the wit to see the crevice, the strength to deal the blow. This is an age of the steam engine, and it is the engineer, not the conductor, who is master.

How Cesspools Have Been Utilized.

CESSPOOLS in a house do not fulfill the condition of immediate removal. They serve for the retention of excremental and other matters. In a porous soil it endangers the purity of the wells. The Indian cities afford numerous examples of sub-soil pollution. The Delhi ulcer was traced to the pollution of the wells from the contaminated sub-soil; and the soil in many cities and villages is loaded with nitre and salt, the chemical results of animal and vegetable refuse left to decay for many generations, from the presence of which the well-water is impure. There are many factories of saltpetre in India whose supplies are derived from this source; and during the great French wars, when England blockaded all the seaports of Europe, the first Napoleon obtained saltpetre for gunpowder from the cesspits in Paris.—*From Captain Galton's Address on House-Drainage at Chatham.*

PAINT spots may be removed from any kind of clothing by saturating with equal parts of turpentine and spirits of ammonia.

We thank those of our subscribers who have so promptly forwarded their subscriptions. But there are many who have not as yet sent us the amount necessary to continue their names on our books. By promptly forwarding us \$2.00 you will greatly aid us in our desires to make still further improvements in this Journal.



BUILDING INTELLIGENCE.

SAN FRANCISCO.

Battery, near Bush. Addition to brick building.
O. —
A. — W. He & Son.
C. — T. H. Day.
\$11,000.

Clay x Van Ness and Franklin. Two-story frame.
O. — Max Isael.
A. — Wolfe & Son.
C. — Wickersham.
\$7,000.

O'Farrell, near Stockton. Five-story brick and stone.
O. — M. De Young.
A. — W. Patton.
C. — McGowan & Butler.
brick work.
\$160,000.

Tyler, corner Polk. Remodeling.
O. — Central Presbyterian Church.
A. — J. Margolis.
C. — W. B. Ellis.
\$15,000.

Larkin, corner McAllister. Finishing interior of City Hall.
A. — Curtis & Bennett.
C. — J. K. Delmas.
\$12,700.

Fillmore, corner Pacific. Two-story frame.
O. — J. P. Treanor.
A. — Percy & Hamilton.
C. — Gray & Stover.
\$8,000.

Stevenson, near Third. Three-story and basement brick.
O. — Mrs. Nuttall.
A. — A. Pissis.
C. — J. Geary.
\$7,700.

Buchanan, cor. McAllister. Two-story frame.
O. — F. Junker.
A. — W. H. Bayless.
C. — J. Owens.
\$4,550.

Devisadero, near Geary. Four two-story frames.
O. — C. Ahlborn.
A. — H. Geiffuss.
C. — Chrisman & Neal.
\$10,000.

Market, near Third. Repairs.
O. — Blythe estate.
C. — P. M. Quackenbush.
\$1,000.

Lapidge, near Eighteenth. Two-story frame.
O. — T. Redington.
C. — C. Kinsman.
\$1,900.

Lapidge, near Eighteenth. One-story and basement frame.
O. — J. Nichol.
Day's work.
\$2,600.

Valencia, nr. Ridley. Five one-story frames.
O. — R. Tobin.
C. — F. Buckley.
\$2,500.

Valencia, near Sixteenth. Additions.
O. — Eastman & Co.
Day's work.
\$1,500.

Seventeenth, nr. Church. Two-story frame.
O. — B. Burns.
C. — D. Spangler.
\$2,600.

Diamond, nr. Seventeenth. Two-story frame.
O. — M. Martin.
Day's work.
\$2,000.

Sanchez, nr. Market. One-story frame.
O. — J. W. Smith.
\$1,600.

Seventeenth, cor. Castro. One-story frame.
O. — Mr. Holmman.
C. — B. Dryer.
\$1,600.

Sixteenth, near Sanchez. One-story frame.
O. — T. Dorland.
C. — T. Darcy.
\$1,000.

Fifteenth, corner Church. One-story frame.
O. — Mr. McKenna.
C. — McGinnis.
\$2,000.

Natoma, near Seventh. Two-story frame.
O. — E. Barrett.
A. — T. J. Welsh.
C. — P. Laherty.
\$8,000.

Eddy, near Mason. Alterations.
O. — W. H. Porter.
A. — Curtis & Bennett.
B. — E. Far ell.
Day's work.

Harrison, near Twenty-second. One-story frame.
O. — H. A. Herringer.
Day's work.
\$2,500.

Twenty-third, near Alameda. One-story frame.
O. — D. Sexton.
Day's work.
\$2,000.

Twenty-fifth, cor. Bryant. Two-story frame.
O. — Mr. Kahn.
A. — B. H. Hensen.
C. — Weller.
\$6,000.

Folsom, cor. Twenty-fourth. One-story and basement frame.
O. — H. Mangles.
C. — L. Fen.
\$2,000.

Mission, nr. Twenty-sixth. Two-story frame.
O. — Mr. Smith.
C. — J. Day.
\$4,000.

Church, nr. Clipper. One-story and basement frame.
O. — B. — R. Bergfield.
\$1,800.

Hill, nr. Twenty-first. Two-story frame.
O. — F. Guestro.
Day's work.
\$3,200.

San Jose Avenue, cor. Elizabeth. One-story frame.
O. — E. Waldeck.
A. — Townsend & Wyneken.
\$2,000.

Twenty-second, nr. Valencia. Two-story and basement frame.
O. — Mr. Higgins.
C. — M. Walsh.
\$2,600.

Harrison, nr. Fifth. Two-story frame.
O. — C. M. Smith.
A. — I. A. Eisen.
C. — J. McCann.
\$2,600.

Montgomery, nr. Sutter. Three-story and basement brick.
O. — E. D. K. yes.
A. — C. Geddes.
C. — McCarthy & Grant.
\$12,000.

Turk, near Van Ness. Two-story and basement frame.
O. — G. Page.
A. — A. Schropfer.
C. — W. Plums.
\$6,600.

Bryant, nr. Second. Three-story frame.
O. — Mr. Mahoney.
A. — T. J. Welsh.
C. — Ingerson & Gore.
\$5,600.

Jackson, near Webster. Two-story frame.
O. — J. J. Smith.
A. — T. J. Welsh.
C. — P. Laherty.
\$6,500.

SACRAMENTO.
I. x Fourteenth and Fifteenth. Two-story and basement frame.
O. — W. M. Seddons.
A. — N. D. Goodell.
C. — Carle & Croly.
\$6,650.

Berkeley—Two-story frame on Dana St. O. — Mr. Jones; C. — McGraw; \$2,000. Two-story frame on Durant Avenue. O. — J. L. Baker; \$3,000. Two-story frame for Town Hall. O. — C. R. Lord; \$2,800. Two-story frame on Dwight Way. O. — Mr. Fish; C. — A. Broad; \$6,000. One-story frame. O. — Mr. Lukes; \$1,200.

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N. x Third and Fourth. One-story and basement frame.
O. — S. W. Butler.
A. — N. D. Goodell.
C. — M. Madden.
\$1,400.

K. x Ninth and Tenth. Alterations to brick building.
O. — H. Eldred.
A. — N. D. Goodell.
C. — A. W. Eskridge.
Day's work.
\$4,000.

Sixth, x 1 and J. Alterations to brick building.
O. — N. D. Goodell.
C. — Carle & Croly.
\$529.

SAN JOSE.
Fifth and Julian. Two-story brick.
O. — S. J. Fruit Packing Co.
A. — J. O. McKee.
C. — Melvain & Kinney.
\$10,000.

On the Alameda. Two-story frame.
O. — J. H. Pierce.
A. — J. O. McKee.
C. — J. D. Stewart.
\$6,000.

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PROPOSALS FOR THE CONSTRUCTION

New Odd Fellows' Hall.

SEALED BIDS WILL BE RECEIVED AT THE OFFICE OF THE Odd Fellows' Hall Association of San Francisco, Room No. 1, Odd Fellows' Hall, No. 325 Montgomery street, San Francisco, up to and until 12 o'clock M., of

FEBRUARY TWENTY-SEVENTH, 1884.

For the erection of the New Odd Fellows' Hall, on the lot on the southwest corner of Market and Seventh streets. Bids to be received for the separate trades, as follows:

- No. 1—Brick work.
- No. 2—Carpenters' and Joiners' Work.
- No. 3—Granite and Freestone Work.
- No. 4—Cast Iron Work.
- No. 5—Wrought Iron Work.
- No. 6—Tin and Slaters' Work.
- No. 7—Plumbers' and Gasfitters' Work.
- No. 8—Painters' and Glaziers' Work.

The plans and Specifications of said building can be seen at the office of Messrs. Wright & Sanders, No. 418 California street, and will there be open to public inspection after the date hereof.

The successful bidders will be required to furnish bonds, satisfactory to the Board of Directors, for the faithful completion of the work in accordance with the plans and specifications. The Board of Directors reserve the right to reject any or all bids.

C. T. McDWELL, Secretary of the above-named Association.
San Francisco, January 25, 1884.

MARKET REPORTS.

LUMBER—Pine	
Common Rough, up to 40 feet, per M feet	\$22 50
" 41 to 50 "	23 50
" 51 to 60 "	24 50
" 61 to 70 "	25 50
" 71 to 80 "	26 50
Refuse Rough	18 50
Common Rough, sized with planer \$2 additional on above rates, per M feet	
No. 1 Flooring, 6 inches and over, " and under, and 1 1/4 x 4 and 1 1/2 x 6	33 50
Flooring and Stepping, \$1 less than above rates, Second Quality Flooring and Stepping	28 50
Ship Plank, Rough	28 50
" Planned 1 side	32 50
" 2 sides	35 00
Deck Plank, Rough	33 50
" Dressed	37 50
Laths	per M 8 75
Wool Slat	10 00
Shakes	12 00
Redwood Posts	per piece 17 50
Redwood.	
Rough Merchantable	per M feet \$22 50
" Refuse	18 50
Surface No. 1	40 00
" 1 x 6	37 50
No. 2	27 50
Rustic, No. 1, 1 x 8	37 50
" No. 1, 1 x 10	40 00
" No. 2	35 00
" Under 10 feet	35 00
T. & G., 1 1/4 x 4 and 1 1/2 x 6	37 50
" 6 in. 12 ft. and over	32 50
" 7 to 11 feet	30 00
" " under 7 feet	30 00
" No. 2	30 00
T. & G., Beaded, 12 feet and over	40 00
" 7 to 11 feet	32 50
" " under 7 feet	30 00
Half-inch Surface	32 50
Pickets, fancy	30 00
" Rough, Pointed	20 00
" Square	17 50
Siding, 1/2 inch	27 50
Shingles	per M 2 50
Battens, 1/2 inch, lineal feet	1c

Bound volumes of 1883 now ready. Price \$2.50.

The California Architect and Building News.

VOLUME V.
NUMBER 3.

SAN FRANCISCO, MARCH, 1884.

\$2.00 per Annum, in Advance.
Single Copies, 20 Cents.

THE California Architect



BUILDING NEWS

Published on the 15th of each month

BY THE San Francisco Architectural Publishing Co.

JAMES E. WOLFE, GEO. H. WOLFE, EDITORS AND MANAGERS.

Rooms 11, 12, 13, No. 240 Montgomery Street.

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Page following reading matter, \$1.50 per square.
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Full Page, inside, one insertion, \$40.00.

Each subsequent insertion according to agreement.
A square is seven-eighths of an inch in length by width of 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.

Advertisements inserted for three months or less are payable in advance; payable quarterly when inserted for a longer period.

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 COMPETITION PLANS.

Notice to Competitors.

All competitors are notified to have their plans at the office of this journal on or before the first day of May, 1884.

The meeting of the San Francisco Chapter of Architects will be held on Friday evening, May 2d, and it is necessary that all plans should be laid before the committee at that meeting.

Parties living outside this city will please take notice that plans should be sent so as to reach this office not later than above date.

Our Building Interests.

REVIEW OF THE FIRST QUARTER OF 1884.

THE first quarter of this year, ending March 10th, having now closed, a review of the facts of the past, and the probabilities of the future may be intelligently indulged in. With the close of 1883, and the advent of its successor, the feeling and sentiment was universally in favor of great things in the general prosperity of the State, and particularly in the building business for 1884. But as January advanced with scarcely a shower of rain to keep up and strengthen the hopes inspired by and founded upon the prevailing solid financial and business conditions generally, the shadow of doubt gathered around many, and—"the country is ruined for want of rains," was heard almost everywhere. But a kind Providence, in due and acceptable time, washed away all the thousand evils that had seemingly been gathering, and by copious showers, during the latter part of January and in February, watered the face of the earth throughout our fair State so generally and bountifully that, with the advent of the second month of the quarter, the spirit of rejoicing returned, and all hearts were made glad; and March, with its transcendently lovely weather—unsurpassed by Italian skies and breezes, finds the people of the entire Pacific Coast in a most happy and hopeful frame of mind, not one seeming to fear but that a season of unprecedented prosperity is before us, and that none who may live in health until the year closes will have reason to complain that the good angel that distributes the bounties of successes has passed any by, without bestowing the rewards due to each, according to his diligence in business, and prudent use and manipulation of the opportunities that will have been within his reach. But what of the three months past? They have been excellently prolific in building activities—season considered—as far as actual operations are concerned. But there is more than this to the credit of the first quarter. It has been the seeding time in fields architectural, in which the germ of many of

the activities of succeeding months have been planted. At present the tide of business is at its ebb, with still smooth water. Soon the flow will be inward and upward, and ere long the rushing of the tide will call into active service every man and lad within the boundaries of our State, willing to labor, and that, too, at remunerative rates of wages. We are confident of more; there is not sufficient labor force in California to supply the demand that is sure to come, and unless an increase of competent labor shall incline or be induced to come this way, there will be a repetition of what has several times occurred within the past three years—that of signs nailed up on buildings under way, "Carpenters wanted," "Brick layers wanted," etc., and the further resort, under pressures, of bosses offering four bits or one dollar per day advance to draw help from other parties. The future! Just what we have above outlined. There are at the present moment plans matured and preparing for brick structures, which alone will consume all usual supplies for bricks, lumber, and other materials, and give employment to every mechanic willing to work; besides which there are to be hundreds of dwelling houses and private residences erected, all of which combined are bound to lick up all the material and labor that can be introduced into San Francisco.

A NOTABLE SHOWING.

Contrary to the reports given in some of our local journals, the present quarter shows a remarkable degree of activity. In spite of the rainy weather experienced, it will be noticed that but two months in the year 1883 exceeded the present month in the number of new buildings and improvements started.

SUMMARY.

January, 1884,	30 frame buildings, value, \$176,600
	1 Brick building, " 5,400
	14 Alterations " 44,115
February, "	36 Frame " 112,650
	3 Brick " 179,700
	5 Alterations " 37,200
March, "	98 Frame " 291,150
	3 Brick " 128,500
	8 Alterations " 39,000

of the year that hardly one-half of the time could be utilized for building operations, the above synopsis is very favorable, and is a criterion to judge of the future.

THE BRICK DEMAND.

From present indications, the coming season will be one of unusual activity in the erection of brick buildings. There is a superabundance of capital in search of profitable investments, and since the rush for railroading, mining, and stock operations has, in a great measure subsided, this by no means new field of building, affords the greatest attraction, holding out, as it does, the assurance of a fair return on the investment, and almost absolute security. The substantial appearance and increased security against fire, of brick compared to wooden structures, will tend to increase the demand for brick and other clay products that enter into their construction. Terra cotta is coming into a more extended use, and as it is claimed for it, absolutely fire proof and indestructible by time and weather, we apprehend it will not be long before all the ornaments and trimmings on the outside of brick buildings will be made of that material.

Our brick manufacturers are even at the present time very busy, and many have their whole year's product already engaged. Pressed bricks from San Jose are now coming into prominence. We would suggest to the manufacturer, that it should be his endeavor to manufacture his brick as nearly as possible of the size of the rough brick generally used in buildings, on account of keeping the courses as nearly even as possible, where pressed brick are used on the face of a building and rough brick for backing.

BUILDING ACTIVITY GENERAL.

From every portion of the State we hear of increased activity in building circles. The immense amount of money necessary to repair damages to the bridges, railroads, etc., in the southern part of our State, will cause great activities in the localities affected.

In this city, a review of last year's summary will show that an unusual large number of small buildings was erected by the laboring class of our population, and with the bright prospects now appearing, we think the number will be largely augmented this year.

An imitation of and substitute for mahogany, useful in fine manufactures, is due to French ingenuity. The first operation is to plane the surface of any species of close-grained wood until it is perfectly smooth, and it is then rubbed with diluted nitrous acid, which prepares it for the materials subsequently to be applied. These consist of one and a half ounces of dragon's blood, dissolved in a pint of spirits of wine, and one-third of that quantity of carbonate of soda, mixed together and filtered, the liquid in this state being rubbed, or rather laid upon the wood with a soft brush. This process is repeated with very little alteration, and, in a short interval, the wood possesses all the appearance of mahogany.

San Francisco Chapter American Institute of Architects.

THE regular monthly meeting was held in the rooms of the Art Association, on Friday evening, March 7th. President John Wright in the Chair.

The minutes of the preceding meeting were corrected so that the report of the committee appointed to wait upon the Pioneers should read as follows:—

The Pioneers were willing, through their committee, to adopt the suggestions advanced by the Architects, with the exception of the one relating to the value of the premiums. This they had no right to alter.

A committee—Messrs. Wilson, Gray, and Kean—from the Master Plumbers' Association, being in waiting, they were accorded a hearing. The Chairman of the Committee, Wilson, asked the Chapter to consider the following propositions: That all members of the Chapter be requested to include all sewer work—iron-stone pipe included—in the plumbers' specifications. It was claimed that defective sewer work very frequently occurs in sewerages, producing offensive results, for which plumbers receive censure; and that in some cases it has become necessary for plumbers to tear out the whole of the work done to obtain proper drainage, all of which, it was claimed, might be avoided, if the whole of the pipe work of buildings, sewers included, was placed in the hands of the plumber, who would then become the responsible party for the sanitary conditions of buildings. The committee also urged that the segregation of the plumbing work, and its letting by separate contract be made the rule.

The committee then withdrew, and the regular order of business was proceeded with.

The committee appointed to secure a seal for the Chapter reported that it would be done in a few days. Extra time had been taken in order to present a seal that would have artistic merit in its design.

Committee in regard to competition, and the rules governing the same, requested further time.

L. Stone was elected a student member. Propositions received from C. I. Havens as a fellow, and L. M. Turten as a student member. Referred to Messrs. Curlett, Pissis, and Henriksen.

A motion was made that a committee be appointed to prepare a blank indenture and articles of agreement between architects and pupils, and their parents or guardians, so that all architects could use the same form in regard to article students. The said form to contain specifically the rates paid to the students during their apprenticeship.

The motion was unanimously adopted, and Messrs. Curlett, Sanders, and Pissis appointed as such committee.

Resignation of Joseph Gosling received and accepted.

The subject introduced by the Master Plumbers' committee was then taken up, and

received a thorough and general discussion from all the members present.

It was not deemed advisable that plumbers should undertake to do work properly belonging to the mason. Cement or iron-stone pipes had to be laid by one familiar with the use of the trowel. In many cases a brick sewer was laid from the main to the edge of the sidewalk, and, in this case, it would be taking from one trade in order to swell the amount of contract of another.

The report of the Plumbers' committee was also deemed a reflection upon the architect. The latter always required a sewer to be left open until inspected, and the plumbers, by claiming that sewer pipes were not graded to correspond with their work, deflection of pipes being such that joints were sometimes broken, ends of the pipes not filled properly with cement, thereby causing in a short time offensive smells to permeate through the ground, etc., etc., placed themselves in a position as a superior in judgment to those whose duty it was to superintend every portion of the building.

It was the sense of the Chapter that the sewer work rightfully belonged to, and should be done by the mason.

A motion was made and unanimously carried, that hereafter all trade organizations or associations desiring to make any complaints or state any grievances, must do so in writing, the same to be handed to the Secretary before the regular meeting of the Chapter.

A short discussion then ensued upon some of the provisions of the fire ordinance. No action taken in regard thereto.

Motion made and carried that hereafter all members who are in arrears one year's dues, after receiving notice from the Secretary to pay the same, and failing to do so, shall have their names stricken from the roll until all such arrearages are paid.

Adjourned.

The office of the Secretary of the Chapter is located at 240 Montgomery St., Room 11, San Francisco.

Master Masons.

SINCE their organization upon the basis of being entitled to *original contracts with owners* in all sums exceeding \$300, they have managed their interests intelligently, standing by the rule adopted, and the rule working no hardship. In our own case we have managed in this way: When the amount of mason's work has exceeded the limit in the erection of frame buildings, where the mason work has been scarcely sufficient to justify segregation, viz., to have the carpenter draw an order upon the owner for the sum of mason's estimate, say \$325 or any other amount, made payable out of the respective payments as written in the carpenter's contracts, and the owner upon this order entering into a separate agreement to pay the mason, all of which can be accomplished with but little tax upon the time of any good natured architect or any one else.

We certainly favor the position assumed by

the master masons, for the reason that if the combining of all branches in one contract is an advantage to *one man or firm*, the contractor, that advantage is secured at some sacrifice to sub-contractors' interests, who are under such circumstances placed at the greater disadvantage of more unequal competition and sometimes questionable manipulators, in the handling of bids, while bidding in the usual way, as first contractors, offers greater security as to fairness and equality of competition, as it but seldom happens that either owners or architects seek or permit bids from, or are willing to let work to doubtful parties, and it is a matter of no little interest and importance to architects to have all work fall into the hands of competent men.

Besides all these considerations, the effect of raising the mason's trade from sub to original contractors, will be decidedly good and manifest upon the masons as a class, as it will remove every feeling of subserviency and awaken and inspire the better and more manly feelings. The fact needs no argument in support; men as a rule are influenced in every way by the circumstances surrounding them. However great and good, however intelligent and masterly a man may be, these qualifications and attainments may be improved and enlarged by surrounding conditions and influences. And so in mechanical life. All that tend to lift up and develop the better qualities are the points to be desired.

Shyster Architects.

WE know of no more appropriate term to apply to that class of individuals who infest, and by their dishonorable and unprincipled acts disgrace the Architectural Profession, than that of shyster as defined by Webster's unabridged.

A CASE IN POINT.—A firm of architects in this city was introduced to an owner who contemplated the erection of a building to cost about or rising \$4,000. Satisfactory arrangements were at once made, and the order given to prepare the preliminary sketches, the purchase of one of two lots in view depending upon suitability of plans to lot. Consequently accurate plans in full were prepared, and the lot purchased accordingly. After the purchase, information of the fact was communicated to a firm of two, who reached this terrestrial state of existence through the same parental channels, by a member of the real estate firm selling the lot. As in all such cases the soliciting member at his earliest convenience hastened in search of the purchaser, and by his usual misstatements of "we can build houses cheaper than anybody else, especially architect number one," and his misrepresentations of others, endeavored to secure an engagement, after being told by the purchaser that architect one had been engaged. Several other turns were afterwards made to humbug the owner of the lot, and take the job away from the parties whose plans had been

accepted and approved before the MIS-delineator of Eastlake knew that the owners in question lived. But to "make a long story short," we give the final, the more disgraceful and morally and professionally dishonest part of the transaction.

The plans adopted were estimated upon, and, the result exceeding the limits, the specifications were modified, and the price reduced by a second competition of eight competent contractors to \$4,434, which proved acceptable to the owners; but a delay in commencing construction occurred by reason of title searching and money matters. It seems to have occurred to the marauders upon other people's rights, that the opportunity was open for another "dirty piece of work," and so the owner was again sought, and the lie repeated that "we can build you a house cheaper than number one," while in fact their knowledge of the building science and of proper construction, if no better was possessed by, would reflect no credit upon the intelligence and mechanical smartness of any apprentice boy of three years' service at building trade. And further said he to the owner—the words may differ but the sense is exactly the same—"We are going into the business and need the influence of your building. Mr. —, number one, is about the oldest architect in the city and don't need your work. If, therefore, you will dismiss number one and pay them \$90.00, we will build your house at a cost of \$3,800, and charge you but 2½ per cent., out of which we will return or pay the \$90.00." The quick discernment of the owner in a moment detected the concealed roguery that was intended, and repudiated the proposition. That rascality was intended is beyond question, for with \$3,800 as the cost, 2½ per cent. would return in percentage just \$95.00, from which deduct the \$90.00 to be paid to number one, and the grand balance of \$5.00 for plans, the specifications, superintendence, and commissions to real estate agent would remain. It is unnecessary to add more, as the unmentioned facts are so clearly transparent that any intelligent owner must readily comprehend them. That there are possibilities of improvement in the practice as architects, is altogether likely, but we question whether the science will ever reach a level at which \$5.00 will be considered a fair compensation for architectural services and outside commissions on buildings costing \$3,800, with the slightest tincture of professional integrity and honesty attached. What we have said is from personal knowledge, being one of the interested parties.

Bancroft's Histories.

ELEVEN volumes of this work have been completed. Interest grows with each succeeding issue, as the times and incidents approach within the memory of many now living. No student can afford to be without this set of works. It will comprise thirty-nine volumes. Prices can be obtained at the office of this journal.

Separate Contracts.

THE plumbers appeared by committee before the Chapter of Architects at its last session, asking among other things that the segregation of the plumbing work of buildings be made the rule. This request should have been qualified by saying that several of the architects in San Francisco have for years pursued just that course, and credit should have been given to those who have for so long a time practised the segregation plan.

As interest dictates, arguments run pro and con among original and sub contractors; so that architects and owners must judge and act for themselves. It would involve great trouble and distraction if *all* the branches were to set up the same claim, and refuse to submit to sub contracts.

The principal contract should carry all except the more prominent branches, if not all. The plumbing and painting may consistently be segregated in moderate cost houses, and in better residences the plastering also may be separated. In brick buildings three separate contracts are feasible, to wit, mason, carrying the grading, sewerages, etc., the iron-worker, and carpenter, the latter comprehending all not included in the mason's and iron-worker's branches. The plastering and cement work also is frequently of such magnitude as to justify segregation. But in all such matters if each architect and owner will act just as he sees fit, and let matters be arranged as they may, there will always be found those who will be willing to accept sub contracts, situations and conditions.

Obscuring Glass.

THERE are many ways of accomplishing this, some of the plans making the glass permanently frosted, others only temporarily so. For permanence, take a flat piece of marble, dip it into glass-cutters' sharp sand, moistened with water; rub over the glass, dipping frequently in sand and water. If the frosting is required very fine, finish off with emery and water. As a temporary frosting for windows, mix together a strong, hot solution of Epsom salts and a clear solution of gum arabic; apply warm. Or use a strong solution of sulphate of soda, warm; and when cool, wash with gum water. Or dab the glass with a lump of glaziers' putty, carefully and uniformly, until the surface is equally covered. This is an excellent imitation of ground glass, and is not disturbed by rain or damp.

Sensible Building.

THE Egyptians of to-day commence the building of a house by tracing an outline plan on the ground with plaster, and a very sensible way it is, too. No danger that the front steps will over-reach on the sidewalk, nor the rain from the roof slop over upon the neighbors, because the plan is too big for the lot.

Science of Carpentry, \$5.00.

New York Notes.

BY A. CURTIS BOND.

I CANNOT refrain opening my letter this month with a reference to the intolerable weather we have had to endure for the past four weeks. It has indeed been unprecedented in New York experience, and singularly enough, instead of wasting its strength as the weeks have gone past, the storm has positively seemed to increase in violence and wickedness, until to-night its fury appears to be fully developed into a tornado of the most cyclonic proportions and of sufficient force to blow down a row of three unfinished houses in the upper part of the city. Whether the comparative ease with which these buildings were destroyed, or rather thrown to the ground, reflects upon the character of modern building, I will not undertake to say, but it is merely a repetition of what has occurred heretofore in some of our principal streets. Not long ago four dwellings, quite pretentious in their size and appearance, and completed above the third floor, succumbed to a "Nor'easter," and were scattered pretty well over the best part of a block.

Naturally, during this stormy spell, outside work upon all sorts of edifices has been at a standstill, and no practical advance has been made in any of the many buildings which are about beginning, or are just beyond the beginning stages.

Since I last referred to our city architecture there has been very much going on in the way of building, and some of the most prominent houses have been put up. Mr. Charles L. Tiffany, the head of the well-known jewelry firm, has a magnificent and most extensive affair at Seventy-second Street and Madison Avenue. It is evidently in the Venetian style, being perfectly plain and extremely massive. A dark slate-colored stone forms the lower part of the building, and extends up to the third story, beyond which brick is used. In the place of a front stoop, an arched passage or gateway admits one to an open interior court, from which rise stairs to the different flats. The object of the enormous structure is to contain or provide accommodations for the entire Tiffany family, and it looks large enough to do it.

H. G. Marquand, who is known in New York as a director in almost every one of the large corporations, railroads, etc., that center at this place, has just completed a marvelous structure of stone at Sixty-eighth Street and Madison Avenue, and, it is said, is having it decorated at an expenditure of over \$100,000.

Mr. Villard had not quite finished his houses when his failure occurred. They are gorgeous buildings, three in number, occupying an entire block, and combining all sorts of accessories, such as a swimming bath, concert room, and a variety of other unusual features.

There is a house built some years ago, and still a sight among our local curiosities, known as the Ward House, standing on Forty-seventh Street, a few feet from Fifth Avenue, the

fashionable quarter of the metropolis. It is a low and long building somewhat after the principle of the English country halls or palaces, has a very extensive park around it (ground worth \$10,000 to \$30,000 per lot of 25x100 feet), with trees and fountains, and within the walls of the building itself is a theater, a swimming bath, a racket court, and a multitude of other "queer" things.

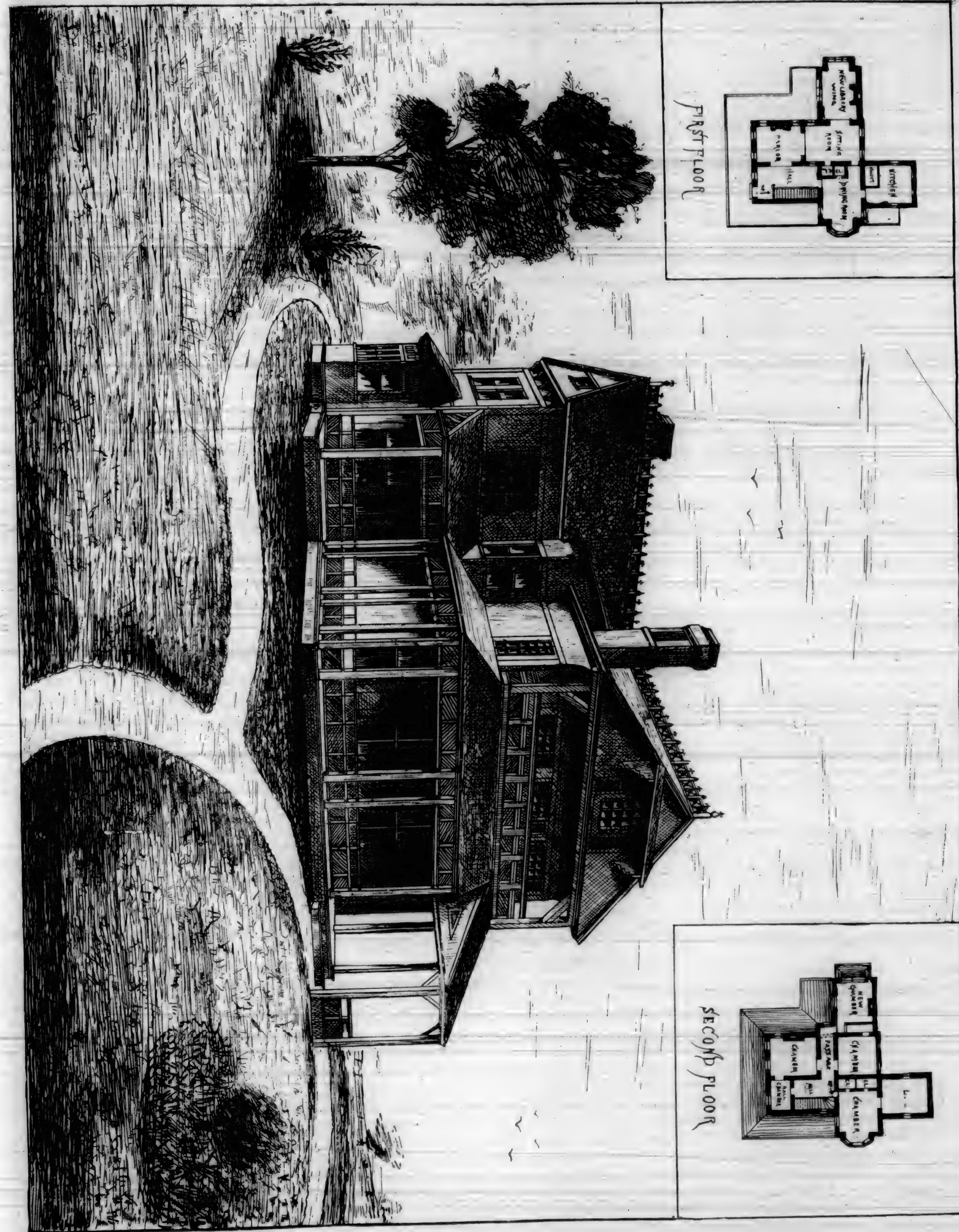
There has been much attention given the subject of the protection of buildings from lightning. The approach of the season when the danger from this form of accident is the most threatening, has no doubt brought the matter more directly to the notice of our architects, and, singularly enough, a difference of opinion has arisen upon the very last point, it would seem to the non-scientific, that could possibly be raised, and that is the direction in which lightning strikes, whether downward from the clouds, or, having descended to the earth, it strikes the building from below and travels upward again. The downward course has the majority of adherents certainly, though those advocating the upward tendency are numerous and persistent, and fortify their position with such reasonable argument as to be, in a measure, conclusive. The result of the discussion thus far has been to establish the necessity of four qualities in the rod, (1) size, (2) continuity, (3) earth contact, (4) pointed summit. The first requires that sufficient capacity should be assured for the accommodation of the electric fluid; the second, that continuity should be absolutely perfect, joints avoided as far as possible, and when unavoidable that they should be well soldered; the third and probably most important is that the rod should terminate in a mass of metal and be implanted in earth permanently damp; and fourth, that the summit of the rod should be a point short and thick; too sharp a point is readily fused, while one that is too blunt has not sufficient conductive power.

I don't know but that I have dwelt rather more upon this subject of lightning than may be thought necessary, although it is one so fruitful of mischief and full of destructive elements as to make it of interest, I should think, to every architect.

A rather singular case with an unusual (for this country, at any rate) termination is reported from Belgium, where the architects of a large building brought a suit in copyright against the proprietors of a local paper for publishing without their permission an engraving of the building designed and built by the architects in question. The paper claimed that inasmuch as the building was completed, stood upon a public street, and was freely open to the public for inspection, it became, in a question, public property, and therefore they were entitled, or at least excusable, in reproducing it. The judge thought otherwise, however, and compelled the paper to print an apology and pay the costs of the action. I would not undertake to question the justice of this decision, for I do not feel qualified to do so, but I fear if the law pre-

vailed here, it might be taken advantage of to such an extent as to put illustrations of this character almost under a ban.

A very decided movement has been made to improve the condition of the tenement houses of this city. Attention was publicly called to their absolute unfitness as dwellings, by Pro. Felix Adler, the young liberal preacher, who went out from Judaism and established an independent and entirely unsectarian organization for rational preaching and good works among the poorer classes. His weekly discourses are attended by many of the prominent and intellectual people among us, Jew and Gentile alike, and among his other excellent endeavors, this latest one of reform in tenement existence is certainly worthy of all the support it is receiving. He has finally persuaded our lethargic city government to take hold of the matter, and it begins to look as though the miserable rookeries and sinks that have been a disgrace ever since this island was called New Amsterdam are about to be cleaned out and renovated. A law was passed not long ago, making it necessary that the plans of all proposed buildings be submitted to the Board of Health, and that Board would determine as to the sanitary prospects of the building, its air, ventilation, cleanliness, its strength, safety, etc. So the more recent buildings combine most of the modern improvements, and objectionable features are not permitted to intrude. The difficulty is with those tenements which have been made from previously private dwellings or warehouses. Lacking the conveniences for the accommodation of masses, they have degenerated into pestilential spots, from which originate seven-eighths of the violence and crime to which we are subjected. In contending with this, Professor Adler has had, and the Board of Health will have, not only the opposition of the owners of the property who naturally are opposed to any compulsory expenditure of capital, but actually the opposition of the tenants who have, as a rule, become so accustomed to the degradation and filth of their surroundings as to object to any change for their seeming improvement. The depth to which the worst element of New York's population has sunken, is almost beyond belief to one who has had no opportunity of visiting their living-places. Four families living in one room is by no means an uncommon incident, and it can be readily understood that the atmosphere in these buildings is almost overpowering. Public baths have been established, hoping to encourage these people in cleanliness, but the effort has been fruitless; the baths are patronized, but not by this class; shop girls and the great family of working men and boys through the baths, together with newsboys and bootblacks. The criminal mass is not found there, however; the stagnant, dirty, those who waste their time in these miserable tenements, smoking, gambling, murdering, never take the trouble to remove their clothes; certainly, they would scarcely attempt to bathe. So it is necessary, if any-





FRONT ELEVATION OF A COUNTRY DWELLING, COSTING ABOUT \$2,500.

thing is to be done to better this condition of affairs, to do it forcibly, and this is now being attempted. The disposition to visit these low places has become very marked, and parties of ladies and gentlemen are made up to take a tour of the "dives" and under-ground resorts of the lower wards. The recent expeditions of the Prince of Wales through the slums of London have served to popularize this sort of entertainment in England, although the residents of the localities in question are said to resent the intrusion with considerable warmth, increased, no doubt, by the fact that the ladies of the parties wear heavy cloaks to conceal their fine dresses and jewelry. This divertisement is now known as "slumming."

The cottage I show this month is designed for an inexpensive affair, though combining many excellent features. The exterior arrangement of piazzas and shade is well arranged for summer use, the small balcony from the second story being adapted to pleasant afternoons and protection from the sun. In studying the plans, shown at the upper corners of the plate, it will be seen that each room has one or more windows, insuring thus perfect light and ventilation. The plans show the wing that may or may not be attached to the house proper. The rooms in this wing have been designated as "New Chamber," "New Library,"

Estimating Quantities of Paint.

In a former paper we attempted to offer some suggestions on the measurement of surfaces; our attention may now properly be given to the consideration of some of the causes of variation in estimating quantities, some of which seem to be entirely lost sight of, and others are only partially understood.

Nature of Surfaces.—On all wooden buildings there are places more or less numerous which cannot be reached with a brush, so that the paint applied can be spread with the same care than it can on the more exposed portions. The edges of the siding, the joints and cracks between boards, the almost inaccessible portions of brackets, scrolls, lattice-work, and other ornamental parts, absorb a much greater quantity of paint than an indifferent or inexperienced person could easily guess, and unless some allowance is made for them, there is quite likely to be disappointment. Old buildings which have been allowed to stand many years without painting usually have a rough and peculiarly absorbent surface, caused by the swelling, shrinking, and decay common to wood unprotected by paint. This will apply even more forcibly to buildings which have never been painted. On new buildings, also, there is a great difference between the quality and finish of lumber, which the painter would do well to note—some being

extremely shaky and porous, and perhaps poorly planed, while others present an entirely satisfactory surface. Brick buildings present some quite noticeable variations, both in the material of which they are made and in the quality of the mason work. Some brick have a hard, smooth surface; others are soft and porous. The hard brick are much more durable, and of course require less paint to cover them.

The same general hints will apply to interior surfaces. Allowance must be made for the finish of walls which are to be painted. The rough walls now preferred by many on account of their durability, require a great deal of paint and sometimes a coat of glue size between the first and second coats of paint, to give them anything like a fine appearance. On interior woodwork, elaborate architectural features, in the shape of mouldings, panels, cornice, continuously projecting and receding, with very little really flat surface, much more time and material are required to suitably finish them than plainer work.

Mismeasurement.—Without a proper basis for calculating quantity, it is impossible to be accurate. If some portion of a building has been carelessly omitted from an estimate, if a blunder has been committed, if proper allowance has not been made for trimmings and surfaces, it will be impossible to secure an accurate estimate. It will be well to add ten per cent. to the quantity determined upon on the basis of measurement to cover contingencies. It is better to have a little paint left after a job is done than to run short.

Climate.—The state of the weather affects the covering qualities of paint, on account of the susceptibility of oil to cold and heat; hence more paint will be required to cover a given surface in cold than in warm weather.

Manual Skill.—Besides the difference in surfaces and conditions, there is quite as marked a difference in the skill of workmen. A strong, active man who handles the brush in a masterly way, making telling strokes without waste in laps, will make paint go further and do better work than a weak or an indolent man or boy. The idea that men who are equally proficient at the dinner table are in all other places, is not a correct one to be guided by, in selecting workmen. Skill is nowhere more valuable, and in few places more economical, than among painters.

Paint.—The quality of paint determines in a measure its covering power. That which is made of pure linseed oil, properly mixed, and of the right consistency, possesses the greatest covering power as well as the best preservative qualities, and it is to paint of this kind, as distinguished from cheap alkali paints, that our remarks are designed to apply. If these hints are duly considered in estimating quantities, we think that the apparent inconsistencies of the claims made for the quality and covering capacity of good paint will not seriously puzzle unprejudiced minds. Every man ought to know that it will take more paint to cover a rough surface than a smooth one, as well as that it will take more strength to draw a heavy load up a hill than on level ground.

—The Painter.

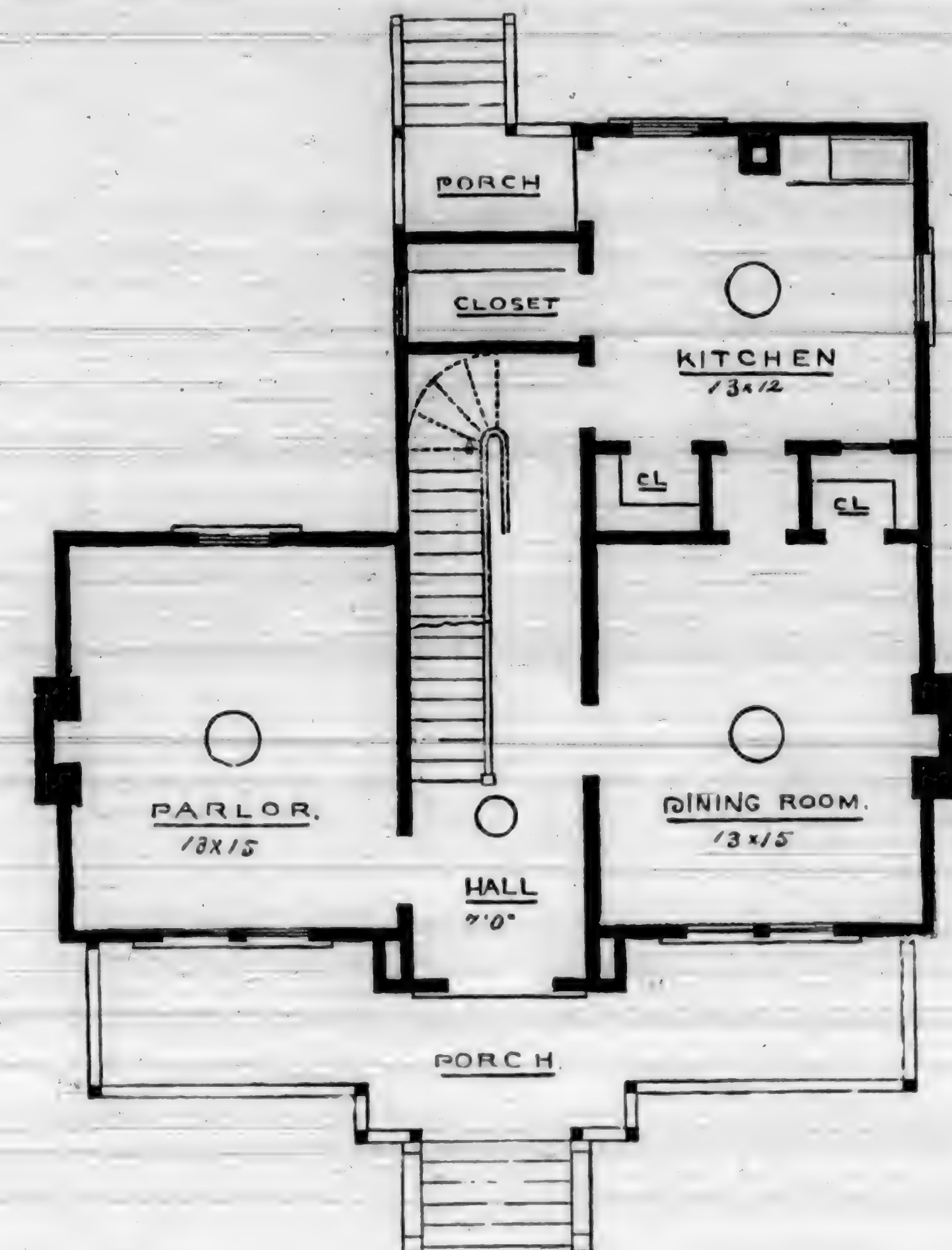
Painters' Measurements.

WE have taken considerable pains to look into the matter of measurement of surfaces to be painted. In addition to our own knowledge, we have inquired of practical painters accustomed to estimate on work, concerning their methods of calculation, and we have failed to find any uniform scale or rule by which to measure surfaces. Nearly all master painters have a basis of calculation, but the accuracy of their estimates depends so much upon personal judgment as to the nature and extent of variations, that their methods would be useless to persons of less accurate judgment. Besides, the methods vary according to the nature of the work and the training of the painter. No two would measure in the same way, perhaps; yet they might reach precisely the same results. Although it is true that very much depends upon the painter's judgment, we shall try to give a few hints which will be found in some cases entirely trustworthy, and in all helpful.

One way of measuring is to get the number of square feet in the sides and ends of a building as if they were flat surfaces, give a rough guess as to the dimensions of trimmings, etc., and let it go at that. This plan may work well for a good guesser, but for general use it does not prove very satisfactory. Another way on wooden buildings is to measure the length and exposed surface of one strip of siding, count the siding, and multiply the dimensions of one by the whole number on the side or end of a building, and the product will be surface measure; trimmings, etc., are measured separately. This is a better way, but its accuracy depends upon a pretty thorough acquaintance with compound numbers, as dimensions must be reduced to inches, then back to feet or yards, according to the basis of calculation.

Common siding are put on by the carpenter with one board overlapping another, and the lapping edge of the board is raised from perpendicular, so that it presents a diagonal instead of a flat surface, and there is also the exposed edge of the board, about half an inch, which should be included in the estimate. Suppose, now, that the exposed portion of a board of siding is four inches, the usual width, and the edge half an inch, it will give the side of a building just twelve and one-half per cent. more surface than it would possess if it were perfectly flat. Hence twelve and one-half per cent. added to the dimensions obtained by multiplying height and length together, will give the actual surface measure of common siding.

In drop siding, which are frequently used, there is an exposed edge of about half an inch, and about one-fourth inch more surface on the moulded edge than there would be if it were flat, making a total gain over flat surface of three-fourths of an inch on each piece of siding, or eighteen and three-fourths per cent. Hence eighteen and three-fourths per cent. should be added to the dimensions in square feet of the



FIRST STORY PLAN OF \$2,500 COUNTRY DWELLING.

side of a building to get the actual surface measurement for drop siding.

In measuring the gable ends of ordinary buildings, the dimensions should be one-half less than actual square measure. For instance, the end of a building is twenty feet wide, and it is ten feet from the level of the frame plates to the point of the roof, multiply the width, twenty feet, by one-half the height, five feet, and we have one hundred square feet, total surface of gable end. This rule will not apply to buildings with very steep roofs, nor to cottage structures with a number of small gables.

Measurement of sides of buildings solid without deducting openings, like doors and windows, would probably average well as a basis for determining the quantity of paint required. Windows vary in size, and some frames and casings are elaborate in design, while others are quite plain. For good-sized windows, with very plain frames, about one-third less than solid would be a safe calculation; while for others, with heavily moulded caps and wide casings, with perhaps narrow openings, a solid surface estimate might fall a little short. These variations must be duly considered and calculated for by the painter. Cornice and trimmings should be measured separately. If there are panels with beads

and other projecting and receding features, brackets, etc., carefully measure one of each, count the number on the building and multiply by the dimensions of one, and the product will be the total dimensions. Open brackets on cornices and scroll and lattice work on verandas, should be measured solid, as the edges fully make up for open spaces. The utter lack of uniformity in house trimmings compels more or less reliance upon the judgment of the painter in measuring them. We can suggest no rule for measuring which can be used with satisfactory results in all cases. What would be admirably suited to one building would be wholly unadapted to another, simply because the architectural features are unlike. Here there is no alternative but to exercise judgment in considering these important features.

In calculating the quantity of paint required upon the basis of surface measurement, from twelve and one-half to forty per cent. should be allowed for trimmings, etc., according to their size and shape. For plain work from fifteen to twenty per cent. will be found a fair average. This depends, however, upon the number of windows, style of frames, etc. We do not announce this as a positive rule.

On Queen Anne structures, which are



SIDE ELEVATION OF \$2,500 COUNTRY DWELLING.

painted with two or three body colors, and are burdened with numerous and elaborate trimmings, calculation must be made of the portions of the buildings to which the different body colors are to be applied, either by divisions of total measurement, or by separate measurements, and the trimmings considered separately.—*The Painter.*

The Art of Picture Hanging.

How to hang pictures so as to prevent their killing each other or being killed by their surroundings has ever been a difficult matter. In a collection it is impossible that all the pictures should be hung in a row nearest the natural range of light. Yet even having this manifest advantage, killing is frequently effected by adjacent contrasts of color. It is related of Turner that he did not consider his labors over when he had sent his pictures to the exhibition; he would wait until the hanging-committee had done its work, and then on varnishing day would by a few magical touches so alter the tone of his work that all the neighboring canvases looked like foils carefully arranged to set off this one particular picture in the whole room. "He had been here and fired off a gun," said Constable on one occasion, when he found that the introduction, at the last moment, of a bit of scarlet into a gray sea-piece of Turner's had completely absorbed the color of his own picture.

For home decoration great care is required

in the hanging as in the purchase of pictures. In selection the purchaser must be guided first by the size of the room. What appears mellow and harmonious in the great gallery will seem full of harsh outlines and discordant blotches of color when hung in the modest parlor where proper focal distance cannot be obtained. The size of the room and the color of the room must not violently contrast with the color of the picture. For instance, if a painting rich in reds and yellows of a tropical sunset is hung in a room lacking in bright color, its reds and yellows will glare with terrible fury; and a picture which is subdued in tone will have all its depth of color absorbed, leaving it gray and chalky, if placed in a position with warm surroundings. Even if picture and room are in complimentary tints, there is an art in hanging so that the painting may appear at its best. Generally this effect is produced when it is hung against the wall on a line nearest the natural range of eye. A second picture placed above this line may be tilted also, that the light of day should fall on the same angle as the pictured lights. That is, if the light in the picture appears to come from the right-hand side, the real light should likewise come from the right-hand side. Attention to these details may appear trifling to one who knows nothing and cares little for art, but the care extended will be amply repaid to them in the restful effect gained, while to the cultured, even mediocre pictures may be made to bear a charm that will make their possession a joy forever.—*Cincinnati Building Review.*

The Pavement of Workshops.

DR. KOCHLIN-SCHWARTZ notes the existence among certain workmen on the ground floors of factories, of a distressing though not painful edema of the legs, which seems to be dependent in no way upon gout or rheumatism. The disease has only existed since the wooden flooring formerly in use was removed, although now the workmen have shorter hours and live under vastly superior hygienic conditions. The workmen themselves attribute this swelling of the feet and legs to the nature of the pavement. They dread especially asphalt, then cement, next comes stone flagging, and finally bricks, which they prefer to any of the others. It does not seem to be a simple question of standing upon a cold floor, since the brick pavements are as cold as the cement or the asphalt. If there be really any relation here of cause and effect, the evident lesson would be that wooden floors should always be preferred to the more modern style of pavements.

PUBLICATIONS RECEIVED.

Hints on Drainage and Sewerage of Dwellings, by William Paul Gerhard. It has been the author's aim in this new work to give an account of the usual condition in which plumbing work, done years ago—and some done quite recently—may be found, and also to give suggestions on the proper manner of doing the work. Beautifully illustrated, and should be in the hands of every one who desires a thorough knowledge of sanitary matters in connection with their dwellings. Price \$2.50.

Cummings' Architectural Details. A few copies of this publication on hand. Price \$6.00.

Modern House Painting. A new edition of this popular work just received. It is much superior to its predecessor. Price \$5.00.

Plumber's Carpenter's Guide, being a handbook for workmen, also a manual of reference for contractors, builders, etc. Price \$1.00.

Practical Carpentry (new). Price \$1.00.

Artistic Coloring on Exteriors.

THE profession of house painting is gradually assuming its proper position in art, but it moves very slowly. This is especially true of that branch of it which pertains to exterior painting. Many painters pay little or no attention to the combinations of color they use on such work, but leave the selection entirely to customers, a course which has many objections. Few of these customers are practical painters, and hence are incompetent to select the colors required to make their buildings look symmetrical and artistic. The painter should get a customer's idea of what he wants and then use his knowledge and judgment in making the proper combination. If a customer thinks some color is not correct which may be proper, pleasantly prove to him it propriety, and he will be satisfied and places confidence in the painter's ability and judgment. But if painters persist in yielding every point, through fear of giving offense, they can hardly expect to win the confidence and esteem due to competent workmen. I do not mean that the painter should be dogmatic, or that he should attempt to enforce radical or impracticable views of coloring upon those who may seek his advice; but that his knowledge of the business he follows should be so thorough that

any suggestion he may offer will be entirely consistent with true standards of excellence.

I have seen many houses painted with good combinations of color, which looked poorly on account of the surroundings. The painters employed not having sufficient range of vision to take in the surroundings, the buildings were painted without due consideration of them. This is a common defect. I have also seen houses placed very close to each other, without the accompaniment of lawn or shrubbery, all painted about the same, which is in bad taste. Supposing these houses were painted with a very good combination of colors, the taste displayed is still defective; for a variety of good combinations, one helping the other, would be much better, give better satisfaction to the occupants, and please the passers-by. But supposing the occupants of this row should all decide upon having their houses painted the same color—say, for instance, an olive color—it is quite an easy matter to have them allow of a shade of difference in the color used, provided it is called olive. Now, make one house a little more of the yellow than another, the next a little greener, and another with a brown cast, and by so doing, some of the buildings appearing cool, others warm, and so placed that one is complementary to the other, a very much better effect is obtained than would be the case if all were painted exactly alike. Even in business blocks it is preferable to paint with different combinations of color, as one color helps another, and the peculiar color of a store becomes identified in the public eye with the business and the location. Let a painter but hint at the advantage of this style of coloring as a means of advertising, and see how readily he will be allowed to have his own way.

Another class of houses which has been sadly neglected as to artistic painting is farm-houses. They are generally painted, if at all, simply with a view to the preservation of the wood without respect to artistic appearance. If there is any one place more beautiful than another in this world, it is a well-cultivated farming district dotted with artistically painted farm-houses. The farmer not being an artist, this part of the beautifying process devolves upon the painter, and for humanity's sake, as well as the advancement of his business, he ought to do his best, as there are few men who like to show off their houses, especially if they are beautiful, better than the farmer. There are combinations of color which may be used with good taste on houses in a crowded city, which would be absurd on a farm-house. In painting such a house the sky should be taken into consideration as well as the other surroundings. Houses on the north and east sides of the road or under the cool aspect of the sky, should be painted a warmer hue than those on the south or west sides or under the warm aspect. A house which has elevated land for a background, should be painted a warmer hue than one which has the sky for a background. If olive colors are used, they should be light and of a



SECOND STORY PLAN OF \$2,500 COUNTRY DWELLING.

warm cast. The light, bright, cheerful colors are preferable, as they are in strong, pleasing contrast with nature, which surrounds them on all sides.

In cities and towns we find many wooden houses situated beside brick buildings, and sometimes between two such buildings. In such cases it is proper to paint the house so situated with a cool color, like olive, bluish gray or any other cool shade that will contrast well with the warm color of the brick house next to it. Where there is a row of dwelling houses to be painted, it is a good plan to paint them in different colors, alternating warm and cold. For instance, paint one red, another olive, another citrine, another of a bluish color, and so on until all have been painted, so as to make a good combination of the completed job. If painted in this way they will look well collectively, and each house will be made to look well by contrast, provided all are arranged as they should be.

There are a few artists among house painters, but the majority of them seem to know very little about the harmony and contrast of color, and what they do know they have learned intuitively from working among colors, not by hard study and experiment. No painter, no matter how good his taste may be for color, can make perfect combinations without making a life study of the subject. In years gone by the study of color has been sadly neglected, especially by those men who are most benefited by it. But the present seems to be making up for lost time. Nearly every

scientist and mechanic who knows anything about color is studying and writing for the benefit of others, and the painter of to-day who does not study and read all he can find written on the subject of color, will in a few years find himself far behind the majority of the men working in the house painting business.—*The Painter.*

How Shot Are Made.

A SHOT-TOWER is an immense brick structure, 150 feet high, resembling a light-house more than anything else. Visitors are conducted up a spiral staircase inside, to the top, where a fine view is obtained for miles about, but the view down the inside is not so pleasant. The opening where the shot descends becomes narrower and narrower, until nothing is seen at the bottom but darkness. At the top of the tower are the furnaces for smelting. From these lead is poured into pans, set in the tower, with perforated sheet iron bottoms. The melted lead comes through these holes and enlarges on the other side, forming into globules before it falls down to the well beneath, holding several feet of water. The large shot drop the whole height of the tower to the bottom, but the smaller sizes only about half as far. One peculiar thing is, that small shot generally expand in falling, and the larger sizes contract. Very great care is necessary in mixing the metal, as it would run through the holes and drop in strings if not of the proper proportions, and no shot could be made at all.—*The Manufacturer and Builder.*

Band Saws.

WE have recently received from M. Dugoujon Aine, of Paris, a very useful article, giving "Directions for the proper way of using and sharpening band saws." We print it below, for the benefit of our readers, together with the illustrations, which will enable the reader better to understand the directions:—

Considering the many difficulties that have arisen in the use of band saws, "arising for the most part from an imperfect knowledge of how to treat them, we think it not out of place to give a few instructions on this point, the observance of which we judge indispensable to obtain satisfactory results in working. The first thing required of band saws is that they should not break. Band saws, as a rule, do not break because they are too hard, or of inferior quality, or too strong or too weak; but they break because the tooth is an unsuitable one. It is important to make use of such teeth only as from their form will best adapt themselves to the action of rolling and unrolling from one pulley to the other. It is found that it is only every other tooth that breaks, and especially when they are like those shown in Fig. 1.



FIG. 1.

This is accounted for by the fact that the teeth, when set, produce upon the pulleys the same effect as a chain does when running edgewise on a pulley; that is, instead of adapting itself to the pulley and forming a regular curve, it forms a number of short, straight lines as shown in Fig. 2. Each one of

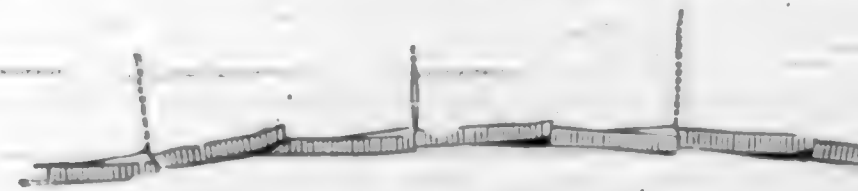


FIG. 2.

these straight lengths out of the regular curve is sufficient to cause a break.

We have said that all sharp angles prevent the proper running of the saw round the pulley, and that the only teeth that are not likely to break are those with the bottom or angle well rounded. It is a very easy matter to make teeth suitable for all kinds of wood and yet fulfil these conditions, as, for instance, the tooth shown in Fig. 3. This tooth, when

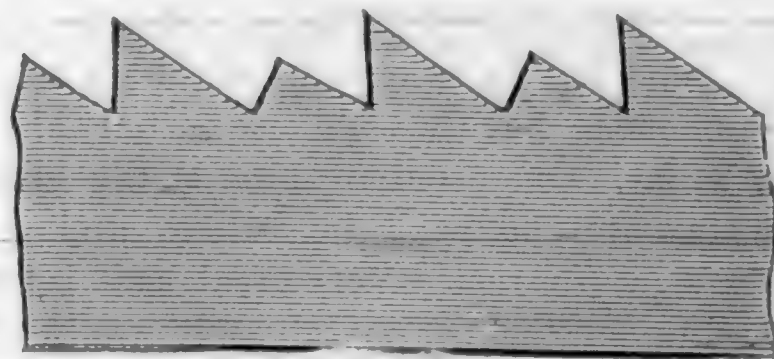


FIG. 3.

properly sharpened, no matter what the size of tooth or space between them, will fulfil the

required conditions, whereas 90 out of 100 sawyers will sharpen as in Fig. 4. In this

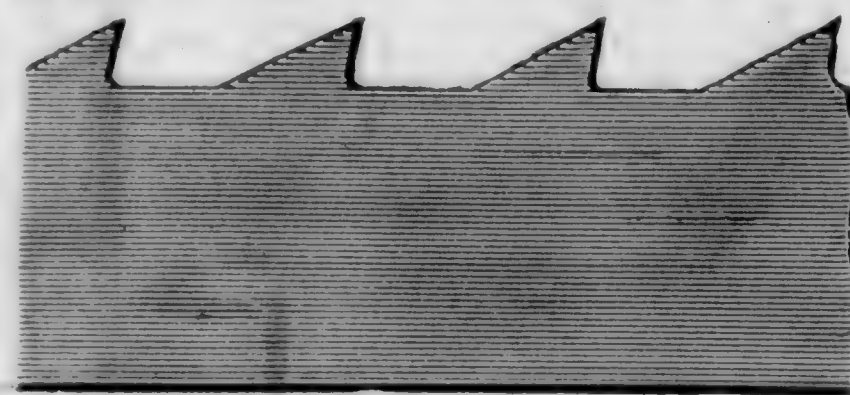


FIG. 4.

case, by the routine of the workmen, the sharp angles are reintroduced, as also the consequent liability to break. But on the contrary, by keeping up the form of tooth shown in Fig. 3, the saw, when heated, will easily stretch without breaking, as the edges present no sharp angles; besides which, the saw adapts itself more easily to the pulley on account of the wide space between the teeth, and so, again, is rendered less liable to break.

As an example to show how easily anything having a sharp angular cut in it will break, you have only to take an ordinary square made of iron, brass, or steel, and pull it in opposite directions by its two extremities, and you will always find it break at the angle, as in figure 5. The same effect is produced on a band saw; it runs downwards, and the wood being held firm, offers a resistance in the opposite direction; thus the tooth is pulled in the same manner as the square, and, like it, will break at the angle.

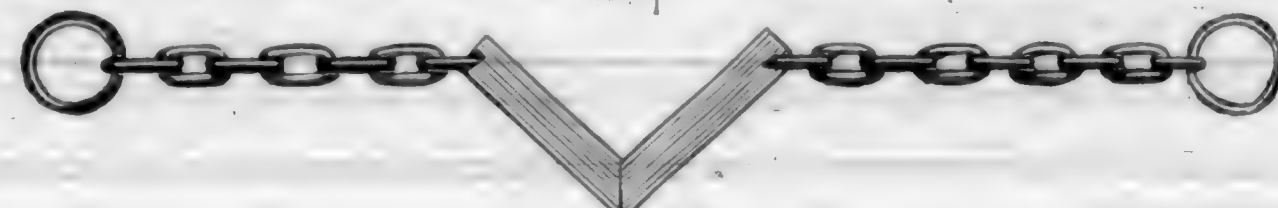


FIG. 5.

In order to keep up the shape of the teeth to Fig. 3, the best way is to grind the bottom of the wide spaces with an emery wheel, equalizing them with a smooth file, and to sharpen the points with a file. Or a diamond-shaped file may be used, as in figure 6. By either of these two methods the use of band saws may be rendered much less difficult and troublesome. Numbers of persons use

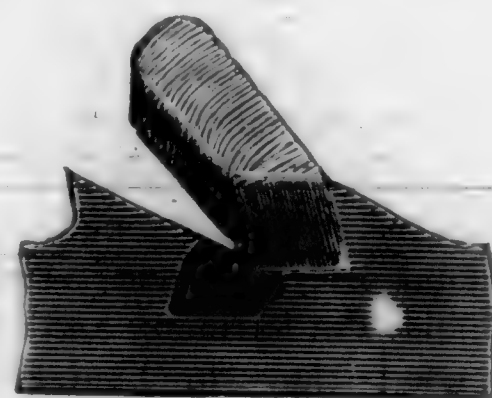


FIG. 6.

1. The diameter of the pulleys should be as large as possible, being however in proportion to the work to be done. 2. The two pulleys and the two guides should be kept perfectly parallel one with the other. 3. The two axes of the pulleys, on the contrary, should be a little wider apart at the front of the machine than at the back, as shown in Fig. 7. 4. In

order to run well and easy the back of the saw should always be close up to the flange of

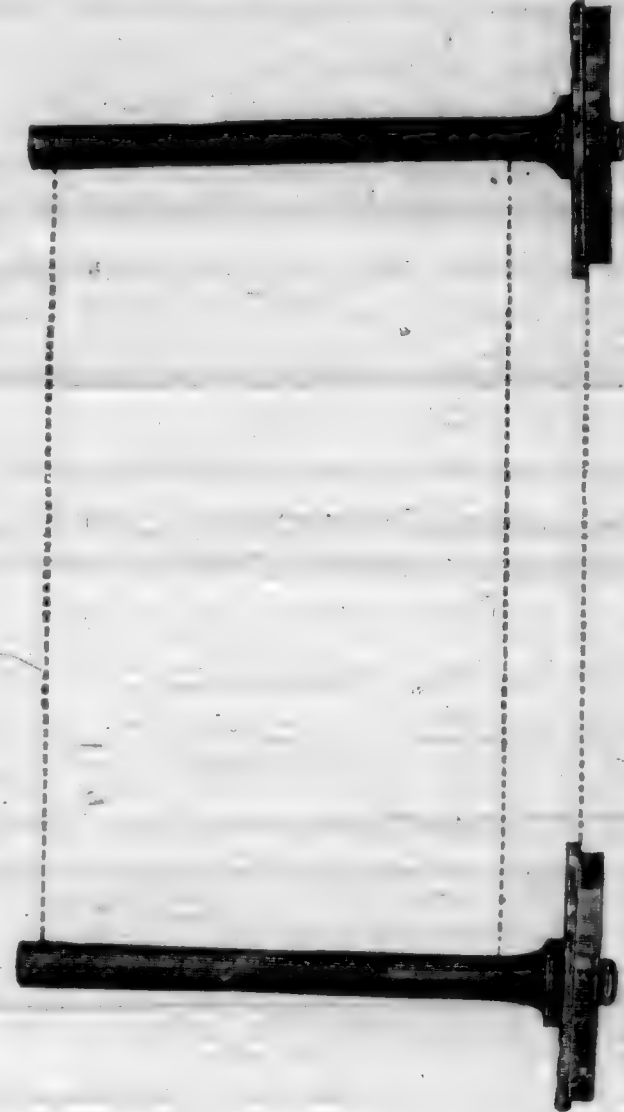


FIG. 7.

the pulley. On this account, and in order to pass smoothly through the guide, it is very important that the saw should be well dressed at the back, but not straight, for a well-made saw is slightly hollow on the back (see Fig. 8).

It is easy to understand that, on account of

the position of the pulleys as shown above, the saws should have a corresponding curve. Saws made in the manner indicated, and maintained in the same state, make the work very much easier; the saw wants less stretching and gives a better result, and consequently requires less power for a greater amount of work. By

FIG. 8.

taking care always to use saws sharpened by good workmen and to keep them well sharpened, it will be found that, instead of increasing expense, a great saving may be made, caused by the consequent avoidance of breaks and by the better work and greater amount produced.

One of the most important points in a band saw is a good joint. The following is the best way of making it. First file slightly the two ends to be joined, in order to take off any grease or other foreign matter that may be upon them, but without making them any thinner. Then lay one end over the other as in Fig. 9 and 10, and keep them in their places with two bits of iron wire. Then tie on very fine brass wire, which sprinkle over with borax, after it is bound. Then melt the brass by means of a special forge for the purpose, or with brazing tongs, or with gas

by means of a blow-pipe. But in this last case it would be necessary to have special bellows *ad hoc*, which is not always an easy matter for every one to establish. Brazing tongs will suffice for saws up to 1 1/4 in., but as a forge is required to heat the tongs, it would be better to use a forge with a double blast, so arranged as to soften only just as much as is necessary for brazing the joint. When the brass is melted, let the saw cool without putting it into water, then tap the brazed part lightly with a hammer, to loosen and shake off the borax; and, lastly, reduce the joint to the same thickness as the rest of the saw, either with a file or an emery wheel.

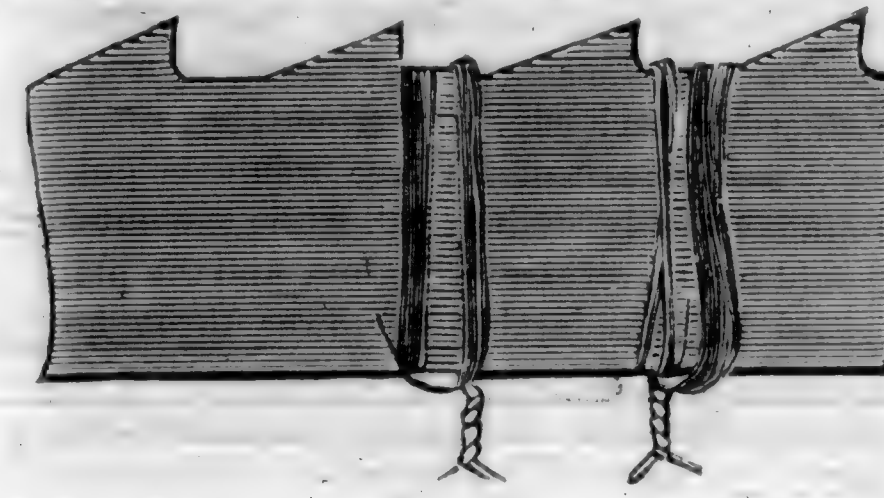


FIG. 9.

M. Dugoujon, in conclusion, states that he has patented a special grinding machine for finishing these joints. By means of this machine the joints can be made much better



and in much less time than with a file, and the expense of the emery wheels is incomparably less than that of files. This same machine with a thinner emery wheel is very useful for gulleting circular saws and for sharpening band saws.—*Timber Trades Journal*.

Removing Spots from Gilt Frames.

GILT frames are liable to become spotted and look bad, while it is, as a rule, difficult to remove the spots. Rubbing does not answer, for the stain sticks tighter than the gilding itself, and washing is liable to loosen the gilt if put on with gum or dextrine.

The *Papier Zeitung* recommends the following method of renovating gilt frames. It consists in applying with a camel's hair pencil a gum solution to which has been added gold bronze having the color of the frame. Before mixing with the gum water the bronze must be washed with water until it runs off perfectly clear. If one application does not suffice it may be repeated until the spot entirely disappears, but of course one coat must be dry before the next is applied.

Spots treated in this way look very well at first, but it will not last, for it is not able to resist the moisture in the air unless it is specially prepared. For this purpose an ordinary bristle brush is rubbed with a piece of yellow wax until it is somewhat sticky, then it is passed very lightly over the spot several times as when dusting it. This gives it a very thin coat of wax that hardens in two or three days; in the meantime it must be protected against dust.

New Publications Received.

"HINTS ON HOUSEHOLD TASTES." By Chas. L. Eastlake.

A new edition of a popular work by an author that is known in nearly every civilized portion of our globe. We quote from the author's preface the following:—

"Fifty years ago an architect would have considered it beneath his dignity to give attention to the details of cabinet work, upholstery, and decorative painting. But I believe there are many now, especially among the younger members of the profession, who would readily accept such commissions if they were adequately remunerative, and that they might become so is evident from the fact that the furniture of a new house frequently costs as much, if not more, than the house itself. And when clients lead the way we may be sure that manufacturers will seek assistance from the same source. Price, \$3.00, post paid.

"ALBUM OF MANTELS, IN WOOD, STONE, SLATE, AND BRICK."

This new work contains sixty large plates, containing designs for mantels of every description in wood, stone, slate and brick. The author is C. C. Buck, architect. We will mail a copy of this work to any address upon receipt of \$5.00.

"DRAINAGE AND SEWERAGE OF DWELLINGS." By Wm. Paul Gerhard.

In this work the author shows the difference between the way plumbing work is done now and that of years ago. All the improved systems of sewerage are clearly illustrated and explained. The advantages and defects of different traps for wash-basins, sewers, water-closets, etc., are treated in an intelligent manner. The book should be in the hands of every one who desires a thorough knowledge of the sanitation of dwellings. Price, \$2.50.

"THE AIR WE BREATHE AND VENTILATION." This book is the second number of the Mott series. The aspirating system of ventilation has been presented to the exclusion of other systems which have been proposed, for the reason that the writer considers the principle on which that system is founded to be correct. Price, \$1.50.

"HISTORY OF ARCHITECTURE IN ALL COUNTRIES FROM THE EARLIEST TIMES TO THE PRESENT DAY." By Jas. Fergusson.

This work is one that should be in the possession of every architect. Especially should students and draughtsmen secure a copy. Being a reprint of the London edition the price has been materially reduced. Two large volumes, containing over 1,200 pages, beautifully illustrated. Price, complete, \$15.00.

"BUILDING SUPERINTENDENCE."

This new work is of invaluable assistance to the architect and builder. It is written by a gentleman long connected with the architectural profession, and is eminently practical in its character. We will send a copy to any address upon receipt of \$4.00.

"BUCK'S DESIGNS IN ARCHITECTURE."

This new work contains over seventy pages of designs for country dwellings, together with plans and estimates of cost—the latter according to New York prices. Allowing for the difference in price of material, a fair estimate may be made for which the design selected could be built on this coast. Price, 50 cents.

"PECK BROS. ILLUSTRATED CATALOGUE AND PRICE LIST."

This is the finest catalogue we have yet received in the way of presenting a complete list of all the articles used by the plumber and gasfitter. It also contains all the new designs in brass goods, and a very complete representation in the line of copper, iron, and earthen ware, water-closets, traps, etc., etc. It contains about 600 pages, beautifully and artistically illustrated, with the price of each article in all the different sizes. It is issued by Peck Bros. and Co., of New York, R. W. Snow being the general agent on this coast.

Our Exchanges.

WE have made arrangements with the editors of the following journals, by which we are enabled to offer quite a reduction to any one subscribing for any one of them in connection with this journal.

(The figures in parenthesis denote the price of the journals alone.)

CALIFORNIA ARCHITECT AND BUILDING NEWS.

Terms, \$2.00 per annum.

With *American Architect* (\$6.00),

\$7.00 per annum.

With *Builder and Wood Worker* (\$1.00),

\$2.50 per annum.

With *American Artisan* (\$1.00),

\$2.50 per annum.

With *Brick, Tile, and Metal Review* (\$1.00),

\$2.50 per annum.

With *Building* (\$1.00),

\$2.50 per annum.

With Special Edition of *Building* (\$5.00),

\$5.75 per annum.

With *Scientific American* (\$3.20),

\$4.50 per annum.

With *Decorator and Furnisher* (\$4.00),

\$5.00 per annum.

With *American Machinist* (\$2.50),

\$4.00 per annum.

With *Cincinnati Building Review* (\$1.00),

\$2.50 per annum.

THEOPHRASTUS, a Greek writer who flourished in the fourth century before the Christian era, in a work entitled the "Book on Stones," describes an earthly substance which would kindle and burn, and which was used by smiths. There can be no doubt that he refers to coal, and that this is the earliest passage in which that substance is expressed or mentioned.

A man's labor, well applied, is always amply sufficient to provide him during his life with all things needful to him, and not only with those, but with many pleasant objects of luxury, and yet, further, to procure him large intervals of healthy rest and serviceable leisure.

Steel Sinks.

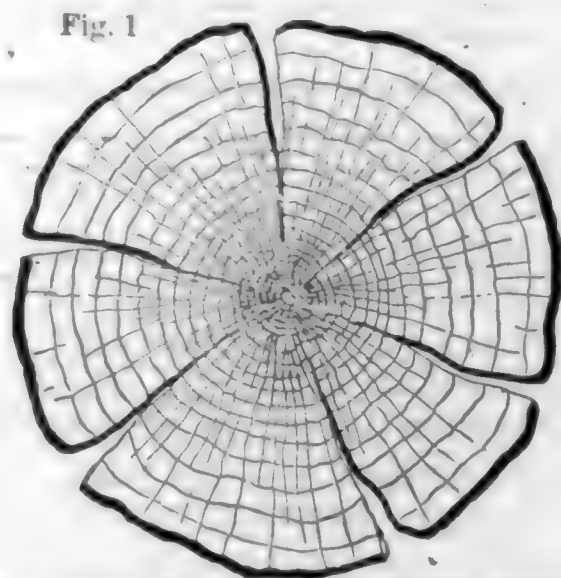
EXAMINE the advertisement on page 8 of this issue in regard to these valuable adjuncts to the conveniences of the kitchen.

How Lumber Shrinks.

A STORY is told by the "Arkansaw Traveler," about the manner in which lumber was "hauled" across the mountains down in his country. "Why!" said he, "they saw it green, leave it in the sun, and off it starts. I have seen a board turn three summersaults in less than a minute, and get to the other side of the mountain before sunset." "What," asked a by-stander, "would be the result if it was attacked in its wild career by a shower of rain, would it come back?" Here was a poser, but the traveler was equal to the occasion and replied: "No, it would turn on the other side and continue its course."

The subject of the contraction of lumber is an interesting one to wood-workers, and the doors and shutters in many of our mushroom cities are said to come off the hinges in retaliation of the persistent disobedience of the natural law of shrinkage. An examination of the end of an oak or beech tree will show the arrangement of its structure. It consists of a mass of longitudinal fibrous tubes, arranged in irregular circles, that are bound together by means of radial strings or shoots, which have been variously named; they are the "silver grains" of the carpenter, or the "medullary rays" of the botanist, and are in reality the same as end wood, and have to be considered as such, just as much as the longitudinal woody fiber, in order to understand its action. From this it will be seen that the lateral contraction or collapsing of the longitudinal, porous, or tubular part of the structure cannot take place without first crushing the medullary rays, hence the effect of the shrinking finds relief by splitting in another direction, namely in radial lines from the center, parallel with the medullary rays, thereby enabling the tree to maintain its full diameter, as shown in Fig. 1.

Fig. 1

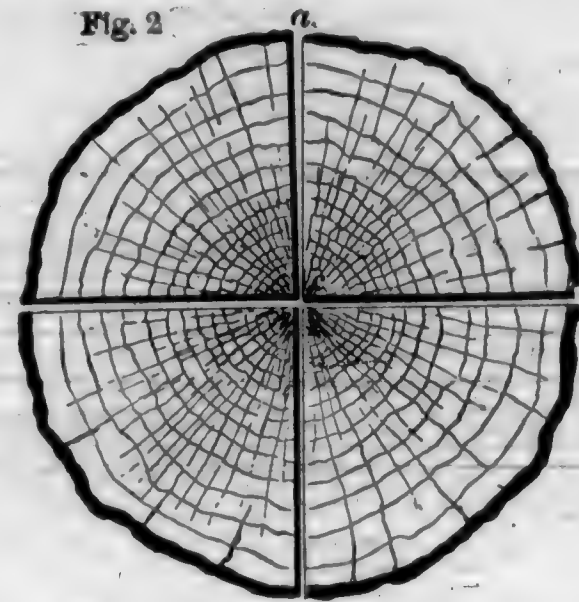


If the entire tubular fiber composing the tree were to contract bodily, then the medullary rays would of necessity have to be crushed in the radial direction to enable it to take place, and the timber would thus be as much injured in proportion as would be the case in crushing the wood in the longitudinal direction. If such an oak or beech tree is cut into four quarters, by passing the saw twice through

* We are indebted to the editor of the *Lumber World*, published in Buffalo, New York, for this article, as well as the cuts illustrating the same. It is with pleasure that we acknowledge the professional courtesy extended. Trade Journals in every portion of the country, are increasing in influence, and the one from which we produce the above should be found in every Mechanic's possession. The knowledge gained will far over-balance the small amount of money required for a year's subscription.

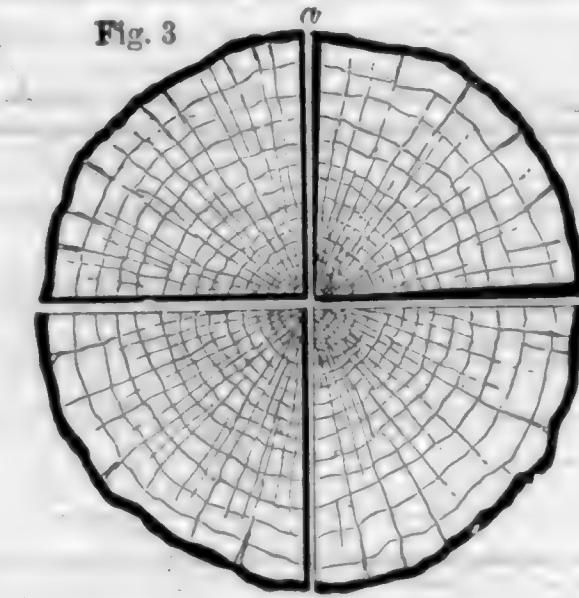
the center at right angles, before the contracting and splitting have commenced, the lines a , c , and e , in Fig. 2 would be of the same

Fig. 2



length, and at right angles to each other, or, in the technical language of the workshop, they would be square, but, after being stored in a dry place, say for a year, it would then be seen that a great change had taken place both in the form and in some of the dimensions; the lines a , c , e would be the same length as before, but it would have contracted from a to b very considerably, and the two lines c and e would not be at right angles to

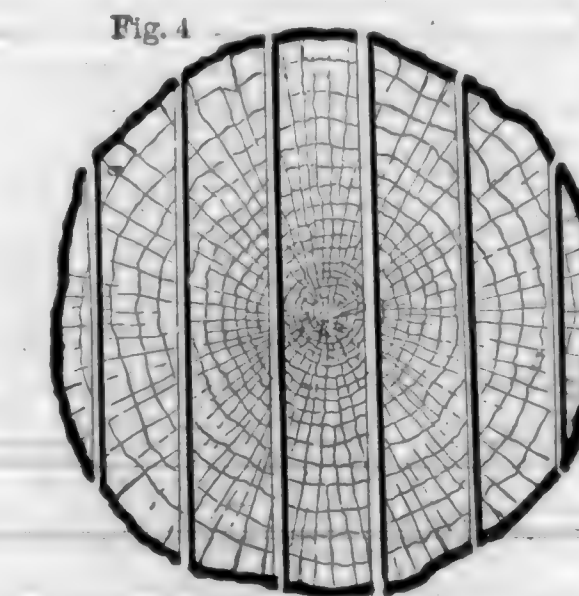
Fig. 3



each other by the portion here shown in Fig. 3. The medullary rays are thus brought closer by the collapsing of the vertical fiber.

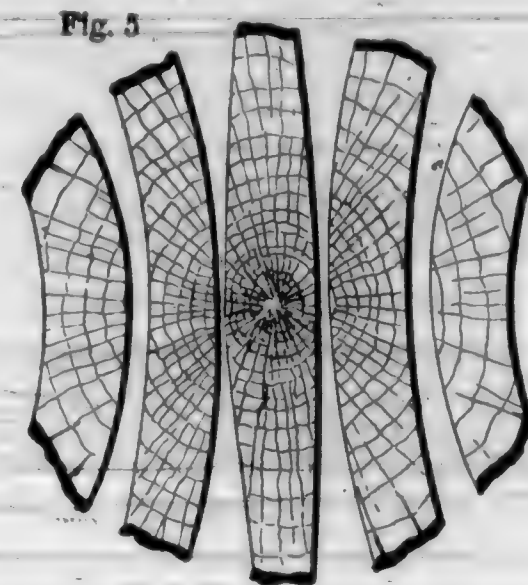
But supposing that six parallel saw cuts are passed through the tree so as to form it into seven planks, as shown in Fig. 4, let us see

Fig. 4



what would be the behavior of the several planks. Take the center plank first. After due seasoning and contracting, it would then be found that the middle of the board would still retain the original thickness, from the resistance of the medullary rays, while it would be gradually reduced in thickness toward the edges for want of support, and the entire breadth of the plank would be the same as it was at first, for the foregoing reasons, and as shown in Fig. 5. Then taking the planks at

Fig. 5



each side of the center, by the same law their change and behavior would be quite different; they would still retain their original thickness at the center, but would be a little reduced on each edge throughout, but the side next to the heart of the tree would be pulled round or partly cylindrical, while the outside would be the reverse, or hollow, and the plank would be considerably narrower throughout its entire length, more especially on the face of the hollow side, all due to the want of support. Selecting the next two planks, they would be found to have lost none of their thickness at the center, and very little of their breadth at the edges, but very much of their thickness at the edges, and would be curved round on the heart side, and made hollow on the outside.

Supposing some of these planks to be cut up into squares when in the green state, the shape that these squares would assume, after a period of seasoning, would entirely depend on the part of the tree to which they belonged; the greatest alteration would be parallel with the medullary rays. Thus if the square was near the outside the effect would be as shown in Fig. 6, namely, to contract in the direction

Fig. 6

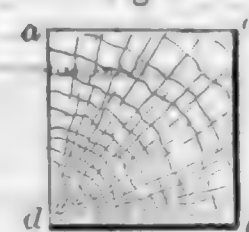
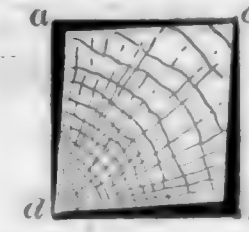
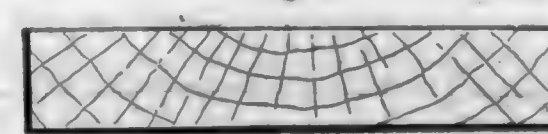


Fig. 7



from a to b , and after a year or two it would be thus, as seen in Fig. 7, the distance between c and a being nearly the same as they were before; but the other two are brought by the amount of their contraction closer together. By understanding this natural law, it is comparatively easy to know the future behavior of a board or plank by carefully examining the end of the wood, in order to ascertain the part of the log from which it has been cut, as the angle of the ring growths and the medullary rays will show as in Fig. 8.

Fig. 8



A plank that has it will evidently show to have been cut from the outside, and for many years it will gradually shrink all to the breadth. While the next plank, shown in Fig. 9, clearly points close to the center or heart of

Fig. 9



the tree, where it will not shrink to the breadth, but to the varying thickness with the full dimensions in the middle, but tapering to the edges, and the planks on the right and left will give a mean, but with the center sides curved round, and the outside still more hollow. These remarks apply more especially to the stronger exogenous woods, such as beech, oak, and the stronger firs. The softer woods, such as yellow pine, are governed by the same law, but in virtue of their softness another law comes into force, which to some degree affects their behavior, as the contracting power of the tubular wood has sufficient strength to crush the softer medullary rays to some extent, and hence the primary law is so far modified. But even with the softer woods, such as are commonly used in the construction of houses, if the law is carefully obeyed, the greater part of the shrinking, which we are all too familiar with, would be obviated, as the following anecdote will serve to show: It was resolved to build four houses, all of the best class, but one of the four to be pre-eminently good, as the future residence of the proprietor. The timber was purchased for the entire lot, and the best portions were selected for house No. 1, but by one who did not know the law, and to make certain of success this portion of the wood had an extra twelve months' seasoning after it was cut up. The remainder of the wood was then handed over to a contractor for the other three houses, who had an intelligent young foreman, who knew the structure of wood, as well as how to obey the law, and who, therefore, had the wood for the three houses cut up in accordance therewith. The fourth house was built the following year by another man; but long before ten years had passed, to the great surprise and annoyance of the proprietor, it was found that his extra good house had gone in the usual manner, while the other three houses were without a shrinkage from top to bottom.

A similar want of correct knowledge of the natural figure and properties of the structure of wood, such as the oak, is constantly shown by the imperfect painting to resemble that wood, as exhibited on doors and shutters of many houses. If we cannot afford to have genuine wainscot doors, as in France and other countries, but yet desire to have an imitation, it should surely be worth the trouble to have a block cut from the quarter of an oak tree, and to have each of its six sides planed and polished, in order to make plain their several features. The house painter would then see what nature really is, and thus save us from the ridicule of other nations, when we mix up "silver grains" and all the other natural features on one side of a board or panel. This is a subject that should interest all wood-workers and builders, and a great deal of attention should be given to the structure of the various woods. It is almost as nec-

essary for a wood-worker to understand the anatomy of his tree, so to speak, as a surgeon to understand human anatomy before he commences to operate. The importance of the subject is therefore obvious.—*The Lumber World*.

PATENTS AND INVENTIONS.
List of U. S. Patents for Pacific Coast Inventors.

From the official list of U. S. Patents in DEWEY & CO'S SCIENTIFIC PRESS PATENT AGENCY, 252 Market St., S. F.

FOR WEEK ENDING FEBRUARY 5, 1884.

292,987.—SELF SHIPPING BELT PULLEY—H. P. Christie, S. F.

292,992.—ALARM SIGNAL FOR HOT JOURNALS—Cornelius & Turner, Turner, Oregon.

292,900.—VEHICLE GEAR—W. A. Dawson, Stony Point, Cal.

292,910.—CAR COUPLING—J. M. Harper, Colfax, W. T.

292,932.—STEP LADDER—E. Markwick, Pinkney, Cal.

293,069.—HYPOTHEUSE CALCULATOR—Daniel Paten, Calistoga, Cal.

293,087.—HORSE POWER—A. Robinson, Benicia, Cal.

293,093.—SCAFF RETAINER—J. Sandilands, S. F.

293,104.—SPADING MACHINE—D. F. Spangler, Santa Ana, Cal.

293,130.—SAW—Geo. W. Wills, Portland, Oregon.

293,208.—GRASS COLLECTOR FOR LAWN MOWERS—J. H. Wymys, Oakland, Cal.

FOR WEEK ENDING FEBRUARY 19, 1884.

293,931.—TABLE FOR MANUFACTURE OF CANDY—C. A. Alisky, Portland, Oregon.

293,841.—FRUIT PITTING MACHINE—Chas. Allison, S. F.

293,932.—DREDGER—H. B. Angell, S. F.

293,627.—FIRE ESCAPE—S. D. Butler, Marshfield, Oregon.

293,853.—PORTABLE RAILWAY—John Dolbeer, S. F.

293,955.—WOOD PRESERVING COMPOUND—H. C. Dorr, S. F.

293,899.—CAR COUPLING—John Martin, Knights Ferry, Cal.

293,667.—SURVEYORS' TRANSIT—Thomas L. Nixon, New Tacoma, W. T.

293,984.—ADJUSTABLE WRENCH—A. B. Smith, S. F.

293,832.—REFRIGERATING CAR AND APPARATUS FOR SHIPPING MEAT—H. S. Widman, S. F.

3,291.—LABEL—Wells & Church, S. F.

NOTE.—Copies of U. S. and Foreign Patents furnished by DEWEY & CO., in the shortest time possible (by telegraph or otherwise) at the lowest rates. All patent business for Pacific Coast Inventors transacted with perfect security and in the shortest possible time.

Brick Fronts.

THE overwhelming desire for a "neat job" has done mischief in brick work. A pressed brick wall is a monotonous thing when brick is used alone. It shows only mechanical precision and exactness, and these qualities become very tiresome when they are exhibited for their own sake and not as means to an end. A slight unevenness in texture and in color helps the look of a wall, and it is the aim of the maker of pressed brick and of the builder to avoid the slightest unevenness. The best-looking brick walls, except in the perverted eyes of bricklayers, are those in which the unevenness appears, that is to say, those which are built, not of pressed bricks, but of common bricks, chosen for color.—*New York Record*.

Bound Volumes of this Journal, \$2.50.

The "California Architect" is now in the Sixth Year of Publication.

Competition Designs!
ONE HUNDRED AND FIFTY DOLLARS
Cash Premiums!FOURTH PRIZE,
Box of Drawing Instruments.

In order to promote a general desire to excel among Architects and Draughtsmen in the preparation of drawings for this Journal we have concluded to offer the following premiums for the best 4 designs of a Country Dwelling, the successful plans to be published in the CALIFORNIA ARCHITECT AND BUILDING NEWS.

1st, a Cash Prize of \$60.00

2d, " " 50.00

3d, " " 40.00

4th, Box of Drawing Instruments.

Notice to Competitors.

All plans to be in the office of the CALIFORNIA ARCHITECT ON OR BEFORE the 1st of May, 1884.

All plans not accepted will be subject to the order of the owner, and will be returned upon receipt of the necessary postage.

We claim the right to reproduce in this journal all drawings of which honorable mention is made, and yet not entitled to a prize.

A *non de plume* to be used on all drawings; a letter to accompany the latter, addressed with the name used, containing also the real name and address of the contestant. This is done solely that the person's name and residence will not be known until the committee have made the awards.

A scale of $\frac{1}{4}$ inch to the foot to be used.

Detailed estimate of cost to accompany the drawings. QUANTITY and PRICE of each material used to be given, so that allowance can be made for difference of price between the various sections of the East and this Coast.

Drawings are to show front, rear, and side elevations, with plans of the different floors.

The value of the house when finished to be ABOUT FIVE THOUSAND DOLLARS.

This competition is open to Architects in every portion of the United States.

Drawings to be made on card or bristol-board; to be line shaded; no color but JET BLACK to be used.

All competitors will receive one year's subscription to this journal FREE, that they may see the various plans adopted.

The merits of the various designs will be decided by a committee appointed by the San Francisco Chapter of Architects.

All inquiries in regard to the above will be answered by addressing a letter to the office of this journal, 240 Montgomery St., San Francisco. WOLFE & SON, Editors and Publishers.

Harold D. Mitchell.

This gentleman may be justly termed a California educated architect; for, although the principles of the art were first studied in England, it was in this city that he applied them to the practical workings of the profession.

Mr. Mitchell was born in the town of Manchester, England, on the seventh day of April 1854. He early developed a taste for art, and, after passing through a collegiate course, he entered the ROYAL INSTITUTE OF ART in his native city. In this school his ideas and conceptions were moulded in a form in keeping with the high standard adopted by the Faculty.

His aspirations leading him to secure a more extended knowledge of architecture, as practised in different parts of this world, in 1870 he embarked for San Francisco. Shortly after his arrival in this city, he secured an engagement in the offices of Messrs. Wright & Sanders, and for eight years remained with that firm.

Having a strong desire to build up a business on his own account, in 1878 he severed his connection with the firm in which he had so long been engaged, and commenced business on his own account. His personal popularity, aided by a well-earned skill as a designer, enabled him at once to start a lucrative practice, and his success was commensurate with his ability.

Mr. Mitchell has designed many prominent buildings, among which are St. Luke's Church, Court House at Merced, the warehouse of Falkner, Bell & Co., the large buildings used by the Central Gaslight Co., etc.

Mr. Mitchell's business has greatly increased since the beginning of the year, and he has been compelled to seek larger quarters. His offices are now in the Safe Deposit Building, and are fitted up in artistic style. He is a member of the San Francisco Chapter of Architects.

Window Ventilation.

NO TIME could be better than the present for beginning the practice of house ventilation by the window, which is still, in the majority of houses, the readiest and the safest means of obtaining a regular and constant supply of fresh air. The practice, begun in warm weather, may be carried on with proper care through autumn and winter. The con-

stantly accumulating impurities derived from breath, from perspiration, from excreta of other kinds collected in sleeping-rooms, from the use of gas or lamplight, and too often, even now, from suction of sewerage gas from waste pipes by the heat of house fires, etc., render it as necessary for health as for comfort that these should have free egress, and that they should be substituted by the pure outer air. Fresh air from without may very easily be had without draught, and without risk of cold even to delicate persons if a few simple rules be observed. The cold air of winter, of course, enters with greater force and in greater proportional volume than the more equal summer air into a warm room.



HAROLD D. MITCHELL.

The aperture of ingress must be correspondingly diminished. Air from a window is preferable to that from an open inner door, no matter how roomy the house, from its more reliable purity. If the window be the inlet, the fire, fire-place, or it may be the door of a room in summer acting as an outlet, it may be opened from the top, the extent being regulated according to the outer temperature. There is then a direct inward current at the upper part, which follows the roof of the room, thus mingling with any heated waste products which require to be removed, and an interrupted current at the middle, the previous line of junction of the upper and lower sashes; both are broken and diffused by the blinds or curtains. Venetians for this pur-

pose should be turned upward. A window should never be made to ventilate by opening it from below, unless the open lower space be filled up in some way and ventilation be carried on at the middle where the sashes join—otherwise draughts are unavoidable. The ventilating pane is a hardly less simple and equally efficient and safe method with either of the others. Window ventilation is especially useful in bedrooms, and its efficiency or otherwise cannot fail to affect the vital powers of the occupant, who, in his slumbers, must trust to other energies than his own for the removal of those impurities and morbid germs which his every breath multiplies around him.

Removing Spots From Gilt Frames.

GILT frames are liable to become spotted and look bad, while it is, as a rule, difficult to remove the spots. Rubbing does not answer, for the stain sticks tighter than the gilding itself, and washing is liable to loosen the gilt if put on with gum or dextrine.

The *Papier Zeitung* recommends the following method of renovating gilt frames: It consists in applying with a camel's-hair pencil a gum solution, to which has been added gold bronze having the color of the frame. Before mixing with the gum water the bronze must be washed with water until it runs off perfectly clear. If one application does not suffice, it may be repeated until the spot entirely disappears, but of course one coat must be dry before the next is applied.

Spots treated in this way look very well at first, but it will not last, for it is not able to resist the moisture

in the air, unless it is specially prepared. For this purpose an ordinary bristle brush is rubbed with a piece of yellow wax until it is somewhat sticky, then it is passed very lightly over the spot several times as when dusting it. This gives it a very thin coat of wax that hardens in two or three days; in the meantime it must be protected against dust.

THE largest saw-mill at Port Blakely, W. T., was put to a test of its capacity one day a week or two ago. The whole cut of the day was 283,000 feet, the largest previous day's work being 224,000 feet.

A. A. Cook.

AS STATED in previous issues, it is not our intention to present a likeness of merely those who belong to the Chapter. We propose to give the history of all those on the Pacific Coast that are recognized as members of the architectural profession. Many have written to us, expressing their good-will to our Chapter, and regretting that distance prevented them from attending Chapter meetings. To all such we would say, You can help, no matter how great the distance, by your pecuniary assistance, as well as forwarding papers to be read, submitting sketches, etc., and the Chapter will gladly welcome those to membership whose character is of a high standing, and whose architectural ability is recognized by his fellow-brethren.

A. A. Cook, the subject of this sketch, is a resident of the city of Sacramento. He was born in Chenango County, New York, on the 20th day of April, 1832. In May of the same year, his parents moved to Albany, in which place he received his first lessons in the practical workings of the carpenters trade. In 1848 he was apprenticed to the carpenters and joiners trade.

It may be interesting to our young mechanics of to-day to know the value of apprentices' wages forty years ago. The first year Mr. Cook received \$50.00, the second year \$75.00, and the third year \$100. In those days, however, a three-years' apprenticeship, if the student was faithful, enabled him, at the expiration of the time, to readily assume the duties of an "old hand."

We find the result, in the present case, of the value gained by the appropriation of every minute of time during youthful days. In winter months, a prominent architect gave Mr. Cook instruction in practical geometry and architectural drawing, and, also, thorough his influence, enabled Mr. Cook to gain access to libraries containing works on architecture and carpentry. In those days books treating on those subjects were very rare. The works thus obtained were faithfully studied, and their principles fixed in his mind.

He also showed an aptitude for the art and science of hand railing, and such was his proficiency that, while still under twenty years of age, we find him giving instructions to a class of young mechanics.

In 1851 Mr. Cook moved to Kalamazoo, Mich. For nine years he was one of the prominent builders of that place; every spare

moment was given to the study of the profession which he had selected for his future business. After visiting several places, we find him located in Council Bluffs. In this town he began strictly the architectural profession, and several prominent buildings were designed by him, including the largest hotel, at that time, west of Chicago.

His health failing about this time, and, hearing of the great salubrity of the climate in California, he started for this coast, and arrived in Sacramento in 1869. The benefits derived from the change soon proved that the journey was a wise one, and, in a short time, Mr. Cook was fully restored to a robust state of health.



A. A. COOK.

Although residing in Sacramento, Mr. Cook's practice extends over a great portion of the northern part of the State. Nevada also can show many buildings erected under his superintendence.

Mr. Cook possesses one of the finest and most complete architectural libraries to be found in any private office on this coast. He is always ready and willing to give instruction to the younger members of the profession, and students can always be found in his office, learning the principles of the science of architecture.

EXPERIMENTS have shown that a person speaking in the open air can be heard about equally well at a distance of 100 feet in front, 75 feet on each side, and 30 feet behind.

The Lumber Trade—Order Your Lumber.

DEALERS report "trade entirely satisfactory." But verbal statements in this connection are not necessary. The inaudible voice of hundreds of buildings in progress of erection, and the excavations being made in all parts of the city, proclaim the fact that materials are in demand in large quantities, and that those who manufacture and sell those suitable for building purposes, must be enjoying a corresponding degree of business activity. We say yet to those contemplating the erection of buildings requiring more than ordinary sizes and lengths of timbers, to pass in their orders as soon as practically possible, as

extra dimensioned timbers cannot, as a rule, be found in our lumber yards in stock; consequently, as all such extra lumber will have to be cut to order, time may be saved by ordering early, as delays frequently occur in the transportation from mill to wharf—the winds and weather being very material factors in that connection. We have sometimes had orders filled within three weeks, under most fortuitous conditions, and in other cases, and, as a rule, from four to ten weeks. If a wharf at the mill should break down, as sometimes they do, and mix up ordered and stock lots of lumber, or if the vessel happens to meet a "stress of weather," or is beached, or runs on a reef, or bar, etc., more or less time is lost, and sometimes considerably more. Hence it is wise to order early, and order all that will be wanted, for if "everything is left to the last moment," it places matters in such a shape as to make them unpleasant; for when an order is sent from this city by a lumber dealer, he can do no more than

say: "Hurry up," "expedite," etc., while the doing part is in other hands, and often the man at this end is helpless to remedy delays, at which excited and perhaps angered owners, architects, and contractors complain, and sometimes say naughty words.

Beautiful Finishes.

HARDWOOD finishes are the most lasting and beautiful that can be applied to a building. In California, the great expense attending their use debars many people from placing the same in their homes. Redwood, when properly prepared, and covered with Wheeler's Patent Wood Filler, cannot be told from the genuine hardwoods, except by an expert. This preparation should be used by every one who desires a lasting and beautiful finish.

Brooks As Sewers.

WHEN a natural watercourse traverses a town, and its banks become built upon, the easiest way of getting rid of filth and house wastes is to throw them into the stream. Every man's instinctive impulse is to get rid of what annoys him, and not to mind how his neighbor will be affected. After a while, when the watercourse becomes sufficiently nasty, the people come to a realizing sense of what they have brought upon themselves, and then they try to devise a remedy. In this they begin usually at the wrong end. They look on the stream as creating the nuisance, and don't consider that it is their abuse of the stream that is the source of the trouble. So they go to work and cover the stream up, and call it a sewer. What is the result? Simply that the stench of the foul matter in the old channel is bottled up somewhat, to be vented through every manhole, every inlet, and every house drain, and probably do more real injury than when the rotting filth was exposed to the air and the sun, and diffused its aroma through the whole atmosphere.

The channel of a small natural stream through a town or village should never be converted into a sewer for house wastes. This will strike a good many people as an odd doctrine. The functions of a natural stream and of a sewer are so diverse that one cannot be made to do duty for the other.

A natural watercourse serves for the drainage of the land all along its course. Its banks cannot be made water-tight without obstructing the natural progress of the water in the soil and backing it up and retaining it where it ought not to be retained. A sewer, on the other hand, is intended to carry off foul matters which must be gotten rid of as quickly as possible, and the channel for conveying them must be absolutely impervious, so that nothing can soak through it to the soil. As the level of the water in the soil rises and falls with the season and the amount of rain, an open-jointed or pervious channel would sometimes admit water from the soil and sometimes permit fluids flowing in the channel above the level of the ground water to flow out, and thus pollute the soil and the air in the soil.

Again, a natural stream draining a considerable territory is subject to great variations in its volume. A channel to carry its extreme discharge in floods must be many times larger than can ever be necessary for the carriage of the greatest amount of sewerage that can be brought to it. A large channel is not suited to the rapid removal of a small flow of filthy fluids, and, moreover, costs a great deal more than a sewer of the proper size. Even if the large channel for a fluctuating stream is built through a village, the sewerage from the houses should not be turned into it, unless the minimum volume of the natural flow in the driest seasons is large enough to keep the channel thoroughly scoured. There are a good many small towns which have for years gotten along

without sewers, and have arched over natural watercourses, running through them, but are now impelled by the "sanitary revival" to construct sewers for removing household wastes. The first impulse is to utilize the covered streams to save the expense of constructing a few hundred feet of sewer. They should be very careful how they proceed. It is better to spend a little more money and be safe than to economize in the first cost and spend ten times the saving in doctors' fees and undertakers' bills.—*Sanitary Engineer.*

Educating Plumbers.

TRULY this is an age of progress, and in more ways than one. Take, for example, the question of education. Not very many years ago even good, skilled artisans could not make out a time-sheet and give a correct return of work done and materials used, but had to dictate to a clerk or other responsible person. This did not matter where men were working in communities, as in those cases there was always some one in charge to keep a proper record; but where they were working singly, it may seem far-fetched to say, but it really amounted to one man doing the work, and another had to keep an account of what was done; yet these men, perhaps, were first-class mechanics as far as workmanship goes. But the present generation have advanced considerably in this matter, thanks to the interest taken and the schools established, and now there are very few men who have not a fair knowledge of the three R's—that is, reading, 'riting, and 'rithmetic. Now, with this knowledge, the average working-man has grown to be more intelligent, it is true, but it is an open question if he is a better tradesman; and, as a proof of this, do we not continually refer to what was done ages ago as works of art, and also of construction, and hold up for admiration the work of our forefathers? But for all that the working-man is still the working-man; it is still the muscle that is required to do that which machinery fails to accomplish, so that in reality he is a piece of machinery. He has brains, it is true, but they only work in certain grooves in which they have always traveled. Ask a plumber why he warms the piece of lead that he may be working upon; he will answer, "To soften it, to be sure, and make it easier to work;" but ask him why heat softens the lead, and how many could answer? Again, ask him why he greases the prepared ends of a pipe before making a joint, and he will answer, "To make the solder stick;" there are exceptions, of course, but from the average tradesman no better answer would be given.

This age has always been referred to as one of progress, and one of the innovations of the age is "technical education." About this there is a diversity of opinion; some look upon it as an actual necessity, while others think it of no use or advantage. In using the term "technical education," it is meant in this case in the popular sense, in which a practi-

cal trade and all its cognate science subjects are taught together.

Germany, France, and Switzerland have for some years past taught various sciences in the same schools and concurrent with the ordinary education of youth, but it must be remembered that those countries depend mostly upon the productions of their industrial classes, so that "the more highly they are educated, the better for the country." But England, having such enormous natural resources, has not made the same progress in technical education as the countries mentioned, but the want of it has been felt, and efforts are now being made to make this movement more popular.—*James Mullens, in Sanitary Engineer.*

Care of Patterns.

ONE of the largest expenses of the producers of cast metal articles from toys to machinery is that of patterns. These must be made of the finest stock and by the most skilled workmen. All patterns are made originally of wood, which in the case of light articles are exchanged for duplicates in metal at once; just as the wood block for engraving is exchanged for the stereotype or the electrotype. But large patterns, as for beds for lathes, planers, and other heavy machines, and many other articles, must necessarily be of wood in permanence. How to keep these patterns in good condition when not in constant use has been a puzzle to many, but moisture proof as well as fire proof buildings have filled that demand. A greater annoyance and anxiety is caused by the difficulty of classification and arrangement, so that any particular pattern may be found at once. Where the patterns are limited to a certain stock of reproduced machines, it is easy enough to arrange the patterns in suits each part of a completed machine to be kept in one compartment. But where the demands on a foundry are of a miscellaneous character, it is impossible to keep a referable list with ordinary classification.

A shrewd manufacturer has overcome this difficulty by adopting the alphabetical order of the dictionary, a name being given to each pattern and piece when made, and entered upon a kept dictionary in the office, another, a duplicate, being kept in the pattern house. Illustrations might be given to show how the thing works, but this is not necessary. It is sufficient to say that under a single letter, G, there are no less than 200 entries, but all so distinct and discriminated that no difficulty is found in locating them in their alphabetical departments, or in charging them to each handler, as pattern room, foundry, or designing (draughting) room. By the addition of numerals to the alphabetical plan it is easily seen that any number of convenient subdivisions may be made.—*Scientific American.*

Science of Carpentry Made Easy, Price, \$5.00.

Detail Cottage and Constructive Architecture, Price \$10.00.

MASONS' and BUILDERS' EXCHANGE OF SAN FRANCISCO, Room 11, 314 Montgomery St.

BELOW will be found a list of the members composing this Exchange. Boxes are provided for each member, so that architects, owners, or others desiring the services of any particular member, or those having boxes who are not members, and yet whose business is directly connected with that of the Exchange, can readily secure the attendance of the party sought, by leaving a note in the respective boxes.

ROBERT MITCHELL, President, 807 Turk St., Box 26.	
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JOHN MCCARTHY, 2509 Folsom St.	7
WM. DUNBAR, 27 11th St.	14
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D. J. O'BRIEN, 323 Dupont St.	31
S. N. ROBERTS, 54 3d St.	56
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C. SCHOENMAKER, 323 1/2 Chestnut St.	68
CHAS. CATE & SON.	75
R. RINGROSE, 2613 Sacramento St.	73
J. BENDER.	54
PATTISON & OAKLEY.	66
DAVID PIERCE.	50
J. B. SANFORD.	74
JOHN MAGUIRE.	

PARTIES RENTING BOXES IN THE BUILDERS' EXCHANGE.

WARDEN & McCLURE, Teamsters.	Box 30
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REMLIARD BRICK CO.	23
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CHAS. WARREN, Grader.	37
A. E. BUCKMAN, Grader.	42
JAS. E. WHITTIER, Asphaltum.	41
DAVIS & COWELL, Lime and Cement.	43
KENNY & McCUE, Graders.	44
H. & J. RALSTON, Oakland Iron-men.	78
JOHN KELSO, Grader.	76
R. LIEWELLYN, Columbia Foundry.	77
T. W. PETERSON & CO., Brickmen.	68
WESTERN IRON WORKS, 123 and 125 Beale St.	67
J. BROWELL, Patent Chimneys.	71
R. TIERNAN, Lime and Cement.	65
CALVIN, NUTTING & SON.	49
O'CONNELL & LEWIS.	72

Brick Wall Disfigurement.

THE extensive use of red bricks which has been made of late years for houses and public building has caused a good deal of attention to be directed to a curious disfigurement to which such structures are liable, in the form of a kind of white mould which is apt to creep over their surfaces. The best of buildings are quite as subject to this detraction from their appearance as the worst, the new Technical College at South Kensington, for instance, being just now covered in places with this objectionable kind of eruption, which is not very generally understood, and for which no remedy has yet been found, we believe, except time. An American paper publishes one or two scientific opinions on the matter, one being that of Dr. Leidy, president of the Academy of Natural Sciences. According to this authority, the white efflorescence is simply ordinary Epsom salts, or sulphate of magnesia, and the production of it on brick surfaces must be regarded as evidence of the presence of sulphurous acid in the air, the result of coal-burning. There is magnesia in the mortar with which the walls are built, and there is sulphurous acid in the air, and in the presence of moisture a chemical combination takes place, the result being sulphate of magnesia. This dissolves in the rain and runs down over the bricks, and evaporation leaves the white deposit. Another chemist agrees that this is the way in which the efflorescence is produced, but thinks that it is potash with which the sulphurous acid combines, and that the white is sulphate of potash, while another authority considers it to be sulphate of lime. All agree, however, that it is the sulphurous acid in the air which causes this disfigurement, and this is really the important aspect of the matter. If this is the effect of atmospheric impurity on brick buildings, it seems reasonable to suppose that it must be somewhat serious in its influence on human lungs.—*Building Times.*

Some of Ruskin's Maxims.

WORK is only done well when it is done with a will; and no man has a thoroughly sound will unless he knows he is doing what he should, and is in his place.

It may be proved with much certainty that God intends no man to live in this world without working; but it seems to me no less evident that he intends every man to be happy in his work.

It is no man's business whether he has genius or not; work he must, whatever he is, but quietly and steadily; and the natural and enforced results of such work will be always the things that God meant him to do, and will be his best.

No book is worth anything which is not worth *much*; nor is it serviceable until it has been read, and re-read, and loved, and loved again, and marked, so that you can refer to the passages you want in it, as a soldier can seize the weapon he needs in an armory.

Building Operations in Yolo County.

ALREADY the sound of the saw and hammer is beginning to be heard—and right merrily, too—in many of the interior counties. Messrs. Gilbert & Son, one of the principal contracting firms of Woodland, have kindly forwarded us a complete list of building operations in their neighborhood. No notice is taken of improvements less in value than \$1,000. The number of these would fill the entire pages of this Journal. We intend—from time to time—to give full reports from the principal sections of the State.

Woodland and Vicinity—Main and College Avenue. Additions to three-story brick. O. W. M. Oward; A. W. H. Hamilton; C. W. H. Curson; cost \$4,500. Third Street and Oak Avenue. One-story frame. O. G. Lambert; B. Glenn & White; cost \$1,200. Main Street. One-story frame. O. and B. G. K. Glenn; cost \$2,650. Elm Street. One-story frame. O. H. Shuluck; B. Glenn & White; cost \$1,100. Main Street, Odd Fellow's Hall, alterations and improvements. C. G. W. Myrick; cost \$1,500. Sprague Avenue. One-story frame. O. and B. Mr. Irwin; cost \$2,200. South Fifth. Three-story frame. O. J. T. Wallin; B. Gilbert & Son; cost \$8,500. North Street. One-story frame. O. and B. Mr. Anderson; cost \$1,300. College Avenue. One-story frame. O. John Jacobs; B. Porter & Spence; \$1,500. College Avenue. One-story frame. O. and B. Broderick Bros; cost \$2,800.

West Woodland—One-story frame. O. M. Antone; B. A. Pool; cost \$1,200. Third Street. One-story frame. O. and B. M. Wilson; cost \$1,000. East Woodland—One-story frame. O. Armstrong & Aige; cost (days work) \$1,100. Second Street. One-story frame. O. Dr. A. Aken; B. J. A. Blake; cost \$1,200. Capay Valley—Two-story frame. O. A. Winters; C. W. H. Winne; cost \$3,500. Capay Valley House and stable. O. and B. E. Thomas; cost \$1,100. Davisville—Two-story frame hotel. O. J. T. Lillard; days work, \$4,000. Clayton Avenue. One-story frame. O. G. Harris; C. Pool & Sears; cost \$1,000.

PRACTICAL CARPENTRY.

PRICE \$1.00.

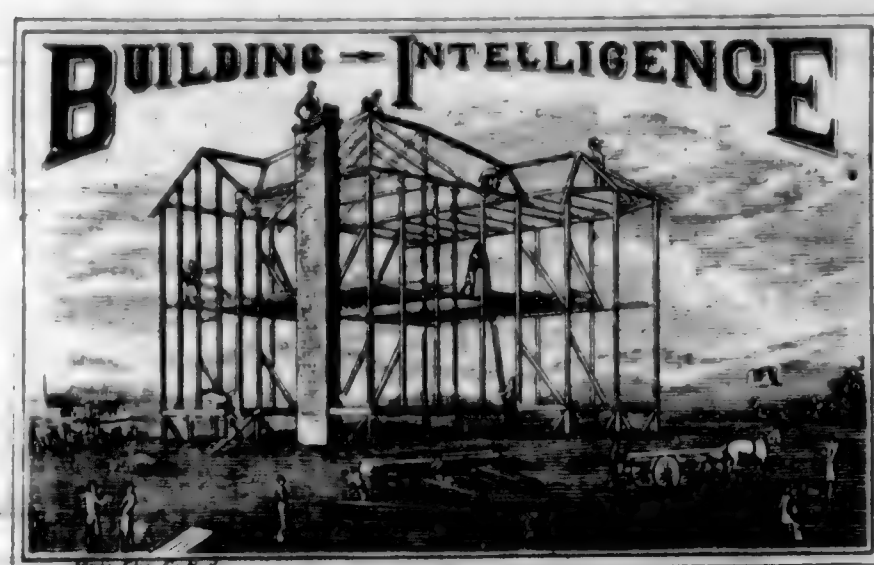
A guide to the correct working and laying out of all kinds of Carpenters' and Joiners' work. Solutions of the various problems in Hip roofs, Gothic work, Centering, Splayed work, Joists, Hinging, Dovetailing, Mitring, Timber Splicing, Hoppers, Skylights, Raking mouldings, etc. This work should be in the hands of every mechanic. One of the features to which this book will undoubtedly owe its success, is the absence of those numerous formulas which serve only to confuse the ideas of so many workmen. Everything is written in a clear, concise, and practical manner, and its utility is brought within the grasp of those workmen who have not had the benefit of a school education. We will send the above work to any address upon receipt of \$1.00.

NEW EXCHANGES.

Wood and Iron. A new journal, devoted to those interests represented by its name. Its typographical appearance is very fine, and it promises in its editorial department to equal many of its competitors that are now old in the field of journalistic enterprise. Published by S. L. Everett. \$2.00 per year.

The Painter. An illustrated monthly devoted to painting and decorating, now in its third year. Typographical excellence, unusually neat and careful. It should be in the hands of every painter. Published at Cleveland, Ohio. \$1.00 per year.

Every architect in the State should insert his professional card in our columns, and thereby prove that he is endeavoring to assist in building up an architectural journal that will take rank with any printed. The charge is small. We want the influence your names will give, and we promise to spare no efforts in making the "California Architect" fully represent the views of a majority of the Profession on this Coast.



SAN FRANCISCO.

California, near Larkin. Two-story frame. O. W. Coe. A. Wolfe & Son. C. Klatt. \$4,500.

Sutter, near Stockton. Additions. O. F. A. O. D. A. Wolfe & Son. C. Hatfield & McIae. \$1,000.

Church, near Twenty-first. Two-story frame. O. and B. C. Kleebauer. \$3,000.

Church, near Twenty-second. One-story frame. O. T. Shields. C. J. P. Shephard. \$2,500.

Twenty-first, near Chattanooga. One-story frame. O. and B. F. Buckley. \$1,500.

Hoff Avenue, near Seventeenth. Six French flats. O. and B. W. Fletcher. \$10,000.

Mission, near Ninth. Two-story and base frame. O. Swedish Evangelical Lutheran Church. A. B. E. Henriksen. Day's work. \$10,000.

Battery, near Pacific. Two-story and basement brick. O. J. Musco. A. W. H. Bayless. C. G. Richardson, R. W. \$25,000.

Twentieth, near Noe. Two-story frame. O. J. Scheerer. Day's work. \$7,000.

Second Avenue, near Sixteenth. Two-story and basement frame. O. Mr. S. Kelly. C. W. F. Muller. \$3,400.

Michigan, cor. Sierra. One-story frame. O. Toomay & Farrell. Day's work. \$1,000.

Sixteenth Avenue, near Railroad Avenue. One-story frame. O. F. Bonerberg. Day's work. \$1,000.

Eleventh Avenue, or P. Four-story frame. O. A. W. Norton & Co. Day's work. \$4,000.

California Avenue, cor. Twentieth. One-story frame. O. J. Cosgrove. C. J. McKesque. \$700.

Guerrero, near Duncan. Two-story frame. O. and B. L. Kofod. \$3,000.

Mission, near Twentieth. One-story frame. O. El Capitan Skating Co. Day's work. \$1,500.

Clinton Park, nr. Dolores. One-story and basement frame. O. Mrs. A. Crabb. C. F. A. Kern. \$2,500.

Castro, cor. Henry. Two-story frame. O. Mr. White. C. D. Spangler. \$2,000.

Pacific, cor. Webster. Two-story and basement frame. O. C. Roemer. A. A. C. Lutgens. C. Gray & Stover. \$4,700.

Larkin, cor. Pacific. Three two-story frames. O. H. Grimm. A. J. T. Kidd. C. W. Plums. \$11,500.

California, nr. Devisadero. Two-story frame. O. W. H. Birch. A. S. and J. C. Newsom. \$3,500.

Prospect Avenue, near Alterations. Two-story frame. O. W. Walker. A. S. and J. C. Newsom. C. Moore Bros. \$5,000.

Steiner, cor. Sutter. Two-story frame. O. J. McMillan. A. S. and J. C. Newsom. C. J. McKay. \$4,500.

Post, corner Octavia. Two-story and basement. O. J. T. Pohim. A. B. E. Henriksen. \$12,000.

Oak, near Van Ness. Two two-story frames. O. J. Merklebach. A. W. H. Bayless. C. Patterson & Smith. \$8,150.

Turk, near Franklin. Two-story frame. O. J. Wise. A. H. Geilfuss. C. H. Weinrich. \$5,000.

Buchanan, cor. Eddy. Four flats. O. A. Ludwig. A. H. Geilfuss. C. B. Dryer. \$10,000.

Fillmore, near McAllister. Two flats. O. C. Reimers. A. H. Geilfuss. C. F. Klatt. \$5,000.

Devisadero, near Geary. Four flats. O. C. Ahlborn. A. H. Geilfuss. C. Christman & Neal. \$10,000.

Everett, near Fourth. Improvements. O. F. Hagemann. A. H. Geilfuss. C. Conrad & Miller. \$3,000.

Folsom, near Fifth. Two-story frame and stable. O. J. Buck. A. H. Geilfuss. C. H. Meyn. \$5,000.

O'Farrell, cor. Buchanan. Six two-story frames. O. H. Rothchild. A. Schmidt & Havens. C. I. N. and J. G. Day. \$18,500.

Golden Gate Avenue, near Broderick. Two-story frame. O. R. S. Alexander. A. Schmidt & Havens. C. Chisholm. \$4,500.

Polk, cor. Fulton. Three two-story frames. O. K. Meussdorffer. A. Schmidt & Havens. C. T. C. Ridell. \$18,000.

Mission, near Main. Three-story frame. O. F. C. Peters. A. Schmidt & Havens. C. Mahoney Bros. \$11,000.

Grove, near Van Ness. Two three-story frames. O. F. Siefke. A. Schmidt & Havens. C. R. Smilie. \$11,000.

Eddy, near Franklin. Two-story frame. O. N. Goldtree. A. Schmidt & Havens. C. C. Quinn. \$7,600.

Scott, near Haight. One-story frame. O. H. Kemman. A. John J. Clark. Day's work. \$1,900.

Broadway, near Laguna. Two two-story frames. O. Elizabeth Nelson. A. W. P. Moore. C. W. Langstaff. \$7,500.

Turk, cor. Leavenworth. Two-story and basement. O. W. E. Dean. A. W. P. Moore. C. C. B. Green. \$3,500.

Olive Avenue, cor. Ellis. Alterations. O. T. Donahue. A. N. D. Mitchell. Day's work. \$2,000.

Waller, near Buchanan. Alterations. O. and B. R. McCann. A. H. D. Mitchell. \$3,500.

Montgomery, near Jackson. Alterations. O. H. Pierce. C. A. Flood. \$7,000.

Tenth, near Mission. Three-story frame. O. P. Scanlon. A. T. J. Welsh. C. J. Blake. \$12,000.

Valencia, near Eighteenth. Stores and flats. O. M. Maguire. A. T. J. Welsh. C. Reiman & Cummings. \$8,000.

Golden Gate Avenue, near Franklin. Three-story flats. O. T. Delany. A. T. J. Welsh. C. B. Dryer. \$8,700.

Steiner, cor. Sutter. Additions. O. R. Sbarboro. A. T. J. Welsh. C. R. Doyle. \$3,500.

Sanchez, near Seventeenth. One-story frame. O. B. Flood. A. T. J. Welsh. C. T. Darcy. \$1,800.

Brannan, near Third. Improvements. O. Lusk & Co. \$18,000.

Clinton Park. Two-story frame. O. Spaulding. \$3,200.

East, near Market. Frame building. O. T. D. Riley. \$2,500.

Twenty-first, near Clement. Frame dwelling. O. Patten. \$2,000.

First, near Market. Five-story brick. O. Huntington, Hopkins & Co. A. A. Laver. Mason-Geo. D. Nagle. Carp. P. Crichton. \$100,000.

Market, near Seventh. Improvements. Brick. O. Gladding, McBean & Co. Day's work. \$3,500.

Mission, near Eleventh. Addition. O. Fredericks. \$1,000.

SACRAMENTO.

Second, x I and J. One-story and basement brick. O. Green & Trainor. A. N. D. Goodell. C. Carle & Croly. \$10,000.

Seventh, x H and I. One-story and basement frame. O. N. D. Goodell. A. N. D. Goodell. C. Carle & Croly. \$4,500.

Fifth, x J and K. Additions. O. J. Guth. A. N. D. Goodell. C. M. Madden. \$8,400.

Ninth, x P and Q. Ice house. O. F. C. Knauer. A. N. D. Goodell. C. J. P. McGinnis. \$2,400.

K, Nos. 209 and 219. Additions. O. W. Land. A. A. A. Cook. Day's work. \$1,000.

Nineteenth, cor. L. One-story building. O. Sacramento City. A. A. A. Cook. C. W. H. Sutherland. \$1,750.

K, No. 318. Additions. O. J. W. Wilson. A. A. A. Cook. C. Hook & Son. \$700.

Eighth, x E and F. One-story and basement frame. O. P. Davis. C. D. and D. Falconer. \$2,500.

Fourteenth, cor. H. Two-story and basement frame. O. A. A. Van Voorhies. A. J. Sandler. C. D. and D. Falconer. \$14,190.

MISCELLANEOUS.

San Jose—Third, near Empire. One-story cottage. O. E. S. Montgomery; A. Theo. Lenzen; C. W. B. Mitchell. \$1,400.

Market, cor. Colfax. One-story cottage. O. L. Rothermel; A. Theo. Lenzen; C. Thos. Clark; \$4,000.

San Rafael—Depot for S. F. & N. P. R. R. O. P. Donahue; A. Theo. Lenzen; day's work; \$15,000.

Santa Rosa—One-story brick. O. G. E. Grosse; C. T. J. Ludwig; \$3,500.

Hemacite Knobs.

THE Gordon Hardware Co. have now a large assortment of these knobs on hand. For interior work they are superior in design to any knobs in the market. They are fully guaranteed for strength and durability. Those wishing an illustrated catalogue can secure one by addressing the above firm, or the manufacturers, the Dibble Manufacturing Co., Trenton, N. J.

PROPOSALS FOR THE CONSTRUCTION OF THE New Odd Fellows' Hall.

SEALED BIDS WILL BE RECEIVED AT THE OFFICE OF THE Odd Fellows' Hall Association of San Francisco, Room No. 1, Odd Fellows' Hall, No. 325 Montgomery street, San Francisco, up to and until 12 o'clock M., of

FEBRUARY TWENTY-SEVENTH, 1884.

For the erection of the New Odd Fellows' Hall, on the lot on the southwest corner of Market and Seventh streets. Bids to be received for the separate trades, as follows:

- No. 1—Brickwork.
- No. 2—Carpenters' and Joiners' Work.
- No. 3—Granite and Freestone Work.
- No. 4—Cast Iron Work.
- No. 5—Wrought Iron Work.
- No. 6—Tin and Platers' Work.
- No. 7—Plumbers' and Gasfitters' Work.
- No. 8—Plasterers' Work.
- No. 9—Painters' and Glaziers' Work.

The plans and Specifications of said building can be seen at the office of Messrs. Wright & Sanders, No. 418 California street, and will there be open to public inspection after the date hereof.

The successful bidders will be required to furnish bonds, satisfactory to the Board of Directors, for the faithful completion of the work in accordance with the plans and specifications. The Board of Directors reserve the right to reject any or all bids.

C. T. PIDWELL, Secretary of the above-named Association.

San Francisco, January 25, 1884.

MARKET REPORTS.

LUMBER— <i>Per M.</i>	
Common Rough, up to 40 feet, per M feet	\$22 50
" 41 to 50 "	23 50
" 51 to 60 "	24 50
" 61 to 70 "	25 50
" 71 to 80 "	26 50
Refuse Rough	18 50
Common Rough, sized with planer \$2 additional on above rates, per M feet	33 50
No. 1 Flooring, 6 inches and over, " 4 " and under, and 1 1/4 x 4 and 1 1/4 x 6	40 00
Flooring and Stepping	28 50
Rough Clear for Flooring, \$1 less than above rates	28 50
Second Quality Flooring and Stepping	28 50
Ship Plank, Rough	28 50
" Planed 2 sides	32 50
" Dressed	33 50
Laths	37 50
Wood Shals	10 00
Shakes	12 00
Redwood Posts	17 50
Redwood.	
Rough Merchantable	per M feet \$22 50
" Refuse	18 50
Surface No. 1	40 00
" 1x6	37 50
" No. 2	37 50
Rustic, No. 1, 1x10	40 00
" No. 2	35 00
" Under 10 feet	35 00
T. & G., 1 1/4 x 4 and 1 1/4 x 6	40 00
" 6 in. 12 ft. and over	37 50
" 7 to 11 feet	32 50
" " under 7 feet	30 00
" " No. 2	30 00
T. & G., Beaded, 12 feet and over	40 00
" " 7 to 11 feet	32 50
" " under 7 feet	30 00
Half-inch Surface	32 50
Pickets, fancy	30 00
" Rough, Pointed	30 00
" Square	17 50
Siding, 1/2 inch	27 50
Shingles	per M 2 15
Battens, 1/2 inch, lineal feet	1c
NAILS.	
10 d to 60 d	\$3 25
3 d cut ore Extra per keg (over standard)	25
6 d " " " "	50
4 d and 5 d " " " "	75
3 d " " " "	1 50
10 d to 20 d Brad, h'd " " " "	1 50
8 d " " " "	1 50
4 d and 5 d " " " "	1 75

THE brickmakers of this country last year consumed three million cords of wood, the product of fifty thousand acres of average timber land. A large part of this immense expense could have been saved, with a proportionate increase in the profits, by the use of improved methods in firing.

The California Architect and Building News.

VOLUME V.
NUMBER 4.

SAN FRANCISCO, APRIL, 1884.

\$2.00 per Annum, in Advance.
Single Copies, 20 Cents.

THE California Architect



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Full Page, inside, one insertion, \$40.00.

Each subsequent insertion according to agreement.

A square is seven-eighths of an inch in length by width of 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.

Advertisements inserted for three months or less are payable in advance; payable quarterly when inserted for a longer period.

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 COMPETITION PLANS.

This will be the last notice sent to those desiring to compete for the prizes offered by the Proprietors of this Journal.

All designs and plans must be at this office on or before May 1, 1884.

Those received by that date will be presented before the Committee of the S. F. Chapter at the regular monthly meeting on May 2d. Each and every contestant will be notified of the decision of the Committee as soon as possible after the awards are made.

Particular notice is given to those residing out of this State to send their plans so as to reach this office by the time specified.

Building Improvements.

THE GENERAL OUTLOOK IN THE STATE.

THE indications point strongly to extensive building operations in all sections of the State.

One of the surest signs of a most prosperous and busy season is the

ACTIVE DEMAND FOR DRAUGHTSMEN:

That has lately sprung up from different sections of the country. From the extreme southern portion of our State telegrams have been received by us for first-class draughtsmen. After diligent inquiry, we have failed to find good men who were willing to accept the situations, although from \$80.00 to \$100 per month was offered, and steady work guaranteed.

The effect of the late storms has been the circulation of an immense amount of money through the southern section of the State. It is calculated that over one million of dollars will be expended in repairing damages. This large sum and that received from the assured large crop, will cause very extensive operations in building and mechanical lines.

Los Angeles leads all the counties in the number and value of buildings erected, followed very closely, however, by Alameda County. In the former county, numerous towns are springing into existence, offering superior inducements to young men to migrate into neighborhoods where muscle combined with head work, properly exercised, will lay the foundation of a prosperous future.

Fresno and Tulare have been asleep for a while, but when harvest time comes along no doubt they will regain their former business prosperity.

The counties bordering on the bay are all sharing a large degree of prosperity, and, from present indications, large improvements will be carried out during the year.

Sonoma, Napa, and Marin, thanks to an energetic race of inhabitants, stand very

prominent in the list of go-ahead counties. More work is now being talked of than there are mechanics numerous enough to meet the labor demands.

The counties north of Sacramento are awakening from their sleep, caused by a partial failure of crops last season, and each and every one will be heard from when the time of the saw and the hammer begins.

IN THIS CITY

Never were indications for a grand building season more pronounced than they are at the present time. Up to the 10th of April buildings and improvements of the value of

OVER TWO MILLION DOLLARS

Have been commenced. This is greater than the entire amount for the whole year of 1880.

We sincerely hope that the prospective activities will not be checked by increase in the prices of building materials, or excessive demands by mechanics for high wages. It is far better and wiser that the prices of material and rates of wages should be steady and reasonable, and a fair degree of business continuous, rather than a rush for short periods, followed by dullness and inactivity during a considerable portion of the year.

San Francisco Chapter American Institute of Architects.

THE regular monthly meeting of the Chapter was held on Friday eve, April 4, 1884. President John Wright presided. Committee appointed to procure a Seal for the Chapter, reported that they had attended to their duties, and now had the pleasure of presenting the Seal to the Chapter. A short recess taken to allow the members to inspect the same.

Upon motion it was resolved that the design of the Seal be accepted. This motion was carried, with the understanding that the committee have two weeks further time, in order that improvements could be made by the engraver in portions of the dies.

The committee were also requested to place the Seal in the hands of the committee on incorporating the Chapter, by the time agreed upon, so that at the next regular meeting the incorporation of the Chapter may be a settled fact.

The collector appointed by the Chapter, on motion, was allowed 10 per cent. on all collections.

Committee on preparing articles of indenture for students was granted further time.

The committee upon the applications of members proposed at previous meeting was allowed till next regular meeting to make their report.

Proposition for membership was received from J. J. Clark, and referred to Messrs. Sanders, Wolfe, Jr., and Pissis.

Committee on the different classes report favorable progress by pupils. Adjourned.

Be Sure That Your Figurations Are Correct

THAT which is of first importance to contractors and those estimating the cost and value of material and labor required in the erection of buildings, etc., is correct figuring. Every mistaken figure below true value is a direct loss in the amount represented by the figures in error. Hence the importance of men understanding how to figure, the value of figures, and the most perfect method of using them. Sometimes errors result from absolute or imperfect knowledge of the science of figures and figurations; sometimes from failure to comprehend the extent and magnitude of the thing estimated upon; sometimes a spirit of recklessness and disregard of the involvements, a don't-care-iveness as to the results, a chance-taking, disposition and frame of mind, which, if it happens to settle down upon a safe conclusion, does so from sheer "it happened so;" and some are thoughtless, desiring and aiming to be right, but, from lack of mental energies and fixedness of thought, fail to take in and deliberate upon all the matters of cost, and so fail to be near right.

It seldom happens that where ten more or less competent contractors estimate upon a building or works of any kind, that very great incompetency and lack of mechanical intelligence and right understanding, or something less creditable, are not illustrated, in perhaps five out of ten being inconsistently high; perhaps three, more or less, below a correct amount, and one or two at a sum fairly and reasonably remunerative. It is no strange matter to find from ten to one hundred per cent. difference in ten bids. Sometimes the estimates will run together, except it may be the very low man or two who have failed to add in all the items of cost. But the more general rule is great differences in amounts.

The effect of all this is injurious to contractors, as intelligent owners do not generally take in the situation and recognize results from the contractors' standpoints, but reasonably set it down to questionable intent or want of proper knowledge. We say reasonably, for when ten or five men, recognized, practical contractors, submit estimates running from the low man, say at \$4,500, and the high man, \$7,500, or, as in one case in our office, the low man being less than \$40,000, and the high man, \$60,000, argues decidedly unfavorably to those who make such discrepancies; yet it is not always the case that the low man is loser by his undertaking; sometimes he is, and many hundreds of thousands of dollars have been lost to material, men, and others, from this cause, but we have good, faithful men who have run through years of contracting without failure, and have something to show for their labors, who have worked al-

most continuously upon contracts taken as the lowest bidder.

Every foot or pound of material, and every hour of labor, according to quality and kind, possesses a standard value, furnishing, to those using them, all the requisite elements to correct conclusions; so that when more than reasonable differences occur, the presumption is sustained that there has been a lack of good judgment, or a superabundance of carelessness, or ignorance indulged in.

For, with the defined basis of calculation, such as exists in the market, and purchasable value of materials, and the well-understood cost of labor to quantity of materials required, there is but a small right margin for variations in total costs, when handled by intelligent and competent parties.

Eastern Comments On Our Bone Yard Article.

THE *American Lumberman*, in commenting favorably upon our "Bone Yard" article which appeared in the February number of this journal, remarks: "At this distance it is hard to judge correctly of the condition of the lumber trade in San Francisco; but it does seem that with a tariff of only \$2.00 per 1,000 feet on lumber, the manufacturers on the Canadian side of Puget Sound, ought to be able to sell lumber at a profit, if the scale of prices fixed by the Association are as outrageously high as stated by the ARCHITECT."

True—"distance" does render it difficult for parties who have never visited, nor been able to inform themselves by personal observations as to the lumber market of San Francisco, and the manufacture of lumber at Puget Sound, to rightly understand the peculiarities of the situation. And when inside facts are revealed by publications, as in the matter in question, they appear so different in character from the more usual and better regulated markets of the country, that even those engaged in little business in other cities and places cannot readily comprehend the actual facts as they exist.

As to the suggestion of our cotemporary, in reference to the tariff of "only \$2.00," it is correct, provided there could be any assurance to British Puget Sound manufacturers, that present prices, and the prices ruling for the past two years, could be maintained.

But the fact that American manufacturers hold the key to the lumber market of this coast, and have it in their power to control and regulate the prices under a united and firm combination, it would be consummate folly for any one to risk the uncertainties; for just as soon as a competitive supply of imported lumber should be placed on the market, our wide awake combination men would tumble the prices to ruinous rates—unless they could house the competition—and the imported material would have to be sold at a loss.

This fact is so well understood that men with capital, seeking investment, give the matter no serious consideration, because the

field is too treacherous. We can at any moment control \$1,000,000 for investment in lumber mill operations on the British side of Puget Sound, if there were any reasonably fair show of a steady market for lumber at present prices for even five years.

But the chances are all the other way. It was only in 1877-78, that the very men who now hold control of the market by combination, were in merciless competition among themselves, and the same lumber, Oregon pine, that is now retailing at \$22.50, sold retail then at and for less than \$12.00 per thousand feet; at which price, however, there was but bare salvation from ruin generally, while a few were crippled, and some compelled to surrender under the then too severe pressure. But when prices recovered to \$14.00, \$15.00, \$16.00 a feeling of safety pervaded the lumber market, and manufacturers and dealers felt that they had reached safe ground.

Under this state of facts our cotemporary may easily see the difficulties of competition by lumber taxed with a tariff of only \$2.00, for the general building of the coast, being altogether of wood, the amount of lumber required to supply demands is large, and the American manufacturer could comfortably afford to sell at a profit of \$2.00 per thousand until British competitors tired of selling at actual cost of production with \$2.00 tariff added.

Pioneer Hall Competition.

NAMES OF CONTESTANTS.

Below will be found a correct list of the names of the Architect's presenting plans for the proposed Pioneer Building. We withhold comments until after the award shall have been made.

PERCY & HAMILTON,
WRIGHT & SANDERS,
McDOUGAL & SON,
A. LAYER,
HOFFMANN & O'CONNOR,
W. PATTON,
LEUDERS & WILSON,
E. A. HATHERTON,
W. SCHROF,
T. D. NEWSON.

SHARP-CORNERED DRAWING TOOLS.—A sensible correspondent of the *American Machinist* very justly complains that "manufacturers of drawing instruments make them so full of little sharp corners, and interior angles," and suggests that they be made "of round or oval cross sections, with no places where dirt can collect." The trouble is that makers of drawing tools very seldom, if ever, have any practical experience in the use of such instruments, and are unknown to those who have. —*Mining and Scientific Press.*

GILDED FRAMES.—To restore gilding to picture frames, etc., remove all the dust with a soft brush, and wash the gilding in warm water, in which an onion has been boiled; dry quickly with soft rags.

Compiled Items of Interest for Mechanics.

THE weight of a crowd of men closely packed is estimated at 84 lbs. per superficial foot.

Street, Store and Bank Fronts \$4.00

It is thought by many that a girder—say 12x16—will bear more weight if it is ripped through the middle, making two pieces 6x16, and these two be reversed and bolted together again. This is an erroneous conclusion. The only advantage gained is, that, by the process given, an opportunity is presented to examine the center of the timber, which, in large pieces, is often in a state of decay; also, it gives the timber a better opportunity to become seasoned, and thus less liable to rot.

Cottages and Villas \$6.00

TIMBER when wet has only about half the strength of the same timber when perfectly seasoned.

Builder's Guide \$2.00

DOUBLE tenons are often used in Joinery, but should be avoided in Carpentry, as they weaken the timber into which they are framed; both tenons seldom bear equally, so that a greater strain is thrown upon one of them than it is intended to support.

Modern Perspective \$6.00

EVERY mechanic should be able to cut and frame all timbers, rafters, etc., upon trusses on the ground. Many, however, have not studied the rules of Carpentry sufficiently to be able to do so. To such we would say that it will greatly benefit you to secure a copy of "Mechanic's Geometry, or The Science of Framing by the Aid of Card Board Models." This eminently practical work—if properly studied, and the principles put into practical use, will enable a mechanic to frame any portion of a building with ease and exactness. But few copies can now be had of this work, as the edition is exhausted. Sent to any address upon receipt of \$5.00.

Wooden and Brick Buildings \$18.00

EDITORS ARCHITECT: In a bill of lumber, lately received, I find the item—72 pieces 2x6 for *Raglins*. Please inform me of the meaning of the term *Raglins*.

LUMBER DEALER.

Your customer is evidently a new-comer. *Raglins* is a term used in England for ceiling joist.

The Artisan \$5.00

ONE of the most practical works for the mechanic to have in his possession is "The Science of Carpentry Made Easy." A copy will be forwarded to any address upon receipt of \$5.00.

Universal Assistant \$2.50

A SCHOOL-TEACHER asks for a simple method of preventing reverberations in a school-room. Instead of the ordinary smooth plaster finish for the walls and ceilings, have the same rough finished. Curtains may be used for the windows instead of blinds. Large maps hung around the room, aside from being ornamental, are very useful as anti-reverberators.

Church Architecture \$4.00

IN many journals different measurements are given in *meters*. Mechanics can easily compute the same in *feet* by allowing 39 $\frac{3}{4}$ inches to a *meter*.

Plaster, how to make it \$1.00

FIVE pounds of nails are required for 1,000 shingles, when laid 4 inches to the weather.

Buck's Practical Designs 50c

BOUND volumes of this Journal are becoming scarce, and those that desire the same should immediately forward \$2.50, for which a copy will be sent to any address.

Practical Carpentry \$1.00

WOOD screws vary in size from one-sixteenth to three-eighths of an inch in diameter, and in length from one-fourth to three and a half inches, including twenty-three numbers, as follows:—

Length.	Number.	Length.	Number.
$\frac{1}{4}$ "	0 to 2	$1\frac{1}{2}$ "	9 to 18
$\frac{3}{8}$ "	2 " 7	$1\frac{3}{4}$ "	10 " 20
$\frac{1}{2}$ "	2 " 9	2"	11 " 20
$\frac{5}{8}$ "	3 " 10	$2\frac{1}{4}$ "	11 " 20
$\frac{3}{4}$ "	4 " 12	$2\frac{1}{2}$ "	14 " 20
$\frac{7}{8}$ "	6 " 12	$2\frac{3}{4}$ "	16 " 20
1"	7 " 14	3"	15 " 20
$1\frac{1}{4}$ "	8 " 16	$3\frac{1}{2}$ "	18 " 22

Number 11 is about three-sixteenths, and Number 14 about one-fourth of an inch in diameter, and are sizes in very common use.

It requires 123 sheets of tin 10x14 to cover one square, and 59 sheets 14x20 to cover same space.

Cummings' Architectural Details \$6.00

A HANDY thing to have on a farm is a measuring cord with which to measure off acres. To make one, procure sixty-seven feet of strong rope, one inch round, make a loop or fasten a ring or bar at each end, and make these exactly sixty-five feet apart. This is four rods. Then tie a piece of red rag in the center. One acre of ground will be a piece four of the cords (chains) long, and two and one-half wide, equal to sixteen by ten rods, making one hundred and sixty square rods to the acre. The advantage of the ring or loop is that one person can measure alone by driving a stake in the ground to hold the rope while he stretches it out. The rope should be soaked in tar and dried, which will prevent its shrinking when wet.

Steel Square and its Uses \$1.00

Bancroft's Histories.

THIS magnificent work embraces a complete history of the Pacific States. The territory covered is the western half of North America, from Panama to Alaska, including all of Central America and Mexico, and is equivalent in area to one-twelfth of the earth's surface.

There are to be thirty-nine octavo volumes, with maps and illustrations, fifteen of which are now ready. They will be well printed on good paper, neatly and substantially bound, uniform in style, and will average over 700 pages each. Three or four new volumes per annum will appear until the entire series is completed. Subscribers will not be obliged to take the work unless it corresponds with the description in every particular.

PER VOLUME:
Bound in Extra, English Cloth, neat and attractive style \$4.50
Bound in fine leather, Library Style 5.50
Bound in half calf, half Russia or half Morocco 8.00
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Any information in regard to the above will be given by addressing the office of this Journal.

New York Letter.

BY A. CURTIS BOND.

It is a difficult task to undertake the study of American architecture, difficult, because it leads to no satisfactory result. Here, architectural art, like every other matter that is regarded from a business view, is developed under a strictly speculative influence, and "time" is accepted as one of the appreciative qualities. Human activity is a powerful factor in the appreciation of human works.

Nor does this unfortunate artistic condition appear to be easily remedied, or even susceptible of future correction, for the rapidity of our life, and, consequently, of the execution of our designs, makes it impossible, even for the coldest and most analytic talent from foreign countries, to resist the tendencies of our climate, and avoid cultivating the same disposition himself. This second atmosphere of our country at first stifles the new-comer, and he pities the disposition to "rush things," but as he meets others more, and finds that he is falling behind in the race, he bestirs himself, and, before he becomes conscious of the influence, he is measuring time in his labors, and falls into the true American scheme, of making a *melange* of everything and allowing it to take the place of a creation.

Yet this failing of our architectural art must not be accepted as a general condemnation, for we admit all the very best examples of foreign work with this indiscriminate adaptation and a Greek, Moresque, and Persian form may be found as next door neighbors in our streets and squares. It serves to enliven and diversify the city, and furnishes subjects for visiting foreigners to return to their homes and write about, and against. New York may be accepted as the type of American cities, I presume, yet there is a greater variety of architecture here than elsewhere over the continent. The peculiarity of which I have spoken is shown here in a marked degree.

This disposition, however, to utilize all the old styles, and combine oddities into one building, has had another good effect in giving us very many peculiar and decided original structures, picturesque in the extreme and interesting to study.

One building recently put up has the heads of the architect, the builder, the owner, and a variety of other persons interested, more or less, in its completion, arranged at various points, on the gable, from the tops of the windows, at the end of the waste pipes, from the roof, and in several other places equally inappropriate, and equally conspicuous. Another building imitates the Bastille, and is reduced to the humble purposes of a storage house. A new residence is an excellent reproduction of a baronial castle, on a small scale, with a moat, portcullis, and watch-tower, sentry box, and all. Another still, the house of a prominent physician, is a rambling, low, Queen Anne structure, full of odd and queer corners, a marvelous quantity of stained glass, and a multitude of picturesque chimneys.

One of the growing men of our Eastern

States, one who is so young, and so well known as to warrant the belief that he will make himself more widely felt, as he increases in age and in experience, is Mayor Seth Low, of Brooklyn, just re-elected to another term of office, and at the same time reached his thirtieth birthday.

Mr. Low has a great deal of originality, and has shown it in the house that he has put up, or rather reconstructed from a small and dilapidated cottage. The style of the building is the Queen Anne, of red brick, with terra cotta trimmings, a color and combination that is rather marked, amid the surroundings of substantial brown stone. The stoop is of large, manufactured stone slabs, and on either side grass plots laid out, in goodly sized squares, and unprotected save by a simple sub-base of stone. The pillars and roof of the entrance are of a dark green, carved wood, and the vestibule of variegated marble, and the door of light, polished oak. A bay window on the side (the house is upon a corner), has for ornament an enormous square waste pipe, leading from the roof and which branches off into two at the roof of the bay window, coming down then upon either side to the ground. This pipe is a capital imitation of terra cotta, and is probably the first really successful attempt to make such a thing as this decorative.

An oddity, in every sense of the word, is being put up at Coney Island. Ever since Barnum brought Jumbo to the country, that interesting animal has been counterfeited in every conceivable manner, and the designation for the stupendous of every sort was the word Jumbo. Finally this craze has extended to building, and now they are putting up, at Coney Island, a restaurant, dancing hall, and the usual accompaniments, to be contained in a structure shaped like an elephant, the legs to be spiral stairs, the head a music room, and the body to be divided into the restaurant and the ball room. The height of the animal is to be eighty feet, and the length, one hundred and twenty-five. If this scheme is enlarged upon, and the white elephant which is expected from Europe daily, should be found worthy of a similar monument, and when it extends to other animals in the show, it may entirely change the architectural aspect of our watering-places, and they may put on the appearance of monstrous out-door menageries, gatherings of the creatures that populated the world before the flood.

The illustration that I have chosen this month is that of a country house, of a conglomerate style, somewhat on the principle of those I have criticised. It is neat and attractive in appearance, and designed for an economical and substantial-looking place. The arrangement of the rooms will commend itself, I think, to the architect and to the private party; it shows the kitchen department kept apart from the living rooms and entirely distinct in its situation and exclusiveness.

A Substitute for Wire Screens.

EVERY house-wife and servant fully understands by practical experience, the desirability of a means by which kitchens, dining and other rooms may be ventilated, particularly during the summer months and warm days of the year, without being "tormented" by the presence of flies, mosquitoes, etc. This has usually been accomplished by means of wire screens on frames, or at the heads of the upper sash. A very simple and seemingly practical device, which does away with the metallic wire cloth, may be seen at W. Little's place of business, No. 128 Geary Street.

They can be applied to any window at small cost, and should command the special attention of families residing in districts where the heat of summer becomes oppressive, and to all who desire freedom from the presence of those winged intruders who never fail to swarm the apartments appointed for cooking and eating purposes.

The New Odd Fellows' Hall.

At the southwest corner of Market and 7th Streets, work has been commenced upon the foundations of a structure, the erection of which is destined to have a marked effect upon the values of surrounding property.

It has been a mooted question in regard to the building under consideration, upon the advisability of erecting an edifice of such magnitude, so far from the present location of the Order which it represents. Careful study has been given to the subject, and, wisely we think, the decision has been rendered in favor of the location adopted.

Property in the immediate neighborhood is mostly owned by men capable of making substantial improvements, and now that work has been commenced in earnest, it may be expected that, in the near future, other improvements will be commenced, and that the vicinity of the City Hall will shortly become a prosperous business center.

We hope to see property owners adopt designs in keeping with the character of the new I. O. O. F. building, and that contemplated by Murphy, Grant & Co., a short distance below the above site.

We hope to be able in the future to present full illustrations of the building. The Architects are Messrs. Wright & Sanders. The various contracts were awarded as follows:—

Brick work,	J. G. Liebert,
Carpenter,	Ed. Farrell,
Cast Iron,	R. Llewellyn,
Wrought Iron,	Phoenix Iron Works,
Roofing,	Cronin & Dunbar,
Plumbing,	Geo. Milne,
Plastering,	A. C. Corbett,
Painting,	E. M. Gallagher,
Granite,	Geo. Griffith,
Cement,	Davis & Cowell.

The estimated cost of the structure complete will be in the neighborhood of \$300,000.

Steel Square and Its Uses, \$1.00.

EASTERN ARCHITECTURE ILLUSTRATED—A. CURTIS BOND.

