

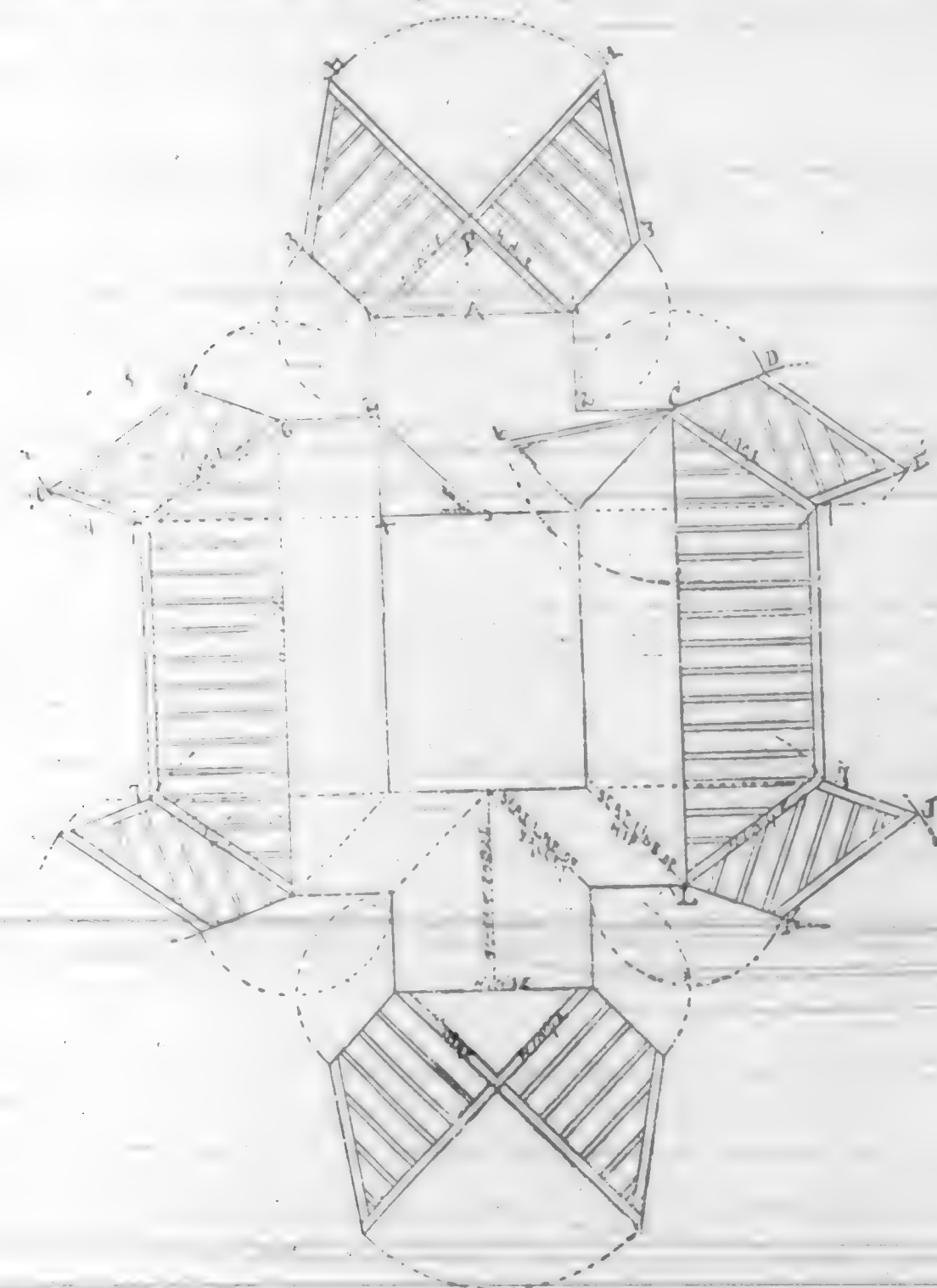
An important factor for the selection of a system is the condition whether ventilation is only desired for the winter season, or for both winter and summer. This condition, and the above-mentioned separation of the heating from the ventilation arrangement, are frequently not sufficiently considered in execution. In the programmes set up for heating and ventilation, we often find the system of heating, as well as that of ventilation, the quantity of air to be renewed, decided without any previous investigation of the question, that by the arrangement of the system selected, the desired effect can be obtained. Before the adoption of any certain system, the building distributions are also to be considered, the highest outside temperature to be ascertained, up to which a full effect of ventilation can be reached. By the highest outside, the most unfavorable temperature for ventilation is then to be concluded, which ventilation system for the case under consideration is to be adopted. Self-evidently in the arrangement, that system will have a deserving preference which is the most simple in execution.

Since hereby the distribution in the building forms a question for consideration, even for buildings serving the same purpose, frequently different systems are applied, and for this reason it is advisable to employ competent persons for the designing of the ventilation project. The designing must be done in time, that the required alterations in the plans can be effected.

ADDENDA.—To measure the temperature of the air, etc., quicksilver thermometers are used. The measure of the temperature depends on the expansive capacity of a fluid, either ether or quicksilver. The fluid to be selected for thermometer must have a uniform expansive capacity, that is, for the same amount of increase or decrease of heat an equal amount of expansion must be obtained.

EDITOR OF CALIFORNIA ARCHITECT—Dear Sir: I herewith furnish a graphic illustration of a hip and gable roof, similar to that appearing in the January number of your journal, by which the roof covering of the ground plan can be found unerringly.

First, draw ground plan to any given scale. Set up the height of roof, say A B, then draw the seat line of both the hips and valleys, on the ground as shown. Square up from the seat line of hips, and set up the height of roof as elevation A B.



Connect C and B, which gives the length of hip rafter. Square out from the deck line, 7-7-7. Take the compass and stand in C, and open up to B. Describe curve cutting at 7. Connect 7 and C, then C and 7 is the length of the hip rafter that will stand over C A in the ground plan in position.

Come back to A B, draw the common rafter or gable end, and square out from common rafter as shown. Take the compass

and stand in 1. Draw the curve from 2, cutting the line squared from the common rafter at 3, each side. Take the compass and stand in A; open out to the face line of deck, and with that distance stand in B and cut the lines marked H H; then connect H and 3 each side, and H and 3 will be the length of valley rafters, to stand in position over 2 5 in ground plan.

This brings the problem to the most difficult cut in the structure,—the finding of the correct lean. Draw a line from 2 to X in the ground plan, and set up the height of elevation; connect 2 and 5; take in the compass, the distance 2 5, and move over and stand in 7; draw the curve marked 8; come to number 6; stand in 6 with the compass, and open out to number 2, and draw the curve cutting at 9; connect 6 and 8, which will give the correct incline or lean of timbers. The outside commencing at 1, cut to 3; from 3 to H; from H to B; from B to 3; from 3 to 1. Cut from C to D, to E, to Y, to J, to K, to L.

Now weaken at where hinge is printed, and fold from you, and stand up on the ground plan lines. This will give a model showing every timber in place, and, in fact, give a better illustration of construction than pages of written explanations.

M. J. MARION.

THE PROFESSING ARCHITECT, AS SEEN BY SOME OTHERS.—Men who live in houses do not build them; they hire them and have a hope—which by this time cannot be called reasonable—that the landlord has built with a view to comfort. Not so; he builds with a view to money, and the tenant suffers every day of the year, because the simplest precautions have not been taken in building to meet the changes arising from variation in temperature. It may be wrong to blame the landlord, or even the speculative builder, when the right person to blame is the architect. So far as the outside world may judge, the profession of "architect" is, from first to last, a delusion and a snare. The only thing the "professor" is good for is to blackguard the Government (or municipal authorities) or private individuals, over every bit of work done. No work is ever done by the right person, or is well done. The latter is unavoidable; for what capitalist can decide as to the right party, or how can the man act freely when selected, when every other member of the profession is like a tom-cat, snarling at every design as a whole, and at every detail in the design? Who ever heard of an architect paying attention to common-sense suggestions in designing the miles upon miles of houses in the towns of England? And surely some architect has been consulted in the majority of cases. The aim is to make a something to look at from the outside, while comfort and convenience are of no import.—Contractor.

Abrogation of Treaty.

THE speech of the Hon. John H. Mitchell, of Oregon, before the Senate of the United States, February 26, 1886, if in any part at variance with the laws of nations, or questionably strong upon the matter of abrogation of treaties, it nevertheless enunciates the correct and only true doctrine applicable to the Chinese issue. If the presence of Chinamen in the United States is an evil, and such it is known to be to every man who understands and comprehends the whole matter in its full and correct light, then any necessary measure calculated to crush out the evil is legitimate, and no fancy philosophy of treaty obligation should be permitted to intervene. As a matter of course, "silver-tongue" orators, and minds and intellects capable of glossing over and beautifying surfaces, and concealing the underlying and material facts of any issue, may work up appearances to a degree that will make the true seem false, and the false assume the brilliancy of truth. Fine-spun arguments and theories, covering special points, or spread out over all creation, are often made to appear as gilded certainties; while in real fact the structures so reared have no foundation below the surface. Many of the social evils, which are revolting to every refined mind, judged from the standpoint of moral rectitude, are surrounded and impregnated with alluring and pleasurable argument—so much so that millions of men and women the world over, accept them as good, and blind their eyes to underlying facts and consequences.

So in reference to the Chinese question, many good men and women who look only at the comitig, theoretical, humanitarian, Christianizing side of the issue, fail or refuse to go below these superficial aspects of the case, and hence are in total darkness and blindness as to true merit. If these "poor heathen" are to be pitied and helped by the people of the United States, that call of mercy is as loud and strong to every other Christian nation, and we fail to discover the obligation resting specially upon us as a people, to accept the whole burden that should be distributed over every civilized land, in permitting the hordes of slaves, and

the minions of vice, idolatry and heathenism from China, to swarm this grand and glorious heritage, which God in his great goodness has intrusted to us, filling it with every good and happy thing, and making it, as it has been and is, a light to the world, whose beams of freedom and prosperity have shaken, and are at the present moment causing the thrones of kingdoms and empires to tremble, and the down-trodden of earth to see and claim their individual rights.

If we keep the Chinamen at home in their own land, then this nation will be able to help them. Millions of money and thousands of self-sacrificing missionaries may be sent to the flowery land to teach the children of the sun—the followers of Confucius, better things, and establish among them the royal principles of a holy religion, and assist them to raise themselves as a nation, to that higher plane of life enjoyed by the Caucasian race upon this great continent. But if they are permitted to swarm hither, as they will by millions unless the avenues are barred, the period is not long distant when they will assume an attitude of fearful consequence, controlling labor, mechanical, and financial interests to such an extent that the dragon flag will float on every breeze from ocean to ocean, and the triumphs achieved by them will but stimulate the pride of victory and rebellion against our institutions more bitter and relentless than was ever known in the internal conflict of nations. Chinamen have no love for Americanism, beyond its gains and profits, and with these at their command they will spurn our philanthropies, hate our religion, despise our institutions, cling to their idolatry and vices, and make this, the land of the free and the home of the brave, the revelling place of all the abominations that at present curse and degrade the people of the Chinese Empire.

These are the possibilities, with open ports and all restrictions upon Chinese immigration off. China can spare twenty or more millions of her subjects, and with free entry and general encouragement in trade, manufacture, commerce, etc., it would be a matter of but limited time when their numbers in this free land would reach in millions what they now do in hundreds of thousands. And with this increased number, and a like multitude coming, and waiting daily to come, with full privileges after arrival, the white man would indeed be compelled to hang his harp upon the willows and weep over the desolation of his once happy country. The comparative few who have come among us have practically solved this apparently problematic question, and clearly and unmistakably indicated the results that would follow the influx of several, if not twenty, millions of the race.

But such a state of things cannot, will not arrive. The effect of Chinaism upon the interests of the country is too well defined and certain, and is too well understood by a sufficient number, to be permitted to longer rest in peace, and prosper. And if delayed for a period, the time will come when the safeguards against this gigantic monster will be made so strong that our working people, manufacturers, and others, will be secured against Chinese encroachments.

The Working Classes as Drinkers.

THE terribly pernicious and demoralizing habit of indulgence in beer and whisky drinking by millions of wage-earners in the United States, with the number many times multiplied throughout other parts of the world, is one of tremendous proportions and magnitude. Although, strictly speaking, this may be a matter of personal, social, moral and physical import, its effects and result so far impregnate and enter into and affect mechanical, professional, and all other circles of brain and muscle workers, that class journals in whatever interest published, as well as those devoted specially to moral and reformatory matters, are fully justified in any reference to the subject calculated to show up the resultant evils, and cause—if perchance it may be so—some to consider the folly and injuriousness of the habit, and to view it in its true and too often fatal light.

The living evidences of mental and physical wreck and ruin through indulgence in intoxicating beverages, are in numbers, beyond all computation. Millions of otherwise most noble and excellent men, capable not only of mastering the intricacies of the mechanical and professional arts and sciences in their unlimited forms, features, and applications, but of filling, honorably and well, high positions among their fellow-men, in social, business, and domestic life and relationship—men of courage, genius, and

nobleness of soul and nature,—become weak and puny slaves,—submissive, pliant vassals to an unholy and base mastery,—the indulgence in that which has destroyed more of human life and happiness than all the bloody wars of time, and the pestilences, famines, floods, fires, and destructive agencies that have visited earth's surface since the day when the juice of the first apple was tasted by the woman in Eden's garden.

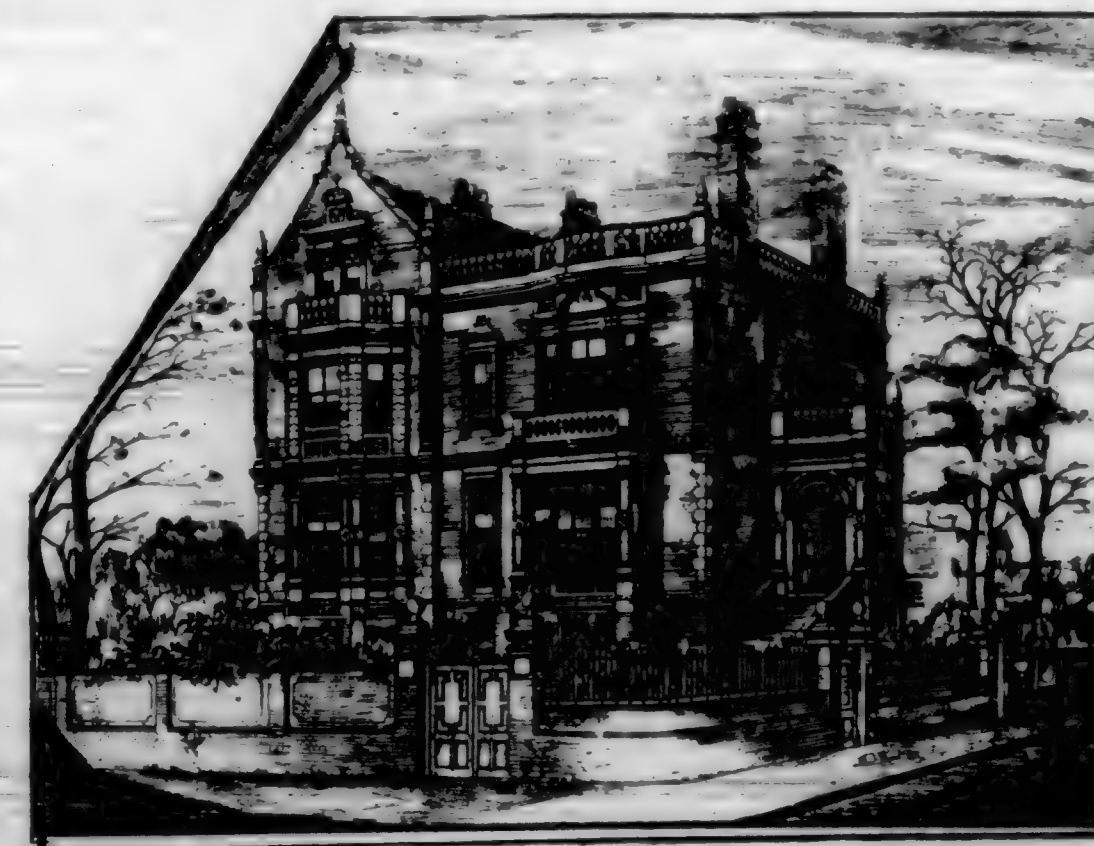
It is fearful to contemplate the vast number of men badly damaged in purse and person by the use of alcoholic and malt beverages. The practice is almost universal, especially among certain classes of working people, who make "swill-tubs" of their stomachs through weakness in themselves to regulate and control an insatiable appetite for drink. The man of strong muscle and sinew arm becomes a feeble, pliant, moral coward, daring not to assert and exercise the noble prerogative of a man, even over the one little string in his make-up—a perverted taste for alcoholic or malt liquors. It is shameful and painful to see so many men bend and give way to a habit which curses always; blesses, never. Its blight is seen in nearly every workshop where the hardy sons of toil meet to labor, and in all assemblages where they gather to discuss questions relating to their labor rights and interests; and the contentions and disagreements that so often arise in such connections are stimulated and promoted by the disordered conditions of mind produced by the use of fluids not found in the laboratory of natural things, except by and through the manipulations of mankind, in changing and producing from the (in themselves) harmless, health-preserving, and life-sustaining fruits, cereals, berries, and products of the earth, to produce poison for souls as well as bodies. And still sadder, the shadows of the same curse darken the homes,—the citadels where love, devotion, and sacred peace alone should be found,—of millions of families, rending and sundering ties, and casting down in sorrow and discomfort, if not in positive misery and debasement, wives, sons, and daughters, and making him who should be loved and honored as the strong support and defense of the home circle, a creature to be unloved, if not shunned and despised, as much as pitied. For he who, by willful, continuous, unmanly submission, yields to temptations and practices full to overflowing with evil, and destitute of any and every attribute of goodness, places himself in the attitude of a willful transgressor, and merits not those considerations due, or which it would be reasonable to extend to those who err, repent, and forsake their errors.

Whether so much so in other cities as in San Francisco, we are not prepared to say; but the fact with us is that, admitting the theory of St. Paul to be correct, that "a little wine for the stomach's sake," is good, the thing is overdone. Tens of thousands of men who devote their lives to manual labor, to keep within the measure prescribed by the apostle, "a little," would require food and drink receptacles as large as the pouch of the unfortunate Jumbo; and in far too many cases, the masters are but little behind the servant. Nor does the evil stop at these limits, but is found among those not wearied by hard strain upon the muscular forces; among men devoted to intellectual and professional pursuits, where the mind is in continuous exercise with subjects and matters which should inspire refined thought and develop control over every wrong doing, and every disposition and feeling calculated, if exercised, to work a moral or individual injury.

It may "do no good" to thus refer to this monster evil, but it affords conscious satisfaction that we have performed a simple duty, and that— from purest motives toward the large number of men in all pursuits, with whom business relationships enforce contact.

FRENCH POLISHING.—The surface of wood-work, if the woods are valuable, is furnished by French polishing. A solution of shellac is put on a rolled wooden rubber, which is then covered with linen, and a drop of linseed oil is applied to

the outer surface. The solution is rubbed in with a circular motion in successive fine coats, until a glossy and air and water-proof surface is obtained. French polishing preserves woods liable to split, such as oak, from the too rapid action of the air.



A Library of Wooden Books.

ONE of the most curiously original collections of books in any library is said to be a botanical collection at Warsenstein, in Germany. At first sight, the volumes appear like rough blocks of wood; but, on closer examination, it is found that each is a complete history of the particular tree which it represents. At the back of the book the bark has been removed from a space large enough to admit the scientific and common name of the tree, as a title. One side is formed from the split wood of the tree, showing its grain and natural fracture; the other shows the wood when worked smooth and varnished. One end shows the grain as left by the saw, and the other the finely polished wood. On opening the book one finds the fruit, seeds, leaves, and other products of the tree, the moss which usually grows upon its trunk, and the insects which feed upon the various parts of the tree; to all this is added a well-printed description of the habits, usual location, and manner of growth of the tree.—*Decorator and Furnisher.*

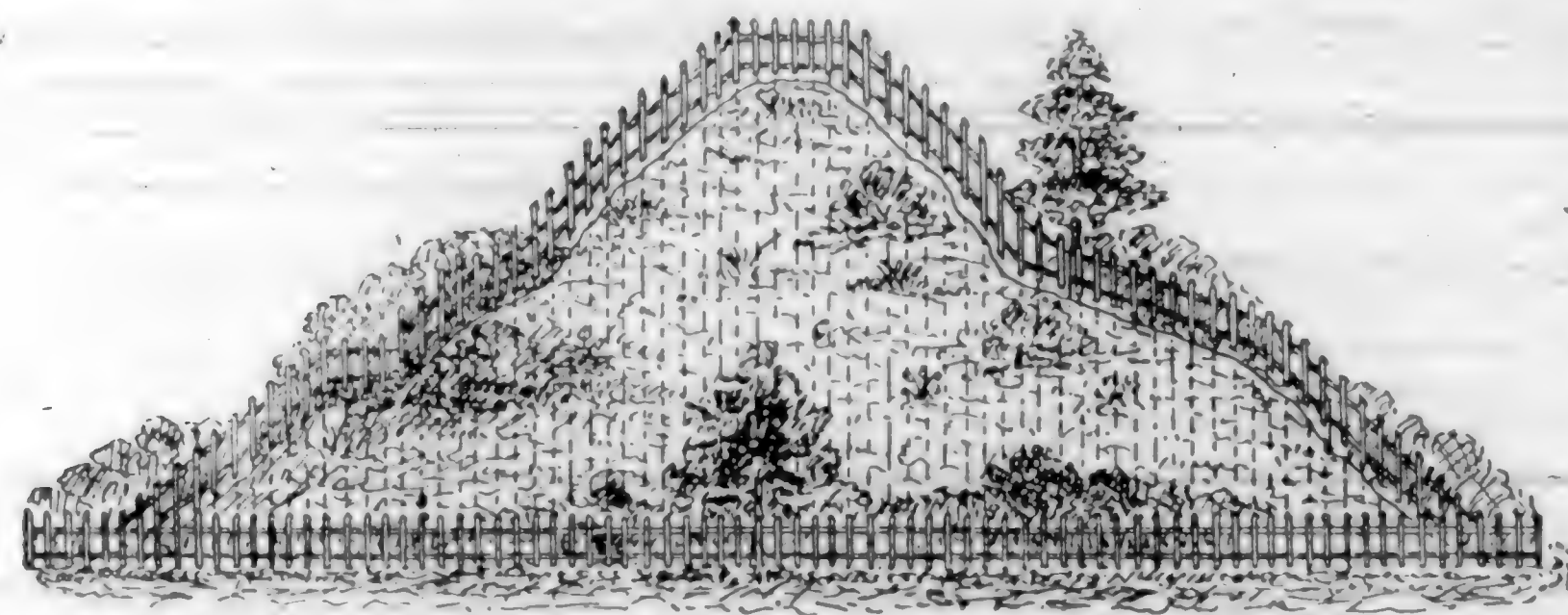
Picket Fence over or Through a Hill.

EDITOR OF CALIFORNIA ARCHITECT: Will you please decide, in your journal, the following dispute. A says that it takes no more pickets to build a fence over a hill than it would to build a level fence in a tunnel running through the same hill.

B contends that it will take as many more pickets in the over-hill fence as there is number of feet greater than at a level line; that is, if the distance from two given points is 500 feet through the hill, and it requires a rope or line 1,000 feet long to go over the hill from and to the same points, the number of pickets will be double, the pickets being spaced the same in both cases.

PICKET.

Answer.—A is right. The same question has repeatedly been asked of this and other journals, and in a former issue we exemplified the problem by the following cut:



As will be noticed, the pickets being put on vertically in both cases, spacing them the same distance, the pickets of the hill fence occupy the same relative position as those in the level fence, as far as the horizontal distance is concerned. It matters not how abrupt or high the hill may be, the vertical lines and spaces being observed—say three inches apart—the same number of pickets would be required in either case. The confusion arises from the fact that the measurement over a hill is greater, and at first thought any one not posted is likely to arrive at the conclusion that, with two pickets to each foot, 1,000 feet must necessarily require 2,000 pickets, while 500 feet on the level measurement would require but 1,000 pickets. The longer measurement over the hill applies to rails only, which in either case must be equal to the measurement from point to point.

Ventilation of Schools.

Boston, March 1, 1886.

TO THE EDITORS OF THE AMERICAN ARCHITECT—Dear Sirs: I did not intend to intrude upon your paper again, although, when I read your comments of my communication on the above subject, I began to think that the study I have made of the subject of heating and ventilation of school-houses had not been very profitable, or else your comments were not in accordance with the facts in the case.

We cannot tell what architects could or would do, but only what they have done; and I still contend that to Mr. Vinal, City Architect of Boston, belongs the credit of the best ventilated schools in New England, with the exception of Mr. Briggs's school, which I consider to be a fine example of scientific ventilation. You speak of the Worcester High School as an example of a well-ventilated building. The following is what Dr. Lincoln has to say about that school-house:—

"Worcester High School.—A large and pretentious building of brick and stone on prominent rising ground. The rooms are very high. The doors opening to the rooms are kept open to the very wide halls, and the air is not distinctly bad, though somewhat close. There is a considerable number of flues *not heated*. There is a large room used for drawing by fifty scholars, and once a week by ninety, which has *no ventilation*, and is *probably close*. The hall in the upper story is rather dark, owing to the lowness of the windows. The chemical library is neither well lighted nor well ventilated. The cellar is very large, and badly lighted. It is too wide for lighting. It is used by the boys for play, and is not a very desirable place. The same want of light is found in the water-closet in the cellar. The room for the boys' clothes, also in the cellar, is very neat and convenient, but has *no ventilation*."

Those who have made a study of scientific ventilation know that a lot of foul-air flues in a building do not of necessity secure ventilation, and, to say that considerable attention has been paid to ventilation, often means nothing more than that a lot of tin pipes or flues have been placed in a building to carry off the bad air, if it is disposed to go that way.

I do not think any ventilating engineer or practical man would care to provide for more than thirty cubic feet of air per minute per scholar, in the winter time, at least, as to produce more than that would be a needless waste. In regard to using fans for ventilation purposes, there are fans and fans, and the writer has only to say that those now in use in five of the Boston schools are not likely to be stopped, either on the account of expense or the neglect of the janitor. Regarding the expense of fan ventilation, Professor Trowbridge, of Columbia College, is authority for the statement that a given amount of air can be moved cheaper, at all times of the year, by means of a fan than by an aspirating shaft.

EXPERIENCE.

[We are not yet convinced that Mr. Vinal and "Experience" are the only architects in New England who have made "a scientific study" of school-house ventilation; but we leave the matter for those who have done so, if there are any, to come forward and defend themselves against "Experience's" imputations. In regard to the Worcester school-house, it is, however, only fair to Mr. Richardson to say that the drawing-room and chemical laboratory are probably placed in positions not intended for any such purpose, and it is not necessary to infer from Dr. Lincoln's description that the architect did not intend to have some means provided for securing a movement of air through his flues, whatever may be the present method of carrying on the building.—Eds. *American Architect*.]

San Francisco Chapter of Architects.

THE regular monthly meeting in March, was held on the 5th, with President Curlett presiding, B. E. Henriksen secretary, and a good average attendance of members present. After roll-call, reading and approval of minutes, and reports of committees, a general discussion ensued upon several matters of interest.

1. The necessity of the Chapter knowing its actual strength in paying membership. This point was dwelt upon as one of great importance to the welfare, and usefulness of the Chapter. A number of names of practicing architects appear on the roll, who never put in an appearance at the meetings, and who as such neglect the payment of yearly dues. This throws increased responsibilities upon the active, interested members, and, for the time being at least, thwarts and hinders carrying into practice the many grand objects and purposes contemplated in and by the organic laws of the institution.

2. The necessity of having a room devoted to the special uses and purposes of the Chapter. As to the importance of this, there was no dissenting opinion. Beyond question, a headquarters, a "home" for the Chapter would be a strong link in the chain of its future usefulness. But to procure a suitable room, furnish and equip it in such shape as to make it a pleasant, agreeable, and instructive place of meeting for personal resort, etc., will require more money than the present resources of the Chapter will furnish. The question then, under such circumstances intervenes, How shall the funds be raised to meet the emergencies? Shall the few dip deep into their pockets to furnish the required coin? More generous and more creditable to a time-honored profession would it be, that every reputable architect upon the

Pacific Coast—especially those in San Francisco and California—unite in membership and bear an equal part of the financial burden, by the payment of such amounts of yearly dues as may be necessary to carry on and out the Chapter work, objects, and purposes.

3. The constitution provides among other things, that in cases where students employed in offices of members of the Chapter, who travel through our own or foreign lands for the purpose of perfecting themselves in the higher studies and practical observations of the science of architecture, the Chapter may, in its discretion, extend to such students financial aid and assistance, requiring in return that such student consider himself, to a certain extent, the *protège* of the Chapter, and make regular reports of all such matters and objects coming under his observation as might be of interest to the profession on this coast.

In this connection is the case of Mr. Stone, a San Francisco student, who has made for himself a most enviable reputation as an earnest, persistent, and determined worker, with every energy taxed to its utmost to prepare for reputable, honorable, and successful future practice. Mr. Stone is about to leave for the East and Europe, and is the first to offer the Chapter the opportunity to carry into practical effect the provisions of its own laws. A committee, consisting of the class teachers and the president, was appointed to consider the matter and report.

THE APRIL SESSION OF THE CHAPTER

Was held on the 22d instant, and was largely attended, President Curlett presiding, and B. E. Henriksen, Secretary.

The proceedings were marked with more than usual interest. After disposition of minutes and reports of committees, propositions for membership as fellows were received from Messrs. C. I. Havens and David Salfeld, and referred to proper committees.

Mr. Macy suggested the propriety of the Chapter adopting a form of diploma, or certificate of membership, suitable for framing, to be distributed to such fellows of the Chapter as may desire to possess that form of evidence of honorable membership. The matter was referred to a committee consisting of Messrs. Macy, Sanders, and Whittemore.

THE GIRDER.

At this point, Mr. Sanders occupied the floor for the purpose of reading a paper relating to the matter of girders. The theme reviewed and discussed in Mr. Sanders' reading was not exclusively the girder, but a range of thought embracing much of interest in an architectural and civil engineering sense. Mr. Sanders presented a number of hastily prepared sketches of girders, simple and compound, which explained themselves at a glance to those present, as to their generally understood and common uses and applications.

We had hoped that Mr. Sanders would have been able to prepare a set of girder sketches, such as might have been reproduced in the columns of this journal, and a treatise on the same for publication. But press of business engagements prevented this, and we have one less valuable article and exhibit for this issue than we fondly anticipated. Mr. Sanders was requested to pursue the subject and entertain the Chapter at an early subsequent meeting.

An animated general discussion followed the reading, in which many good and practical suggestions were made bearing upon girders, building construction, sidewalk beams, the lateral and compressive qualities of wrought and cast iron respectively, and other pertinent matters.

FROM LONDON.

Mr. Smith, from London, being present, was invited to participate in the talk, which he did with profit and pleasure to those present. Among other things mentioned by the gentleman in reference to girders was that, owing to the well-known fact of the expansion of iron by heat, iron girders are rendered less desirable in building construction, and the greater the length, the greater the objection; while wooden girders, unprotected, burn out as do other parts of the inflammable material, and in both cases walls are thrown down, or so badly sprung or damaged by conflagrations as to require being taken down, which would have remained good and sufficient for reconstruction purposes, but for the girder difficulty.

CASING WOOD GIRDERS WITH SHEET IRON.

As a remedy for the two evils mentioned, Mr. Smith stated that in his part of the world, wooden girders were more generally used in the class of buildings not constructed as a whole or generally of indestructible materials; but to render them preferable, a casing of sheet iron is applied, which makes them practically imperishable in cases of fire.

PIT PROTECTION FOR SAFES.

The gentleman also alluded to the fact that in the great metropolis of the English nation, as an absolute fire and burglar-proof protection to safes, pits are sometimes constructed of the required depth, with hydraulic attachments, of suitable power, presumably similar in action to the hydraulic ram elevators in use in San Francisco; and after the business of the day is over, the safes are secured and then let down into the pits, below the desired level of floor or ground, to remain until lifted again for purposes of business. In this way, all the securities afforded in first-class fire-proof safes are enjoyed, with the additional protection of being virtually buried up in vaults or pits below ground, so as to prevent the slightest effect from fire, and certainly largely increasing the impossibilities of burglarizing.

Altogether, the April session of the Chapter was one of the most interesting and profitable that marks its history.

If the honorable members of the profession, as a whole, would join in the Chapter work, and unite and co-operate heartily and unselfishly for its advancement and building up, in a very short period of time San Francisco Chapter would rank high among the many organizations working in scientific and professional interests; and, as far as its special object is concerned—the science of architecture—it would be regarded as the one great authority in that direction. Its doors are open, and its approach crowned with the word *welcome*, to every worthy and honorable member of the profession upon the Pacific Coast.

Literary Notes.

THE March 6th issue of *Building* contains the second paper on "Slow-burning Construction," by W. H. Dabney, Jr., architect to the Mutual Factory Fire Insurance Companies, of Boston; the continuation of Mr. Warren R. Briggs' excellent series of articles on "The Planning and Construction of School-houses," with plans and perspectives of a model suburban school. Mr. Wm. B. Tuthill, architect, continues the discussion in his articles on the "City Residence, Its Design and Construction," of various plans for apartment houses, including what is known as the Duplex system. Various plans of apartment houses are given in the text. Mr. J. Pickering Putnam, well-known through his "Lectures on the Principles of House Drainage," speaks of the necessity of thorough ventilation for soil pipes and waste pipes, and of the evils and objections to special trap ventilation, in his article on "Improved Plumbing Appliances." There is also an illustrated article on the Street Memorial, in the Royal Courts of Justice, London, a Book Review Department, the Weekly Report on the Real Estate Market, a trade supplement reviewing the industrial progress, and a four-page supplement of the *Building News* of the week, besides editorial comments on the topics of the day. In the illustrations, sketches are given for small laborers' cottages, for a country church, details of a staircase hall, for a city house, finished in oak, and the perspective view and plans of the new Club House for the Elmira Athletic Association.

THE March number of *Art and Decoration*, an illustrated monthly devoted to interior and exterior ornament, contains some very interesting articles on colors, imitation stones in ornamentation, interior sketches and decorative Japanese work, and many short articles, valuable and interesting. This journal should be in the hands of every one interested in art decoration. Subscription price, \$2.50; single copies, 25 cents. Published by Art and Decoration Company, No. 7 Warren Street, New York.

Brick, Tile, and Pottery Gazette, heretofore appearing as *clay*, comes to hand in new dress and arrangement, with fourteen pages of interesting reading matter, and a range of advertisements comprehending all machinery used in the working of clay, and the manufacture of drain pipes and pottery devices. Subscription price, \$1.00 per annum. Ottawa, Ill.

Be Thorough.

"A LICK and a promise," is the way the botch calls it. "That will do for the present," is what the procrastinator says as he half does some job. Young man, you are not to live for the present, but you are to build for the future. If you would be a success, be thorough. Are these school-days with you? Get your lessons thoroughly. You will not only be better prepared for what follows by getting the lesson of to-day thoroughly, but you will acquire a habit that will be valuable all your life. If you are a mechanic, or farmer, or clay-worker, remember that whatever is worth doing at all is worth doing well. Be thorough!—*The Clay Worker.*

Good Houses.

EVERYBODY who builds, either for resident or rental purposes, wants a *good house*; a something which to obtain is worth a certain sum of money, and generally more than the amount appropriated and fixed upon in the mind of the owner as the sum to be expended. No one is wise who invests his money in any other than a good building. It may be plain and small, but the quality of material and workmanship should be considered in the light of permanency. Houses are seldom built to last for a short period; they are generally supposed to be a permanent affair, to last not one, but several generations. And if from motives of present economies, an imperfect and shoddy structure is reared, the continuous necessities to keep it in repair but demonstrate the unwisdom of not making it good and perfect at first. The old saw, of penny wise and pound foolish, applies forcibly in such cases.

But the rule is that but few owners calculate to pay the actual value of a *good building*, leaving any profit to the man who builds. There is never an objection to the *goodness* proposition, but there is to paying the price necessary to obtain the result. The allowance for profits to the builder is seldom equivalent to the actual cost, with compensation to him who gives his time and mechanical skill to the work of construction. No one "wants the builder to lose anything," yet but few are so earnest in this regard as to be willing to add enough to the amount fixed upon, to insure profit to the builder.

In building houses, as in the purchase of goods and merchandise, he who builds or buys cares but little about the real cost; it is the economies of the bargain that influence the transaction. Consequently, architects and builders, to meet this economy feature, must shave the *good* idea down as thin as possible, and mix in only so much of the desired ingredient as may be absolutely necessary to give tone and color to the structure. Hence the majority of buildings are less than *really good*, and some that have been predicated upon the *good* basis are mere—comparative shams. Yet the deceptive allurements of having obtained a building within certain limits of cost, very often satisfies the conceit of *goodness* and bad defects pass unnoticed.

This is a common experience, relieved only by the occasional cases in which owners in reality stand by the proposition of goodness, and supply the necessary funds to pay full value for a *good* thing.

OBSCURE HEAT.—At the Albany meeting of the National Academy of Sciences, Professor Langley reported on the progress of remarkable researches with the bolometer, by which he has so greatly extended our notions of the invisible spectrum. This time he dealt with the lunar spectrum, and estimated the heat derived from the unilluminated moon. Rosse has estimated the temperature of the moon's surface as from 200° to 500° Fahr. By studying the moon at its full, with a rock-salt prism obtained only after repeated failures, and which from its nature had already required repolishing seven times, each time necessitating a new determination of its constants, he had succeeded, on repeated occasions, in securing a spectrum which showed two curves—one according with that previously obtained in the infra-red region beyond the visible portion of the solar spectrum, clearly due to reflection, and another, lying entirely beyond that, as clearly due to the moon itself, and revealing its real temperature. This, as shown by studying the spectrum of frigid masses, is colder than the temperature of melting ice. By comparing the mean of the spectra obtained in summer with that of those obtained in winter, it is evident that a much greater amount of heat is obtained from the moon in winter than in summer. This may simply be due to the greater amount of aqueous vapor in our own atmosphere in the summer as contrasted with the winter clarity. By directing the bolometer to the zenith and the horizon, the temperature of space has also been measured by direct experiment for the first time, and the amazing transparency of our earth's atmosphere to radiation of the earth's heat revealed; for his experiments show that our atmosphere transmits the earth's heat more readily than the sun's.

SOME of the famous staircases described by travelers and historians, in dimensions and general magnificence, so far excel anything to which designers and builders ordinarily have access that it is almost impossible to picture to the imagination the features of the work. Some staircases which are specially noteworthy on account of their dimensions, occur in the palace of Persepolis. One staircase leads from a plain in the beautiful valley of Ben-damir to the summit of a terrace, out of which it is taken. It consists of two sets of two flights of stairs, each with a broad landing stage between them; the two lower flights diverge to the level of the foundation; the two upper converge to a common landing place

at the top. The shallowness of the pitch, each stair being only 3 or 4 inches in height, constitutes an ascent so easily graduated that horses may be ridden up and down, while the width of 22 feet admits of a cavalcade of 10 abreast. Less noble in size, but distinguished by the character of its ornamentation, is the next staircase which opens to the view, somewhat out of line, when that just described has been mounted. It conducts to the summit of the central terrace, and is composed of four single flights, two of them being central and facing each other, the other two standing on either side of these at about 21 yards distance from them. The entire length is 212 feet, the width 16 feet, and there are 31 steps in an ascent of 10 feet. It is flanked by an immense parapet wall, surmounted by a massive rounded coping of elegant carved work, which overlaps the wall on the inside; the ends and the entire face are covered with sculptures, and exhibit a long procession of colossal guardsmen armed with spears.—*Carpentry and Building.*

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Building and Improvements for Woodland and Yolo
County for the First Quarter of 1886.

EDITOR OF THE CALIFORNIA ARCHITECT: Owing to frequent storms and continued bad weather, the building interest has experienced a set-back, and but few engagements of importance have been set in operation. Nevertheless, public feeling is buoyant, and good hopes are entertained for the coming of spring and pleasant weather to usher in the usual amount of activity.

Material men and solid mechanics of all branches are sanguine as to the ultimate result of the future, although we can hardly expect the amount of last year to be duplicated. The opinion of those competent to judge says the advance in lumber will materially retard building in this vicinity during the season.

The following record presents the amount and number of engagements for January, February, and March:—

City, 25 frame buildings; value.....	\$28,800
1 brick building.....	2,000
15 improvements.....	6,200

Total, 41 buildings and improvements; value.....\$37,000

County, 10 frame buildings; value.....	\$23,000
1 brick building.....	5,000

Total, 11 buildings; value.....\$28,000

Total for city and county, 52 buildings; total value.....\$65,000

Total aggregate for corresponding three months of 1885, 44 buildings; value of same, \$102,500. Increase in buildings, 8; decrease in capital, \$37,500.

Woodland, March 30, 1886.

Yours truly,
GILBERT & SON.

Market Report.

Pine, Rough.....	per M feet,	\$15 00
" " No. 2.....	" "	12 00
" " 2 in lengths.....	" "	13 00
" " 40 to 50 feet lengths.....	" "	17 00
" " 50 " 60.....	" "	18 00
" " Selected.....	" "	20 00
" " Clear.....	" "	25 00
" " Fire Wood.....	" "	8 00
T. & G. Flooring, 1 x 6.....	" "	27 00
" " 1 x 3, and narrower.....	" "	30 00
" " No. 2.....	" "	22 00
S. epping.....	" "	35 00
" " No. 2.....	" "	27 50
Furring, 1 x 2.....	per lineal foot,	00 1/2
Redwood, Rough.....	per M feet,	18 00
" " No. 2.....	" "	14 00
" " Surfaced.....	" "	30 00
" " T. & G. 6 in. 12 ft. and over.....	" "	28 00
" " " " 7 to 11 feet.....	" "	25 00
" " " " under 7 feet.....	" "	20 00
" " Rustic.....	" "	30 00
" " No. 2.....	" "	26 00
" " T. & G. Beaded, 12 ft. and over.....	" "	30 00
" " " " 7 to 11 ft.....	" "	25 00
" " " " under 7 ft.....	" "	20 00
" " Siding, 1/2 inch.....	" "	22 50
Pickets, Fancy.....	per M,	25 00
" " Rough Pointed.....	" "	16 00
" " Square.....	" "	14 00
Battens, 1/2 x 3.....	per lineal foot,	00 1/2
Shingles.....	per M,	2 00
Laths, 1 1/2.....	" "	3 25
" " 1.....	" "	3 75
NAILS—Rates were recently reduced to:—		
200 keg lots.....	" "	3 00
100 keg lots.....	" "	3 05
Smaller quantities.....	" "	3 10
PAINTS AND OILS:—		
Pioneer White Lead (local factory).....	6 1/2 c @ 6 1/2	
Cal. Linseed Oil, raw (single bbl lots).....	45 1/2	
" " " " boiled.....	47	
Turpentine, per gallon.....	58	
BRICK—California Building Description, soft, per 1,000.....	5 50	
" " " " red.....	6 50	
" " " " hard.....	7 50	

Buildings Intelligence.

Where owners name is left blank it is so done by special request.

A	Battery , bet. Bush and Pine. Alterations.	O. — Schweitzer & Co.	
		A. — M. Douglass & Son.	
		C. — A. G. Fitzpatrick.	\$4,000.
Austin , bet. Larkin and Polk. Repairs.	O. — Capt. Taylor.		\$2,000.
	Day work.		
B	Broadway , bet. Gough and Octavia. Two-story frame.	O. — Capt. Raimond.	
		A. — B. E. Henriksen.	
		C. — Thos. H. Day.	\$8,000.
Bryant , cor. Kate. Three-story frame.	O. — C. R. Spioralo.		\$5,000.
	Day work.		

Bush , bet. Baker and Lyon. Two-story frame.	O. and B. — T. F. McGraw.		\$8,500.
Day work.			
Bush , cor. Hyde. Three-story frame, store and two flats.	O. — J. S. Hand.		
	A. — Eisen & Pierce.		
	C. — J. Bruce.		\$7,000.
Bush , cor. Leavenworth. Additions.	O. —		
	C. — Geo. Lang.		\$1,000.
Bush , bet. Polk and Larkin. Repairs.	O. — Capt. Taylor.		
	A. — W. Moonier.		
	C. — A. Jackson.		\$5,000.
Bush , bet. Franklin and Gough. Two-story frame and two flats.	O. — W. A. Piper.		
	A. — H. D. Mitchell.		
	C. — Trotter & Harmon.		\$10,000.
Bush , nr. Franklin. Two three-story frames.	O. — Capt. Samuel Blair.		
	A. — John J. Clark.		
	C. — Thos. H. Ackerson.		\$15,000.
C	Clinton Park , bet. Guerrero and Dolores. One and one-half-story frame.	O. — T. L. Hill.	
	A. — M. J. Welch.		
	C. — A. Klahn.		\$2,000.
California , bet. Fillmore and Webster. Four two-story frames, stores, and four flats.	O. — A. Borell.		
	A. — W. F. Smith.		
	C. — Gray & Stiver.		\$20,000.
California , cor. Pierce. Two two-story frames.	O. and B. — Thos. Rendell.		
	Day work.		\$5,500.
California , cor. Laguna. Two and one-story stone and frame.	O. — E. Hopkins.		
	A. — Clinton Day.		
	C. — D. B. Chisholm.		\$22,000.
Cumberland , bet. Guerrero and Dolores. One-story frame.	O. — B. Collier.		
	C. — J. Brown.		\$1,500.
Church , bet. Twenty-first and Twenty-second. Additions.	O. and B. — A. McLeod.		
	Day work.		\$700.
California , nr. Front. Alterations.	O. — Selby Estate.		
	Day work.		\$7,500.
California , bet. Pierce and Scott. Three two-story frames.	O. — H. Wardenby.		
	C. — H. B. Hosmer.		\$12,000.
D	Devisadero , cor. Eddy. Two-story frame.	O. — H. Paulsen.	
	A. — M. J. Welch.		
	C. — Theo. Von Borstel.		\$3,000.
Dolores , bet. Twenty-second and Twenty-third. Two-story frame.	O. —		
	C. — F. W. Kerns.		\$2,700.
Dupont , cor. Geary. Four-story and basement brick.	O. — Davis Bros.		
	A. — Copeland & Banks.		
	C. — Brick and granite work, Geo. Richardson.		\$10,500.
Dupont , nr. Post. Additions.	O. — Jos. Musto.		
	A. — P. R. Schmidt.		
	C. — R. McCann.		\$9,000.
E	Eddy , bet. Laguna and Buchanan. Four two-story frames.	O. — M. & W. Maher.	
	A. — C. J. I. Devlin.		
	Carpenter — J. W. Smith.		\$12,175.
	Plumbing — Sweeney & Kearns.		1,420.
	Painting — T. McCarthy.		1,035.
	Grading and brick work, Jos. Smith.		967.
	Total.		\$15,676.
Eleventh , bet. Howard and Folsom. Alterations.	O. — John Dolan.		
	A. — C. J. I. Devlin.		
	Carpenter — C. N. Mason.		\$1,705.
	Painting — T. McCarthy.		205.
	Plumbing — T. Bertram.		800.
	Total.		\$2,710.
Eddy , cor. Octavia. Two and one-half story frame.	O. — A. Welch.		
	A. — Clinton Day.		
	C. — Mahoney Bros.		\$80,000.
Eighteenth , nr. Castro. One-story frame.	O. and B. — H. Eigler.		
	Day work.		\$1,000.
Eighteenth , bet. Mission and Valencia. Three-story frame.	O. — H. Rodgers.		
	A. — M. J. Welch.		
	C. — R. Sinnott.		\$2,000.
Eleventh , cor. Natoma. Additions.	O. — F. Ash.		
	C. — J. McCann.		\$2,000.
Eleventh , bet. Mission and Natoma. Two-story frame.	O. — Mrs. Kehoe.		
	A. — Jas. E. Wolfe.		
	C. — Wm. Sherline.		\$6,000.
F	Fillmore , bet. Pine and California. Two-story frame, store and flat.	O. — H. Newbauer.	
	A. — P. R. Schmidt.		
	C. — Wickersham & Farrell.		\$3,500.
Fair Oak , cor. Twenty-second. One-story frame.	O. — E. W. Eckstein.		
	C. — T. H. Lukkin.		\$2,500.
Ford , bet. Sanchez and Noe. One-story frame.	O. — J. H. Carrah.		
	Day work.		\$2,900.
Fell , bet. Polk and Van Ness. Six two-story frames.	O. — Jos. S. Spear.		
	C. — F. A. Brown.		\$18,000.
Fulton , near Webster. Additions.	O. — Chas. Hansen.		
	Day work.		\$1,500.
Franklin , cor. Laurel Avenue. Two-story frame.	O. — Mrs. Mandge.		
	A. — W. Schrol.		
	C. — W. Pluns.		\$5,000.
Filbert , bet. Larkin and Polk. One-story frame.	O. — Robert Locher.		
	Day work.		\$1,300.
Filbert , bet. Larkin and Polk. Two-story frame.	O. — P. Matthews.		
	C. — A. Nelson.		\$1,500.
Filbert , bet. Hyde and Larkin. Eight two-story frames.	O. — J. A. Whelan.		
	Day work.		\$20,000.
Filbert , bet. Jones and Leavenworth. Two-story frame, two flats.	O. — G. Caudieri.		
	C. — G. Voca.		\$3,000.
Fillmore , bet. Clay and Sacramento. Two-story frame, store and flat.	O. — J. R. Crossley.		
	A. — H. D. Mitchell.		
	C. — W. E. Lewis.		\$7,000.
Fillmore , bet. Pine and California. One-story cottage.	O. — M. Costello.		
	A. — J. T. Kidd.		
	C. — A. Jackson.		\$1,400.
Fillmore , bet. Golden Gate Ave and McAllister. Two-story and basement frame.	O. — Geo. Beanson.		
	A. — Curlett & Cuthbertson.		
	C. — I. P. Kincaid.		\$4,500.
Fulton , between Buchanan and Webster. One-story frame.	O. — R. Giesen.		
	C. — G. Knopf.		\$1,000.
Fulton , bet. Fillmore and Steiner. Two-story frame.	O. — Thos. N. Furlong.		
	A. — Huerno & Everett.		
	Day work.		\$3,500.
Fair Oaks , bet. Twenty-third and Twenty-fourth. Two-story frame.	O. — H. Munier.		
	A. — T. J. Welch.		
	C. — G. W. Hansbrough.		\$3,000.
G	Guerrero , nr. Twenty-fifth. Two-story frame.	O. — L. Petersen.	
	A. — W. F. Smith.		
	C. — W. N. Concanon.		\$2,300.
Gough , cor. Sacramento. Two and one-half story frame.	O. — C. Joseph.		
	A. — Clinton Day.		
	C. — R. P. Hilbert.		\$32,000.
Gough , bet. O'Farrell and Ellis. Two-story frame.	O. — Dr. Warner.		
	A. — J. Marquis.		
	C. — J. Robertson.		\$6,000.
Greenwich , nr. Powell. One-story frame.	O. — F. Seipp.		
	A. — Saltfield & John.		
	C. — J. Klein.		\$1,650.

Grove , northwest cor. Broderick. Two-story frame. O. John McKenzie. A. H. D. Mitchell. Day work. \$9,500.	McAllister , bet. Fillmore and Steiner. Two-story frame. O. B. Conway. A. T. J. Welch. C. M. Lynch. \$6,000.	Pine , bet. Baker and Lyon. One-story frame. O. Chas. Hewitt. A. C. I. Havens. C. A. N. Nelson. \$2,300.	Twenty-second , cor. Shotwell. Frame church. O. German Evangelical Church. A. J. M. Curtis. C. F. W. Kerns. \$2,500.
Geary , bet. Scott and Devisadero. One-story frame. O. P. Hartnet. A. T. J. Welch. C. J. J. Dunn. \$2,800.	Market , nr. junction of McAllister. One-story brick. O. L. & M. Sachs. A. P. R. Schmidt. C. R. Mitchell. \$3,000.	Sutter , bet. Baker and Lyon. Alterations. O. H. Levy. C. F. Klatt. \$1,500.	Twenty-first , above Valencia. Two-story frame. O. W. Doan. Day work. \$4,000.
H	Market , nr. junction of McAllister. Three one-story bricks. O. D. Callaghan. A. P. R. Schmidt. C. R. Mitchell. \$4,500.	Stanyan , cor. Fell. One-story frame. O. J. Lannarath. C. C. E. Johnson. \$2,000.	Third , nr. Folsom—Three-story frame store and two flats. O. N. Hanley. C. A. G. Fitzpatrick. \$5,000.
Hayes , cor. Broderick. Two-story frame. O. John Glover. A. H. Geilfuss. C. Theo Von Borstel. \$3,000.	Mission , bet. Seventh and Eighth. Three-story frame and basement brick. O. J. Tuckers. A. Daily & Praun. Brick and iron work—J. J. O'Connor. \$3,000; total cost, \$10,000.	Scott , bet. Oak and Fell. One-story frame. O. Mrs. Nichols. A. H. Geilfuss. C. W. P. Grace. \$1,500.	Turk , nr. Laguna. Two-story frame, two flats. O. R. Penking. A. Salfeld & John. C. A. Miller. \$6,000.
Howard , cor. Lafayette. Two-story frame. O. W. Alf. C. H. J. Weiss. \$4,500.	Market , cor. Franklin. Five-story frame. O. J. Nightingale. A. A. J. Barnett. Carpenter work—R. McCann. \$28,475. Patent chimneys—L. E. Clawson, 2,500. Total, \$31,035.	Steiner , cor. Fulton. Two-story and attic frame. O. and F. John Hinkle. Day work. \$10,000.	Turk , nr. Buchanan. Three-story frame, three flats. O. F. Attinger. A. Salfeld & John. C. A. Miller. \$6,000.
Haigh , bet. Octavia and Laguna. Two-story frame. O. W. Feller. A. J. Gash. C. T. Worden. \$7,500.	Mission , bet. Fourth and Fifth. Four-story and basement brick store. O. D. Sweet. A. H. T. Bestor. Brick work—O. E. Brady. Carpenter—A. Jackson. Total cost, 24,000.	San Jose Avenue , cor. Army. Two-story frame. O. and B. J. M. Cummerford. Day work. \$3,000.	Union , bet. Octavia and Laguna. Two-story frame, store and flat. O. D. Deserello. C. G. Walker. \$2,600.
Haigh , cor. Devisadero. Two-story frame. O. T. W. Bogart. A. E. R. Swain. C. J. Campbell. \$6,000.	Market , cor. Sixteenth. Five one-story frame stores. O. W. J. Houston. A. C. I. Havens. C. F. Klatt. \$4,000.	Seventeenth , bet. Castro and Diamond. Two and one-half-story frame. O. C. Harbo. C. W. F. Muller. \$4,000.	Union , bet. Octavia and Laguna. Three two-story frames. Three stores and three flats. O. Gen. Werner. C. G. Walker. \$8,000.
Haigh , nr. Stanyan. Two-story frame hotel. O. Mrs. Lewis. A. W. F. Lewis. \$3,500.	Natoma , bet. Tenth and Eleventh. Two-story frame, two flats. O. Mrs. Mack. A. Geo. H. Miller. C. McDonald Bros. \$2,800.	Sutter , bet. Broderick and Baker. Two one-story frames. O. Chris A. Buckley. A. Chas. I. Havens. C. A. N. Nelson. \$4,800.	V
Haigh , nr. Stanyan. Additions. O. C. Lannon. Day work. \$1,500.	Natoma , nr. Second. Alterations. O. P. Healey. A. John J. Clark. C. J. Kelly. \$1,600.	Sixteenth , cor. Harriet. Two-story frame. O. Jas. Madden. A. Geo. H. Miller. C. C. Christy. \$2,600.	Valley , south side, above Dolores. One-story frame. O. Mrs. J. E. Fast. Day work. \$900.
Hyde , bet. Clay and Washington. Three-story frame. O. R. C. Hooker. A. Clinton Day. C. Ingerson & Gore. \$8,000.	Oak , bet. Fillmore and Steiner. Two-story frame. O. Thos. O'Neill. A. Geo. H. Miller. C. Doyle & Son. \$3,200.	Sacramento , bet. Van Ness and Franklin. Two-story frame. O. Mrs. A. Cooley. A. S. & J. C. Newsom. C. J. McKay. \$7,000.	Valley , south side, above Dolores. One-story frame. O. and B. J. M. McDermott. Day work. \$1,200.
Howard , bet. Fifth and Sixth. Additions. O. C. Ruppel. C. W. Jarman. \$200.	Oak , bet. Gough and Octavia. Eight two-story frames, twelve flats. O. Jos. McDonald. A. Townsend & Wyneken. C. John McGarry. \$18,500.	Sutter , cor. Baker. Additions. O. L. Crossley. C. S. T. Green. \$3,500.	Valencia , bet. Twenty-first and Twenty-second. One-story frame. O. Mrs. S. Ross. A. G. P. Ashton. C. F. A. Williams. \$2,500.
Haigh , bet. Steiner and Pierce. Two-story and basement frame. O. J. Livingston. A. W. Mosier. C. P. Laherty. \$5,600.	O'Farrell , nr. Buchanan. Alterations. O. Mrs. Barendt. A. P. R. Schmidt. C. W. H. Wickersham. \$3,000.	Seventeenth , nr. Sanchez. Two-story frame, two flats. O. P. Hallahan. A. John J. Clark. C. F. J. Brennan. \$3,500.	Valencia , cor. Twenty-third. Three-story frame, store and two flats. O. G. Schwartz. G. J. H. Thom Wohrden. \$6,500.
Ivy Avenue , nr. Van Ness. Two two-story frames, four flats. O. Mme. Sorbbeer. C. J. Dutton. \$2,500.	Oak , bet. Gough and Octavia. Eight two-story frames, twelve flats. O. Jos. McDonald. A. Townsend & Wyneken. C. John McGarry. \$18,500.	Scott , nr. Page. Two-story frame. O. J. Hess. A. H. Geilfuss. C. J. H. McKay. \$4,800.	Valencia , nr. Sixteenth. Three-story frame, three flats. O. E. Miles. A. J. Marquis. C. F. O. Bergman. \$8,000.
J	Oak , cor. Buchanan. Two-story frame. O. M. E. Church Society, Bishop's res. A. J. Marquis. C. Gray and Stover. \$10,000.	Sacramento , bet. Leavenworth and Hyde. Two-story frame. O. and B. John Hinkle. Day work. \$4,000.	Valencia , cor. Eighteenth. Two-story frame. O. E. W. Coffin. A. A. J. Barnett. C. F. Rill & Slaven. \$6,145.
Juniper , nr. Bryant. One-story frame. O. and B. H. Munster. Day work. \$1,000.	O'Farrell , bet. Hyde and Larkin. Three-story frame. O. J. Frank. A. M. J. Welch. C. J. Klein. \$2,800.	Sacramento , bet. Leavenworth and Hyde. One-story cottage. O. and B. J. Hinkle. Day work. \$3,500.	Vanderwater , bet. Powell and Mason. Two-story frame. O. W. Fautz. A. Geo. H. Miller. C. A. Gilbert. \$2,500.
Jones , nr. Filbert. Two two-story frames, four flats. O. and B. G. Knopf. Day work. \$5,000.	Pine , bet. Devisadero and Broderick. Two-story frame. O. A. Ruiches. A. P. R. Schmidt. C. T. C. Kiddle. \$7,500.	Sacramento , nr. Polk. Additions. O. J. W. Davis. A. P. R. Schmidt. C. R. McCann. \$3,000.	W
Jones , cor. Valparaiso. Two-story frame. O. Miller & Knopf. A. Geo. E. Voelkel. C. Gott Knopf. \$6,500.	Pacific , bet. Webster and Buchanan. Additions. O. J. J. Seville. C. J. Drury. \$2,000.	Tenth , nr. Bryant. Additions. O. Thos. Grace. Day work. \$1,000.	Waller , cor. Webster. Four two-story frames, eight flats. O. Fred Huber. A. W. Schrot. C. H. Weiss. \$14,000.
Larkin Avenue , bet. Ellis and O'Farrell and Hyde and Larkin. Three-story frame. O. J. Frank & B. Morrbrink. A. M. J. Welch. C. J. Klein. \$2,700.	Pacific , bet. Fillmore and Webster. Two-story frame. O. Mrs. J. Sellons. A. Daily & Praun. C. F. Klatt. \$6,000.	Tenth , nr. Bryant. One-story frame. O. O. Linahan. Day work. \$900.	Waller , cor. Steiner. Two two-story frames, stores and two flats. O. J. H. Scannon. C. M. V. Stevens. \$6,000.
Lafayette , bet. Mission and Natoma. Two-story frame, four flats. O. Sarah Falk. C. Doyle & Son. \$3,000.	Powell , nr. Post. Three-story frame. O. Mrs. Burnett. A. Copeland & Banks. C. Treadwell & Thompson. \$6,500.	Twenty-fourth , northeast cor. Folsom. O. Magnels Bros. Day work. \$5,000.	Washington , cor. Steiner. Two-story frame. O. Geo. Mann. A. S. & J. C. Newsom. C. J. McKay. \$7,500.
M	Powell , near Union. Additions and alterations. O. G. Hilderbrand. C. J. J. Cummings. \$2,000.	Turk , north side, nr. Taylor. Three-story frame. O. M. Englander; A. H. Kenitzer; C. Chisholm; \$15,000.	
Mission , bet. Fifteenth and Sixteenth. Three-story frame. O. F. Straub. A. W. Schrot. C. W. A. Knowles. \$5,050.	Powell , bet. Francisco and Chestnut. Additions. O. C. H. Johnson. \$1,000.		
Mission , cor. Twenty-first. Five two-story frames. O. H. Rhiningshauser. A. H. Geilfuss. Brick work—John McCarthy. Carpenter—A. Miller. Painting—J. Quatt. Plastering—J. McNamara. Plumbing—Fritz & Kean. \$23,000.	Post , bet. Broderick and Baker. One-story frame. O. J. J. Driscoll. A. C. I. Havens. C. A. N. Nelson. \$2,500.		
Market , cor. Fourth. Five-story and basement brick. O. Jas. C. Flood. A. A. Laver. Grading—A. C. Buckman. Wrought iron work—Simms & Morris. Cast iron—R. Llewellyn. Brick work—McGowan & Butler. Carpenter—C. C. Terrill. \$50,000.	Pine , nr. Buchanan. Two-story frame. O. N. W. Griswold. A. Edward R. Swain. C. Ingerson & Gore. \$4,100.		
Montgomery , nr. California. Alterations. O. I. O. O. F. A. Wright & Sanders. C. Terrill & Slaven. \$50,000.			

THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

VOLUME VII.

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

NUMBER 5.

California Architect & Building News.

A MONTHLY JOURNAL.

Devoted to Architecture, Decorating, and Furnishing.

PRICE, \$2.00 PER ANNUM.

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

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

Advertisements inserted at reasonable rates.

SAN FRANCISCO, CAL., MAY 10, 1886.

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Material Facts for Owners' Consideration.

GOOD buildings are sometimes erected without the professional services of an architect. But whether as good and as complete as they would have been under the planning and superintendence of a competent architect, is a question. The proposition suggested is reasonable. For the incessant and perpetual study of an architect is to discover and develop new ideas, to determine and mature better plans, to overcome difficulties encountered in prior experiences, to provide against defects and errors which may have occurred, and in a word concentrate the entire energies of his mind and brain to producing improved results; and it is not reasonable to suppose that among men of equal intelligence, education, judgment, industry, and advantages, those who devote their time, and employ their mental and physical energies in special pursuits, can properly understand and practice their selected avocation, and, by incidental application, also understand as proficiently those specialties which others, their equals in all intellectual and physical senses, have made matters of constant study and daily application. Men generally master not more than one thing or calling, and as the "old saw" goes, "They that are jacks at all trades master none." We admit that there are a host of contractors who would have become most excellent architects had they so applied themselves. But a reasonably perfected knowledge of architecture can only be obtained by the possession of the natural qualifications of mind and judgment, and constant practice and study. Incidental scholastic and superficial knowledge does not, by any means, qualify men to assume the practice of a profession, than which no other requires the more intense exercise of every mental and intellectual faculty. Hence, we find men calling themselves architects who are simply pretenders, mere frauds, aspiring to be what they can never become, through fatal defects in their natural or acquired qualifications. But mistakes sometimes occur even with the best and most careful architects, and generally when no architect is employed, and most always when buildings are entrusted to the manipulations and control of parties whose presumption is only equalled by their fearful lack of judgment, and complete ignorance of every correct principle of architecture.

Building Movements.

BUT little of more than ordinary interest has developed during the past month in building circles. Yet our monthly report presents a more favorable showing than has either of the preceding months of the present year. Our January report showed a gain over the same month for '85 in the sum of \$45,535, which was followed by a falling off in February and March of \$608,218. But May furnishes returns in building facts which places it \$320,781 ahead of May of previous year, and so far recovers the lost ground of the two prior months.

The architects' offices generally in this city have been, and are well filled with engagements, so much so that we have not been able to find competent draughtsmen to fill the many orders sent to this office for help. The offices in San Francisco are well supplied, with but occasional applications for draughtsmen, and then always for first-class, competent men. From other parts of the State orders have been received, but in every instance with, "send us a good man," thus indicating that the tendencies are such that it requires the best of architectural and draughtman skill to meet the demands of clients. But the supply has not been, and is not at present equal to the demand.

The prices of building materials and labor remains in favor of owners, and the fierceness of competition—if the recklessness illustrated by the figuring done by some contractors is worthy to be so denominated—removes all liability of contracts being let for more than a fair value on the transaction; and as often as otherwise the contract amount falls short of paying one hundred cents on the dollar at completion. So that, as a rule, gains and advantages are mainly with owners.

Some of the amounts given in our building intelligence list are but partial. Those on the Nightingale building, of \$8,926, and on the Davis Bros. building, of \$34,185, being sums in addition to partial statements heretofore made on the same structures. The \$249,500 on J. C. Flood's building includes only the carpenter work, \$102,000; cast-iron work, \$49,000; wrought-iron work, \$45,000; grading, \$5,500; and brickwork, \$48,000. There are several contracts yet to be let. The summary for the month shows:

119 frame buildings.....	value, \$496,126
4 brick ".....	312,870
18 alterations and additions.....	78,050
141	Total for current month.....\$887,046
	CORRESPONDING MONTH OF 1885.
147 engagements.....	total value, \$566,265
	Gain in May, 1886, over same, 1885.....\$320,781

THE exigency of getting a living, and this is especially true in large towns and cities, compels many children to begin work when they ought to be at school. This is unpleasant, but it is nevertheless a fact. As labor makes the wealth which pays taxes, it is no more than an act of justice that children thus compelled by circumstances to work through the day should be provided with facilities for pursuing in the evenings the studies they have dropped. To this end evening schools, including those equal in every respect to the "high schools," now a part of the school system of most towns and cities, should be established. This would enable many an ambitious young man to do with greater dispatch and less labor what he will probably do anyway, viz., acquire a fair education of the kind attained in schools. In these times the need of education is pressing, and every facility for its acquirement should be provided. As previously intimated, a young man of the right quality is likely to learn anyway, but as the labor of those who are obliged to work in years when they ought to be at school goes to enrich the community, they have a right to demand that the way be smoothed for them.—*American Machinist.*

THE State Department at Washington has issued a pamphlet belonging to its series of U. S. Consular Reports, entitled "Scouring of Wool in Belgium, Great Britain, and Germany." The pamphlet illustrates three machines used in Belgium for this purpose.

Bay Windows over Street Lines.

SAN FRANCISCO has been, and not inappropriately, styled the city of bay windows. Within the past twenty years or more, but very few—safe to say not more than two and one-half per cent—of all dwelling and tenement houses erected within the county limits, other than those in the erection of which the closest economies have been practiced, that one or more bay windows have not been added. When attached to buildings sitting back from the street lines, the number and sizes are always regulated by the pleasure or caprice of the owner or architect. But when projecting over the lines of streets, the sizes are supposed to be regulated by the "fire limit laws," which prescribe both width or spread, and projection beyond the face of the walls.

Until recently, the limitations as to sizes have been a source of annoyance and vexation to both architects and the fire warden's department of the city government. The limit of spread across the front has heretofore been entirely too restricted and arbitrary in all cases; so that an architect in preparing plans was allowed no greater privilege in proportions in a frontage of twenty-five feet, than he would be entitled to apply in one of eighteen feet, with the restricted width of eight feet no greater than would be proper for the eighteen feet front. Consequently, buildings of greater cost, size, and pretensions were denied the proportionate necessary increase of spread.

CORNER BAY WINDOWS.

Until the recent amendment, were also prohibited by the ordinance. But the ordinance being so framed that parties with sufficient influence might, and often have danced through its loose meshes by securing permits of privilege not common to all, except through channels not understood by some, who recognize ordinances passed by the proper authorities as general and conclusive alike upon all. Hence the iniquitous special permit practice worked injustice; for even if two parties applied for like privileges, the one being in good favor or possessing the necessary influence outside the true merits of the case, and the other having in some way rendered himself obnoxious, or gained disfavor in certain directions, the one might, and in cases has been denied privileges granted to the other. This sort of thing has been done in this city in many cases of "special permits," other than bay windows.

THE ORDINANCE AMENDED.

The universal objection to the restrictions enforced by the original ordinance, and the numerous conflicts encountered by the guardians of the law in the matter of bay windows—architects and builders generally disregarding the limits prescribed, and exercising their individual judgments in the matter—the amendments following have been passed by the Board of Supervisors, and are the law in the case until changed by subsequent municipal legislation.

ORDER NO. —Amendatory of Sections 27, 36 and 38 of Order No. 1,752, to define the Fire Limits of the City and County of San Francisco and making regulations concerning the erection and use of buildings in said City and County.

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

SECTION 1. Section 27 of Order 1,752 is hereby amended so as to read as follows:—

[Bay or Oriel Windows—Swell Fronts.]

SECTION 27. No person shall build a bay or oriel window which shall project over the line of any street more than three feet, or more than nine feet in width, nor shall the bottom of said bay or oriel window be less than thirteen (13) feet from the sidewalk. No bay or oriel window shall be constructed upon any street, lane, alley or place which is less than thirty-five feet in width. No swell front shall be erected unless the walls are entirely of fire-proof materials, and no bay or oriel window shall project from any swell front. Bay or oriel windows constructed in frame buildings shall have piers or spaces of not less than five feet in width between them. Bay or oriel windows constructed in brick buildings shall, for a two-story building, have piers of not less than six feet in width between them, and for a four-story building, the piers separating said windows shall not be less than eight feet in width; and no bay or oriel window shall be more than four stories in height above the sidewalk. No bay or oriel window shall be erected on the corner of any brick building. The joists of bay windows in brick buildings shall be supported on lintels of iron at each story, said lintels to be the full width of the wall and rest eight inches on each jamb, and the top of the openings shall be covered with a brick or stone arch. The exterior framework of such bay or oriel windows constructed in brick buildings shall be covered with fire-proof material.

SECTION 2. Section 36 of Order 1,752 is hereby amended so as to read as follows:—

[Scuttles and Skylights in Roofs.]

SECTION 36. All store buildings over one-story in height in the City and County of San Francisco, whether already erected or hereafter to be built, shall have scuttle frames and covers or bulkheads and doors made of or covered with some fire-proof material; and all scuttles shall have ladders leading to the same; and all such scuttles or bulkheads shall be kept so as to be ready for use at all times, and all scuttles shall not be less in size than two (2) feet by three (3) feet; and if a bulk head is used or substituted in any building in place of a scuttle it shall have stairs with a sufficient guard or handrail leading to the roof. The door in the bulkhead or any scuttle, shall at no time be locked, but may be fastened on the inside by movable bolts or hooks.

All skylights of buildings outside of the fire limits where placed less than three feet in height above the roof shall be enclosed with a substantial railing not less than three feet in height. Within the fire limits all skylights exceeding twenty superficial feet shall have the frame and the sash formed with iron, and if not glazed with glass, three-sixteenths of an inch in thickness, shall be covered with protecting screens of No. 10 (or heavier) wire with meshes of not more than one and a half inches, said screens to be secured to the iron frames at least three inches from the glass.

SECTION 3. Section 38 of Order 1,752 is hereby amended to read as follows:—

[Removal of Dangerous Walls, Buildings, Chimneys, Smokestacks or Other Appurtenances to a Building, Sheds or Fences.]

SECTION 38. Whenever, in the judgment of the Board of Fire Wardens, any building, wall, chimney or smokestack, or other appurtenance to a building, shall, from any cause whatever, be in a situation to be dangerous to persons or property; or when any wooden building within the fire limits shall, in the judgment of the said Board, be damaged by fire or decay to the extent of forty (40) per cent of its actual value, to be estimated above the line of sidewalk in front of said building, the Board of Fire Wardens

shall immediately give notice to the owner or owners of such building, wall, chimney or smokestack, or other appurtenances to a building, sheds or fences, or to his, her or their agent, or the person having the control thereof, if the owner cannot be found, to remove the same forthwith; and the person receiving such notice shall, within forty-eight hours after receiving the same, comply with the requirement thereof. In the event of a dispute as to the amount of damage caused by fire between the owner and the Board of Fire Wardens, said dispute shall be determined by arbitration of competent mechanics, the owner to select one arbitrator, the Board of Fire Wardens the other; and in case that the arbitrators so chosen cannot agree, they shall select a third, and the decision of the majority shall be final and conclusive—all expenses of the arbitration to be paid by the owner.

Heretofore, corner bay windows have not been allowed, and still are forbidden in the erection of brick buildings. But Section 27 as amended, omits frame buildings from this restriction. Consequently, those who desire them, can erect corner bay windows at the intersection of any two streets, over the sidewalk, where the distance from the sidewalk to soffit of the bay is not less than 14 feet.

A Queer Suit against an Architect.

THE story runs thus: Some year or more ago, a lady called on Mr. T. J. Welsh, architect, and entered into an arrangement for plans, specifications, etc., for two buildings, to cost \$10,000. The agreement for compensation was fixed at five per cent for full professional services, and two and one half per cent should the buildings not be erected. They were not, and the architect allowed his claim to remain unsettled until—to save an "out-law"—suit was commenced in a justice's court for the sum of \$250, being the agreed sum for plans, specifications, etc. Rather than meet the case in court, the lady, by her attorney, proposed a compromise, and the claim was settled for \$150, and receipt in full passed. No demand at the time of settlement was made by the client for possession of the plans, etc., but a few days afterward, the architect was asked to surrender possession of the papers. This he refused to do upon the ground that all plans, drawings, and specifications were the property of the architect producing the same, and that the client had no right to their possession, beyond the uses to be made of them in case the work went on.

The lady client not being satisfied with this, upon advice of her attorney, commenced an action against the architect to recover the plans, etc., and also the money paid him, claiming that he had not performed his contract with her. The case occupied about a full day of the time of the court, and the testimony adduced by the architect proving conclusively, that by the rules of architectural practice in this State, and generally throughout the United States and in Europe, the plans and specifications made by an architect are his, and not the client's possessory property, beyond the uses for which they are intended to be applied in the progress of the work proposed to be done under them. Judgment was rendered in favor of the defendant.

This decision, as far as it goes, establishes the rights of architects and owners in reference to the ownership and possession of plans, etc., even if paid for by the client. An architect is not supposed to sell his plans, drawings, and specifications, but simply to embody and delineate on paper his own and his client's thoughts and ideas, shaping and utilizing them to best advantage; and the compensation received for services goes no further than payment for his professional knowledge and skill in producing the desired results, to be exemplified in actual construction in case the work goes on.

This may appear to some as a hardship upon owners, but it has another bearing of great importance to architects, who, as a rule, suffer injustice every time they part possession with plans, etc., worked out by them, as thereby they lose control over the results of their studies, and make it possible for others to reap the benefits which should be enjoyed by the men who conceive and shape the form of thought, and mechanical and professional ideas which might never have been conceived by others in the same form. It is simply retaining possession of the thing legitimately owned.

Great Influx of Strangers.

AS the result of the railroad war and low fares, very many thousands of people, representing nearly every section of the United States, have "come to see California" generally, and San Francisco in particular; some from motives of pleasure and curiosity; others uniting with these, business objects and interests, and possible permanent abiding in this State or city; and a large number of working people inspired by the hope that the demand for labor upon this coast would be such as to give employment to all wage-earners who might avail themselves of the unprecedented opportunities afforded by the railroad people of crossing the Continent "for a song." Of the latter, those who have come to California with no other expectation or purpose than to find work as journeymen mechanics, artisans, or laborers,—a very large proportion must meet disappointment; as

the labor market was well supplied before the commencement of the great rush of visitors or immigrants which has within a few weeks added so many thousands to the number of strangers "within our gates."

The people of California would only too gladly welcome that condition of things which would give employment to tens of thousands of the hardy sons of toil, other than those whose homes for years have been in this city and State; but with no new special developments in business enterprise, nor any unfolding in any direction demanding an increase of skilled or unskilled labor, over and above the resident supply, it is impossible that more than a limited number of the more persevering and diligent seekers should find employment.

New discoveries, requiring large forces to operate them, or offering inducements to those willing to risk the uncertainties of fortune in pursuit of prospective results; the expansion of great interests and improvements demanding a large amount of manual labor, and the employment of thousands of working people to prosecute them, present inducements and justify the concentration, and gathering together at available points of a sufficient number of men to meet and supply the demand. But a rush of people to a given center, where none of these exigencies exist, and all the conditions are normal, with supply fully equal to demand, disappointment must result to some.

A CHANCE FOR EARNEST MEN.

Although what we have written expresses the general condition of things in California, as far as any considerable number of wage-earners recently arrived are concerned, there are nevertheless, reasonably well sustained good prospects for a goodly number if really competent and qualified men to find employment. This of course will depend largely upon the earnestness with which each in his respective calling shall seek to secure an engagement. The chances for the competent and skillful men are fair, but those who are not will find it difficult to obtain more than incidental opportunities to labor as per diem workmen.

This however may be added—that the element of versatility and progressiveness abounds in California, and there are doubtless very many as yet undeveloped means, methods and channels of business successes and enterprises possible of introduction in this State; so that those who may fail in the realization of their first conceived purposes, may, by the exercise and practical application of that genius so universally accorded to the descendants of the Pilgrim Fathers, lead to results of—at present, unthought of magnitude. Necessity is said to be the mother of invention, and it is to be hoped that many who have come, not finding openings ready made for them, nor grooves run, into which without effort they may settle, will go to work and make openings and plow new grooves in which to operate, alike with profit to themselves and benefit to the general interest. The resources of California are by no means exhausted, but remain awaiting further developments which, we hope, will, in many directions, be stimulated by the massing of so many new people on this coast at the present time.

The Growth of San Francisco.

VIEWED from the early days—the time when the briny ocean tides ebbed and flowed over nearly every foot of that portion of the city now occupied by substantial brick buildings in which the great bulk of importing and mercantile business



is at present transacted; the days when steam-ships of three, four, and five thousand tons lay at anchor, or securely moored to piers and wharves, three and four blocks in-shore-ward from the pres-

ent eastern bulkhead or water front; when the block upon which the present post-office and appraisers' building was so deep in mud and tide water that the bottom could not be reached by the longest pile possible of being driven for foundation purposes; when the entire site of the city was subdivided into valleys, by high hills of natural formation, or ridges of sand ground, and thrown up by the ocean upon the western shore of the peninsula, and by the winds driven across land and piled up in sand hills and dunes, to altitudes towering above the tallest buildings,—San Francisco rightly stands as a marvel of energy and enterprise.

The amount of money expended, in cutting and filling to produce the present contour of the city's surface, would be sufficient to purchase the land out and out, and to erect substantial buildings for a city of twenty-five thousand inhabitants in any other new and promising section of country.

The present and prospective greatest business street of the city, Market Street, as late as 1858, was, west of Third Street, a continuous sand hill diverging northerly after passing Fourth Street, thereby forming "St. Ann's Valley," including the site of the present Baldwin Hotel and Theater, with the location of which California tourists generally are familiar.

Golden Gate Park, now ranking well, and destined in time to be second to but few in the United States as a public park, was, but a few years ago, a barren, desolate waste, covered with sand drifts and dunes, and stunted growths, seemingly ashamed to claim membership in the tree family.

But with all these drawbacks and disadvantages, the city now spreads itself over many square miles of territory, and the expansion still continues; while the vacant places within the older limits are being filled up with permanent structures, many of them being in pretensions and cost, "good enough" for the better parts of the metropolis of the United States.

From time to time there existed the spirit of complaining and business grumblings that things were not better, and money making less easy than in the early days of California's existence. Still the car of progression has rolled on and is still advancing, and even many of those who have complained most, have become rich or well to do. And taking in the entire situation, it is reasonable and altogether likely, that within a generation from the present time, San Francisco will spread to fully twice its present size, and double, if not triple its present number of inhabitants.

As far as its building improvements are concerned, about one-tenth of the city is included within the fire limits, within which brick, stone, iron or other indestructible material alone is permitted in the erection of buildings. But beyond these limits, wood is used exclusively, except for business structures. The most costly residences are, with a single exception, wood constructions, including the private residence of Senator Leland Stanford; that of the late Mark Hopkins, costing about \$1,000,000; the residence of Chas. Crocker; Senator Horst; Porter Ash; and many others of the millionaire class.

J. C. FLOOD, BANKER.

Being the only notable exception; his city residence now in course of completion being of imported stone, brick, etc. No small amount of reflection has been cast upon Mr. Flood, in view of the fact that his great fortune has been drawn mainly from the pockets of the people of this city and coast, and the universal sentiment is that it would have been but a small act of justice on his part to have confined his expenditures to and among those, and the community in and from whom and which he has gathered his great fortune.

The street and section of the city where the Stanford, Hopkins, Crocker, Flood, and other mansion residences stand, was, as late as 1860 or later, a rough, ungraded hill-top, covered with sand and shrubbery, and by no means desirable, being over 300 feet altitude above tide level, and adjudged unsuitable for practical life, owing to the difficulty of ascent. But the grand view afforded from this elevation, taking in the whole scope of country over land and water, from all parts of the compass, was indescribably inviting and fascinating, and by degrees the tax upon limbs and muscle to make the ascent, yielded to the magnificence of the prospect when home was reached.

THE CABLE-STREET RAILROADS.

When this device as a street-car motor became a certainty, a demonstrated fact, hills no longer bore a forbidding aspect. When it was made sure that the ascents up steep grade could be made with the same ease and personal comfort, and a great deal more of scenic and romantic luxury than on level roads, the hill-tops so far as traversed by the new mode of travel, soon gained favor, and advanced in value more than double within a single year.

These cable roads have not only helped and improved hill property, but in every direction where they are operated, prop-

erty has advanced in value, and thousands of people of moderate means have been enabled to secure comfortable homes with ample grounds, long distances from business centers, yet rendered practically not far away by the splendid means provided in almost all directions, of traveling by cable road at the rates of five to eight miles per hour, at a cost of five cents for a distance of three or four miles—more or less.

LOOK WELL AHEAD.

With all that has been accomplished, with all that is, and with all that appears in the future, it must be conceded that great things have been achieved in San Francisco; that with all the vices, immoralities and cosmopolitanism permitted within her borders; with all that might have, but has not been done for her greater improvement and prosperity, she presents a record in fact unequalled by but few cities in the Union.

Science of Architecture.

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

To make a reliable scale, and to measure the same temperature felt everywhere alike, two cardinal points are selected and fixed, depending on the invariability of the freezing and evaporating point of the water; those points carefully fixed, then the space obtained by expansion, being divided in respectively 100 parts for Celsius and 80 parts for Reaumur, called the positive or + degrees of temperature, negative or - degrees below the solidification of water, used for the measurement of cold temperature. On the continent of Europe these scales are most in use, for all days and scientific purposes; for the last are the most convenient and best adapted. We here and in England use Fahrenheit scale. The zero point is the freezing point of quicksilver; 32 degrees of the same correspond to the zero point of the other scales, and the temperature of the boiling water at respectively 80° and 100° corresponds to 220° of Fahrenheit. Are Fahr., R., and C., the respective scales above named, then are, comparatively, Fahr. = 32 + $\frac{9}{5}$ C. = 32 + $\frac{9}{5}$ R.; C. = $\frac{5}{9}$ (Fahr. - 32) = $\frac{5}{9}$ R. R. = $\frac{4}{9}$ (Fahr. - 32) = $\frac{4}{9}$ C.

Metallic thermometers are used for the measuring of temperature, and the action of them depends on the different expansive capacity of the different metals to be used. When two or more strips of different metals of different expansive tendency are fastened together, the action of heat will bend them; caused by the different expansion of the metals joined, giving hereby means to ascertain the temperature existing. They are used for measuring high temperatures up to 900° Celsius, when quicksilver thermometers cease to be reliable.

The term "absolute heat" is used to scale the expansive capacity of gases, and begins with 273° below zero of the centigrade scale. It is the point where the expansive capacity of the air form bodies ceases. (Is it the freezing point of air?)

The absolute temperature for 20 centigrades is equal to 273 + 20 = 293 absolute.

The metric system retained, is adopted by Federal law, besides our scales in use. It originated during the French first Revolution, and was intended for general adoption. The spirit of the social French Revolution was extended and made serviceable to science. It was acknowledged as necessary to change the old system of weight and measure, and substitute for it a natural unit of measure, *i. e.*, one existing in nature, which, when lost, could be found, and used again. The leading French savants, Borda, Lagrange, Laplace, Monge, and Condorcet, used the proposition as means for the measurement of a European geographical degree, to recommend the establishment of a universal unit of measure, which was found to be an aliquot part of the earth's meridian. After the completion of extensive labors by a commission, was, on the 9 frimaire VIII. (29 Novr. 1800) as result of this measurement, the 10,000,000 of a meridian quadrant—443,296 old Parisian lines as the true and definite meter—proclaimed and adopted. In the meantime it has been acknowledged, and the impossibility to find a natural measure, to which the experiment with a pendulum, swinging seconds, has considerably added. The metric system has been established in France, Belgium, the Netherlands, Italy, Portugal, Greece, and Roumania and made obligatory in Germany and Austria. The change requires extensive labors to change measures, formulas, and calculations to the metric system, of which nations shrink, having not the taste and time for scientific progress.

1 meter is equal to	3.28 feet
1 square meter is equal to	10.76 square feet
1 cubic " " "	35.31 cubic feet
1 foot " " "	1.305 meter
1 square foot " " "	0.092 square meter
1 cubic foot " " "	0.028 cubic meter
1 inch " " "	2.54 centimeter
1 square inch " " "	6.45 square centimeter
1 cubic inch " " "	16.38 cubic centimeter

To measure the velocity of the air, anemometers are used. The instruments in practice, therefore, are Rotatory Anemometers, consisting of a very small, light-winged wheel, made of aluminum, and being propelled by the pressure of the air. An indicator, attached to the spindle of the wheel, furnishes the number of revolutions made in a certain time, from which the velocity of the air, with the aid of a constant, found for each instrument separately, can be obtained.

The common Rotatory anemometers are used to find the mean average velocity, but do not give any variations in the velocity of the current during the operation; if not, special arrangement (not frequently found) of the electric and acoustic kind, are attached. These apparatus are best fit for longer periods of observation. By them can only be found the mean quantity of air passing through a channel of a certain section during a certain period of time, *i. e.*, one hour under given conditions; for example: for the examination of the effect of a ventilation arrangement for the contracted and guaranteed quantity of air to be furnished.

Since the velocity of the air in the different places of the channels in general will not be the same; since, farther, by the introduction of the anemometer in the channel a small decrease in the same and a consequent deviation in the direction of the current is made; also the constant of the instrument to be reliable after a certain time, must be found anew and from other causes, those measurements of velocity can only give approximate results, with which we must be satisfied, since means are wanting and have not been found up to this time for a complete and correct measurement of the velocity of the air.

Another kind of anemometer is the statistic, *i. e.*, those which give the momentary velocity of the air, to be seen direct on a scale. They are best suitable for a controlling apparatus, and for the correct working of the ventilation system.

The above described instruments are only fit to measure the velocity of the air when the same is neither too hot nor too much soiled, and are unfit to measure the draft in a chimney, or heating arrangement. Other instruments are therefore constructed. To regulate the current of air in the channels, throttle valves, slide valves are used.

To measure the degree of moisture contained in the air, hygrometers are used. These instruments have not the purpose to give the value of the moisture, but only the proportion between the moisture contained in the air at present to that contained in it of the same temperature, when the same would be in a saturated condition. This ratio is designated "the relative moisture."

The point of saturation (thaw point) is different with the different temperatures, and the following table furnishes the quantity of moisture contained in 1 cubic meter of air at the state of saturation.

-20 °C	1.06 gr. water	+15 °C	12.81 gr. water	+60 °C	129.80 gr. water
-15 "	1.39 "	-20 "	17.23 "	-70 "	177.41 "
-10 "	2.39 "	-25 "	22.95 "	-80 "	290.88 "
-5 "	3.36 "	-30 "	30.23 "	-90 "	420.52 "
0 "	4.89 "	-35 "	39.51 "	-100 "	591.92 "
+5 "	6.81 "	-40 "	50.95 "	-112 "	860. "
+10 "	9.38 "	-50 "	82.72 "	-120 "	1,120. "

According to the present state of investigation, a degree of saturation of the air of from 40 to 60 per cent is the most favorable for the human health.

There are two different kinds of hygrometers. The first kind is based thereon, to decide for the moisture presently contained in the air, the temperature of the thaw point, and from the same under assistance of the actual existing temperature of the air to find the percentage of saturation; the second kind of instrument uses the changes of a delicate hygroscopic body produced and conditioned by the moisture of the air for the direct finding of the percentage of saturation. The last kind of hygrometer is for use the most recommendable, and are those of Saussure, and others. The first kind are those of Daniell, August, and Regnault.

Apparatus for moistening the air. With air heating the moistening is mostly done by placing open vessels filled with water in the heating chamber. The filling of the pans (arranged for a variable water surface) and the control over the same must be done from outside of the heating chamber.

This method of moistening the air is incomplete. An improvement can be made when the water pans are so arranged that the air warmed by the heater is compelled to pass over the surface of the water. For this purpose the heating chambers in a certain height are divided into two compartments, in one of them water pans are placed (arranged with overflows), one on top of the other, with spaces between them, compelling the heated air to pass over the water surfaces. The effect of moistening is certainly increased with the increase of water surfaces. Approximately can be taken, for each square meter of the channel, 15 square meters of water surface.

A self-regulating apparatus may be constructed which will fulfill the condition that when a certain desired state of moisture is passed, the apparatus will discharge, self-acting, the wanted quantity of water. A hygrometer of a separate construction closes an electric current, which opens a valve by means of an electric magnet, discharging steam or water spray so long, until the desired degree of moisture is regained, when the interruption of the electric current will close the valve and stop the flow.

The reason of writing the above was a displeasure felt by the passing and enforcement of certain municipal laws—and other matters—which are and were erroneous, having no basis. They created displeasure in society and do not give the comfort and protection which a beneficial law should. Once begun, one subject leads

machine, requiring of him only the mechanical labor as attendant. They do not wish to acquire, and have not the scientific knowledge; hence criticize and condemn what they do not understand.

"Hard" and "Easy" Stairs.

THERE is no feature in house and building construction which should be more carefully considered, or receive greater attention from architects, than the stair work; as the stairs are a part and portion of the edifice used by every one, young and old, in passing from story to story, and a sense of fatigue or comparative comfort follows each successive ascent.

The architect may not, and is not supposed to understand as



to another on the same scientific matter; it is inexhaustible, and may be proceeded with by abler men.

Practice was the forerunner and the foundation of the sciences in the course of progress of human culture. The fire made by friction by the primitive man, to prepare his food and to warm himself when cold, compared with the making of steam for preparing all raw material by mechanical process for the protection and comfort of men; and with chemical process by decomposition, etc., for explosives and thousands of other things, is only a slight illustration.

There has been a cry by practical men against theory, when hardly anything can be and is done by them without using the intellect, either direct or indirect. The men, for instance, attending to a shaping machine; the Chinamen, attending to the loom, work under and use the spirit and genius the inventor placed in the

fully as the skillful stair builder, the many practical details of construction, gained and made perfect by daily and incessant application; or the science of obtaining the numerous intricate lines, cuts, bevels etc., involved in stair-building; but he should understand most perfectly every requirement necessary to produce stairs that will afford the greatest amount of comfort to those who may use them.

Stair builders are never to blame for "hard" or uncomfortable stairs, when controlled by plans made by another. Whether "hard" or "easy" depends altogether upon the allotment of space for construction. The limitation of horizontal distance for run, to vertical height from floor to floor for rise, at once determines results; for if the run is made less than it should be, as compared to the height or rise, no amount of money that might be expended, nor the skill of a thousand stair builders, could pos-

sibly prevent the curtailment of comfort resultant from the lack of sufficient horizontal space.

The rise, height from floor to floor, is absolutely arbitrary, admitting of no concession or compromise; and upon this fixed factor, all other calculations in stair building must be based; so that ease and comfort, or hardship and fatigue, depend wholly upon the proper accommodation of run to rise. Hence, if the architect restricts the space within which the stairs are to be built, to less than what is necessary for the purpose, he thereby establishes an insurmountable obstacle to easy stair construction; and in every case where the ascent of a flight of stairs is not comparatively comfortable, the responsibility rests upon the party designing and planning the same, whether stair builder or architect—if an architect is engaged, and his plans limit the space of run and rise for the stairs, he alone is responsible for the results. No stair builder, however skillful he may be, can possibly make easy stairs where the horizontal and vertical distances are not proportionately correct.

PROMOTERS OF AILMENTS AND DISEASE.

The importance and materiality of the subject-matter under notice is much greater than most people suppose. "These stairs do tire me so;" "It puts me all out of breath to go up these stairs," etc., are perpetual and incessant expressions, particularly with the feeble and aged; and frequently smart and active people find themselves well out of breath by going up stairs a little lively; all of which goes to set up the fact that a vast amount of physical force and energy is required and expended in the ordinary use of stairs—millions of people the world over, being every moment of time in the act of ascending or descending these indispensable house conveniences. And the fact is well known, especially among the medical fraternity, that "climbing stairs" is a most injurious exercise to weakly and ailing persons—those not blessed with strong physical frames and sound lungs. The doctor's prohibitions are placed upon multitudes, and untold numbers of prostrations upon beds of suffering have origin in too much stair exercise. And this being true, that ascending stairs is hurtful to those who are not strong, is it not an extra tax upon the strength and energies of every man and woman who is required or compelled to pass from floor to floor by means of stairs? It is more tiresome to even the strongest and stoutest of men to ascend stairs to the height of fifty feet, than to walk on level ground twenty times that distance. Although a man might, and very possibly could, "walk all day" without exhaustion, it is doubtful whether a human being could be found, capable of enduring the fatigue of one single hour's continuous ascent of stairs, particularly of those denominated "hard" to ascend. The strain upon the muscular and physical forces would be far too great for human endurance. It is questionable whether in the entire population of San Francisco a single individual exists who would be able to perform the feat, and if found, the condition at the ending of the performance would be

EXCEEDINGLY DILAPIDATED.

All this serves to verify the common every-day experiences and aversions in families and among business men and people generally to the use of stairs. The ever-present disinclination in this regard remains unexpressed from the force of circumstances, the compulsory ascent of stairs as the only means of reaching the upper stories. People do not "go up stairs" for any pleasure found in the act of going up. There may be pleasures reached through and by the act, but not in its performance. And it is safe to say that if necessity, curiosity, or some other special incentive never existed, rendering the use of stairs more or less compulsory, they would remain unused.

Stair building is one of the necessities created by the huddling together of communities of people, in cities, towns, and villages within limits which require structures of more than one story in height, to furnish apartments sufficient for the purposes of business and domestic life. When mankind dwelt in tents, and spread their dwelling-places over large tracts of land, the stair builder was unknown. But the centralizing and contracting effect of civilization brought about the necessity for buildings with multiplicity of stories, to utilize which, stairs became an indispensable requirement as a means of reaching the several levels placed above one another; and for ages they have been submitted to as an evil without remedy. But during later years,

NUMEROUS DEVICES IN PASSENGER ELEVATORS

Have been invented and brought into practical use to relieve and obviate the fatigues and exertions of "stair climbing." And hundreds of thousands of persons who are "afraid of elevators," and speak of them as "dangerous," are nevertheless willing to "risk their lives" upon these "dangerous contrivances," to avoid the discomforts of reaching upper stories by means of stairways.

All this goes to show that stairs, while a common necessity in house construction, are more a source of enforced convenience than of comfort and healthfulness. And being so, their most perfect apportionment of run and rise should receive the most skillful and careful consideration, as no amount of expenditure of money, nor all the elegance and beauty of design or workmanship, can relieve the extra hardships imposed upon those compelled to use stairs not built in conformity with the best understood rules productive of "easy stairs."

What Is the Difference?

SOME of our readers may think that too frequent reference to the subject of sewer gases, is made in the columns of this journal. If health and life are immaterial considerations, then it is true. If they are important and valuable, then too much cannot be written or said. There is no intelligent person who will presume for one moment to dispute or deny, that where those poisonous vapors are breathed day and night, sickness and death must ensue. Their fatal character is beyond controversy, and the rapidity of their work depends only upon the quantity inhaled.

Reader, permit us to suggest the following: If a man should fell his wife, mother, child or friend to the floor by a blow, and he or she should die from the effects of the blow, would not a death be caused by the hand of him who struck the blow? Or if either should be pushed into the waters of the bay, and were drowned, would not he who did the pushing be responsible for the death? In either case, it would be murder, homicide, or manslaughter. Now then, if a man builds a home for his family, and its construction, appointments, and defects are such that the sewer gases are admitted, and loved ones die from the effects of those gases, is it any less a death? The blow caused death, the drowning caused death, and the gases caused death. The only difference is in the manner and circumstances of the cases. We shall not presume to say that there is the same degree of guilt in either case, but that the result is the same is certain. A man, woman, or child when killed, is killed, the only remaining question being the means and manner of producing the death. And when death occurs, whatever may be the cause thereof, the usual stereotyped notice occurs, "In the providence of God, etc., it pleased the Lord to call him or her away," thus making the Almighty responsible in all cases, while in so many instances in this connection sickness and deaths are caused by men assuming to know a great deal, yet possessing but a small amount of proper, practical knowledge in many important respects in the erection of homes for their families; doing, or permitting things to be done, at variance with all right rules and principles familiarly known to all intelligent physicians and architects to involve dangerous risks, if not fatal consequences. If the Almighty Being has anything to do with such cases, he simply makes fools of men, causing them to build imperfect and incomplete houses, and employ incompetent men to plan them, and others to execute the blundering work, so that he may kill off some loved one. We hold that God is not responsible for the bad judgment of men in the erection of their homes, nor does he require the blunderings of either architects, plumbers, sewer layers, or any other to work out his purposes. If he uses these means in any way it is to punish those who fail to observe the natural laws of creation and life, and bring upon themselves bereavements and sorrows.

A New Device in Blinds.

IN answer to several inquiries concerning Hill's Patent Inside Sliding Blinds, now being introduced on this coast, and whose advertisement appears on page 80, we give the following short description.

These blinds are made by machinery specially constructed for this work, from the best material; they are finished by hand, and are very neat, economical, and convenient. Although constructed of light material, it possesses more durable qualities than a hinged shutter. It can be closed with the window raised, and will not blow open or rattle.

As inside blinds are an important feature in most every building, too much care cannot be exercised in selecting that system and style of blinds whose general qualities are simplicity and convenience. Considerable objection has been raised against the inside folding blinds now in ordinary use, many people preferring to be without any rather than be bothered with their curtains continually catching when folding in and out. Many also object to the pocket at each side of the frame, as it forms a receptacle for dirt and dust.

The Hill Blinds are formed in compartments or sections, and are made to run in grooves, each section sliding past the other with secreted springs to hold them in position at any point. They are very easily managed, and are entirely out of the way of

any article upon the window-sill; they do not in any way interfere with the curtains or draperies, and by pressing the blinds to the right, they can be instantly removed, and taken from the room and cleaned.

Wherever introduced, these blinds have given entire satisfaction. They are very popular in the Eastern States. And, as they are handsome in appearance, neat and durable, and cost considerable less than the folding blind, we think it would be advantageous to those interested, to call on Edward B. Hinds, 330 Pine Street, room 55, who is agent for the association on this coast, and see full size models.

Luck—"Good" and "Bad."

THERE are but few words in the English language more bandied and misapplied than the term, Luck; which is used to express some unknown, invisible, undefined something, having no tangible existence or application other than a speculative, convenient sentiment, utilized to fill endless numbers of gaps in the experiences and vicissitudes of life,—a substitute for the less acceptable idea of destiny; for if a man possesses in his moral, mental, or physical nature, or is specially surrounded with an influence or controlling principle or element which entitles him to the common appellation of a lucky or unlucky individual, then his fortunes or misfortunes must be the result of an agency not under his control, and not the result of clear discernment, good judgment, and prudent and discrete action; but is the enforcement of success or non-success by a power or principle which is wholly above and beyond the control of the recipients.

Those who pass through life enjoying its common comforts and successes without any specially noticeable occurrences, are considered simply good, careful business men, in no wise indebted to freaks of either good or bad luck. But those who by acts of shrewdness, cunning, or unscrupulous boldness make big strikes, and gather in great fortunes—perhaps millions—are regarded as "lucky;" "every move they make wins," while others of equal integrity and caliber would fail of like success under similar opportunities, because restrained by broader and more liberal views of justice and right beyond themselves.

The extravagant and reckless, as well as the weak-spirited, and those frequently out of work, alike draw their qualifications and consolations from the same source—"luck."

Those who have swamped fortunes in wild speculations, attribute their adversities to "ill luck." The criminal with the blood of his fellow creature upon his hands, and those guilty of lesser crimes, unite to patch up treaties with conscience by persuading themselves they have been the victims of circumstances—unlucky.

For all the faults and failures of men, their positive sins and culpable shortcomings, "luck" is the antidote.

The Greeks and Romans fully accepted the theory of "luck," calling it destiny. Alexander the Great depended upon this pretext for human failures. Pliny says, "Some people refer their successes to virtue and ability, but it is all fate." Napoleon believed in his "star." Cromwell and Lord Nelson had similar ideas.

There are such things accredited as happy and unhappy accidents and happenings. We read of a painter who produced a long-sought effect by throwing his brush at the canvas in a fit of rage. Franklin ascribed his turn of thought and conduct through life, to the finding of a copy of Cotton Mather's essays.

It must, however, be admitted that very many most singular things occur. One man may seek to extract the juice from an orange, and perhaps meet his death by choking from the lodgment of a single seed in his throat, while another may have an iron bar run through his body and survive; another may but pierce his flesh with a thorn and die, despite the efforts of the best medical treatment, while another may swallow a jack-knife, pass it, and live on the full period of life unharmed by the event.

The thing called "luck" is but a bugbear—a delusion for the unphilosophical, spiritless, and indifferent to rest upon. The successful of human kind are those who do the right thing in the right way and at the right time. Those called "lucky fellows" are no more nor less than men who have been quick to utilize opportunities, and persistently follow up advantage, hunting for additional agencies and sources of wealth, and handling and protecting their gains in the one direction of profit and increase.

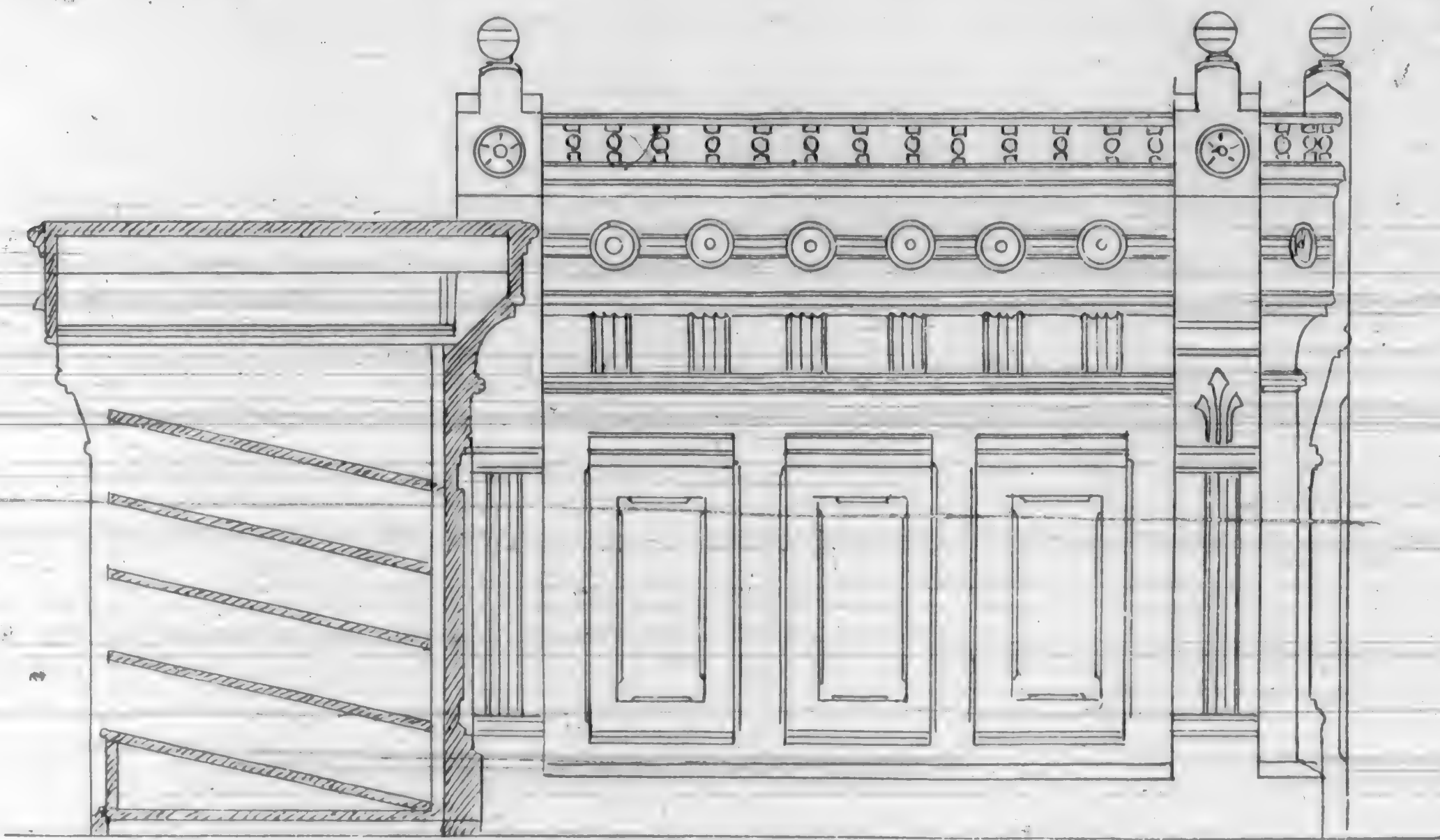
Luck as a doctrine or theory is demoralizing, delusive, and mischievous, and a cloak and covering for human faults and weaknesses. The things attributed to luck and chance as commonly understood, are but combinations of events, coming and going like all things in life, which, if seized upon at the right time, and successfully manipulated, yield their reward; while if neglected and allowed to pass by unimproved, they are but as the fleeting winds, those securing advantages being called "lucky," and those who do not, because they failed to succeed, through indolence or inactivity, are awarded the royal plume of "unlucky dogs."

THE New York Court of Appeals has recently decided a case involving a building contract, confirming the decision of an inferior court. The New York *Daily Register* gives a rather meager report of the case, but there are several interesting points in the decision. The circumstances seem to have been that a certain builder contracted in the usual form to erect a house under the direction of a firm of architects, and with the ordinary stipulation that no payment should be made until a certificate of the architects that the payment was due had been presented to the owner. There was another provision in the contract to the effect that disputes concerning the construction or meaning of the plans should be decided by the architects, but that any other difference between the parties should be submitted to the arbitration of two competent and disinterested persons; to be selected in a specified manner; and a forfeiture for delay in completion was also agreed upon. The house was not completed for four months after the contract time, but the owner then moved in. The builder applied to the architects for a final certificate, but was told that the owner had instructed them to give no more certificates. He then went to the owner, who pointed out some little matters still remaining unfinished, and told him that when those were done he would pay at once the balance due, after deducting the amount of the forfeiture for delay. It would seem that this promise was not fulfilled, for the builder subsequently brought suit for his money. The defense claimed that the certificate of the architect was agreed to be a necessary prerequisite to obtaining payment, so that the owner was not bound to pay anything until this had been produced; and, as the builder failed to bring the certificate, he had no right of action against the owner for refusing to pay.

Many decisions show that under ordinary circumstances this is an unanswerable argument but in the present case it was not disputed that the owner had instructed the architects to give no more certificates, and the court held that the owner, who had introduced the stipulation in regard to certificates into the contract for his own benefit, might waive it, and that, "if he accepted the house as under a completed contract, the plaintiff would be entitled to recover, although no certificate had been given, and even if the architect was not satisfied." Another point was made by the defense, that, as the contract provided that all differences not relating to the construction of the plans should be decided by arbitration, this stipulation should have been complied with before bringing suit. In regard to this the court held that it was no more the duty of one party than of the other to resort to arbitration, and as the defendant, so far as was shown, took no steps toward the selection of arbitrators, it was unnecessary to consider this defense. The questions which the jury was called upon to consider were two in number, the first being whether the owner accepted the house as a completed building under the contract; and whether, if it was so accepted, the delay in its completion was caused by the owner's fault.

What was the jury's decision we do not know, but the Court of Appeals held that these questions were properly submitted to it, and confirmed the verdict. The case is called *Smith versus Alker*, and seems to have been decided some time in March last. It is worth observing that the ground on which the jury decided that the owner had virtually accepted his house as complete seems to have been rather his promise to pay the contract price when certain small alterations had been made, than his occupancy of the building. It has been decided more than once, we think, that the owner's moving into a new house does not constitute an acceptance of it, but in the present case the fact of his moving in, coupled with the assurance to the builder that he would pay the balance of the price, less deductions for delay, as soon as some small matters had been attended to, seems to have been regarded as a virtual acceptance from which he could not retreat without good reason.—*American Architect and Building News*.

CARPETS AND DECORATION.—It is a great point in house decoration to secure carpets that accord with wall and ceiling tints and patterns, where these have been already put on. Irregular patches of color in carpet do not show well where wall and ceiling have methodical and carefully considered designs. The carpet, too, should be responsive to warm, or brilliant, or delicate tones in these. Many a decorator suffers in reputation from the incongruity of a carpet introduced after he has done his work. As a general rule we are inclined to think that any recurrence of geometrical patterns, inclosing compartments of large size, is fatal to the success of a carpet design. The best patterns are neither up and down, nor "all over," but are evenly distributed over the whole area, or arranged with reference to a center toward which the accessories work. Some excellent combinations are those in which, on a field or ground of some secondary shade, the pattern consists of some small repeats, touched slightly with primary colors in various tints, relieved or edged with gray.



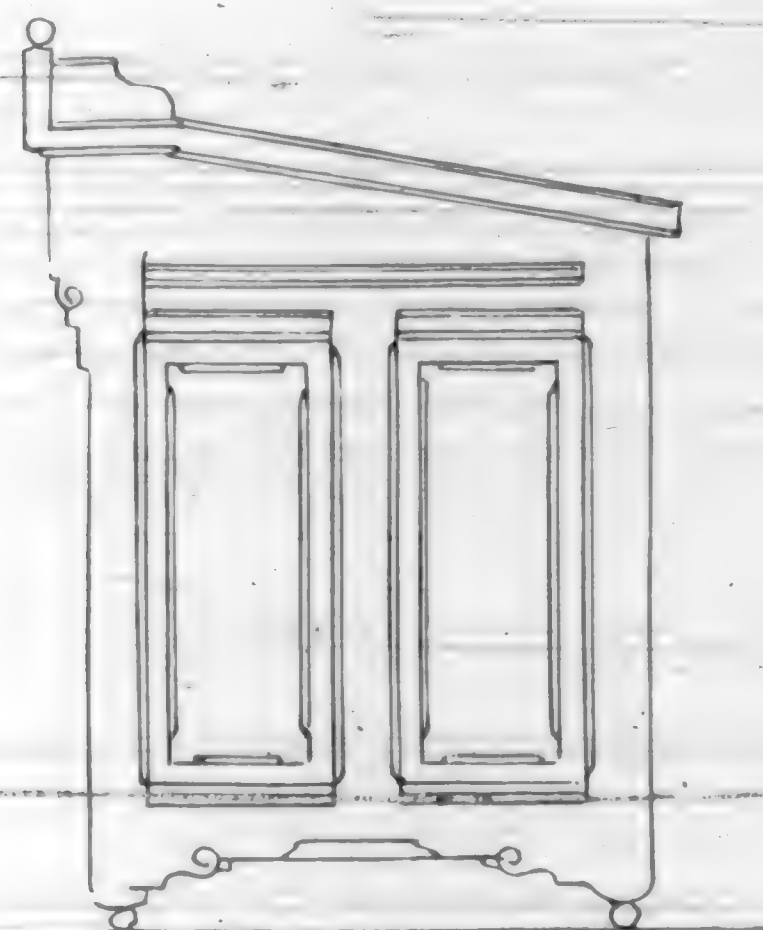
SECTION OF MAIN COUNTER AND ELEVATION OF SIDE DESK.

New Zealand Insurance Company.

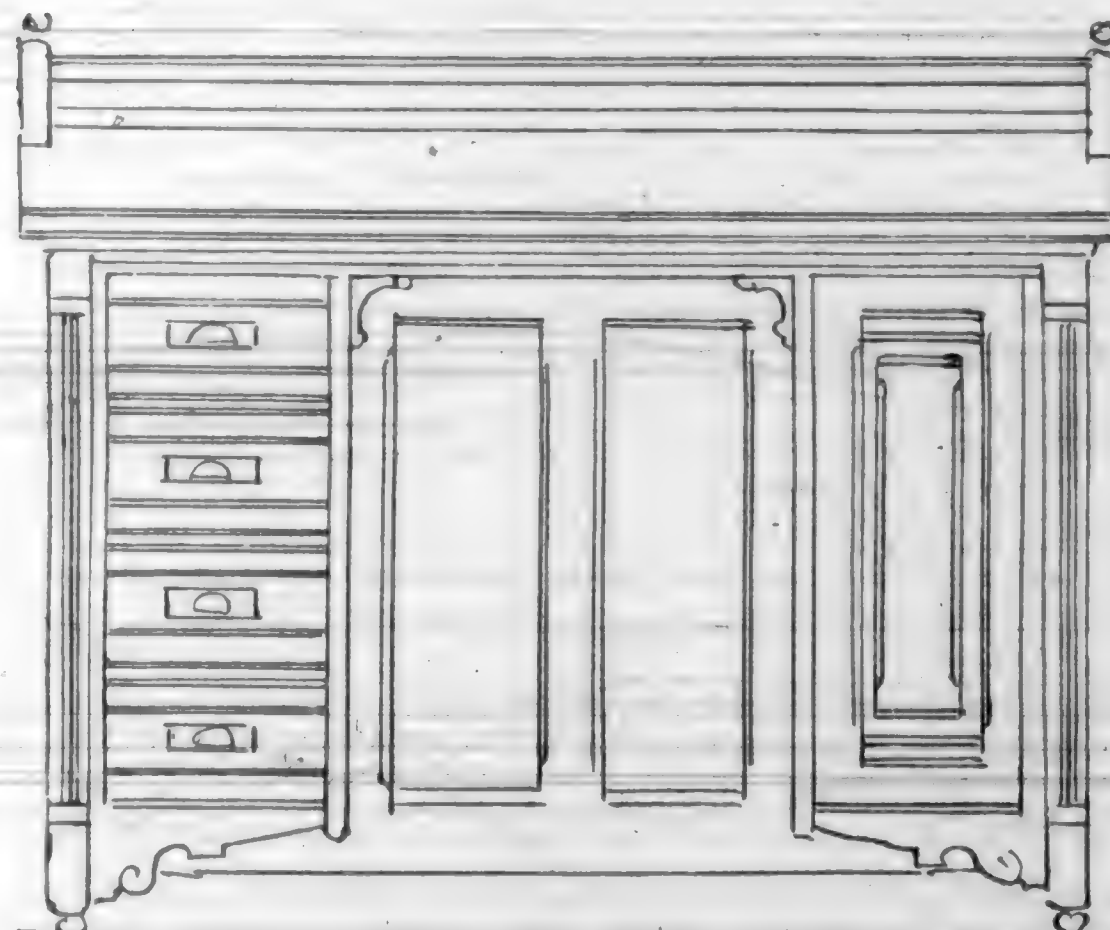
IN November, 1883, we illustrated the proposed new building of the New Zealand Insurance Company, to be erected in this city on their property, 310, 312, 314 California Street. The Pacific Coast manager, Mr. Hugh Craig, has lately returned from a trip to the head office, Auckland, New Zealand. The company, for the present, have decided to let the old buildings remain and fit up for their own convenience No. 312. To carry out this idea Messrs. Wright & Sanders were employed to prepare designs for the interior fittings. How well their instructions were carried out may be seen by a visit to the company's new quarters between the hours of 9 A. M. and 5 P. M.

The contract for the carpenter and mill work was given to Mr. W. A. Knowles, of Oakland. The interior decorating is the work of Cook Bros., 108 and 110 Post Street.

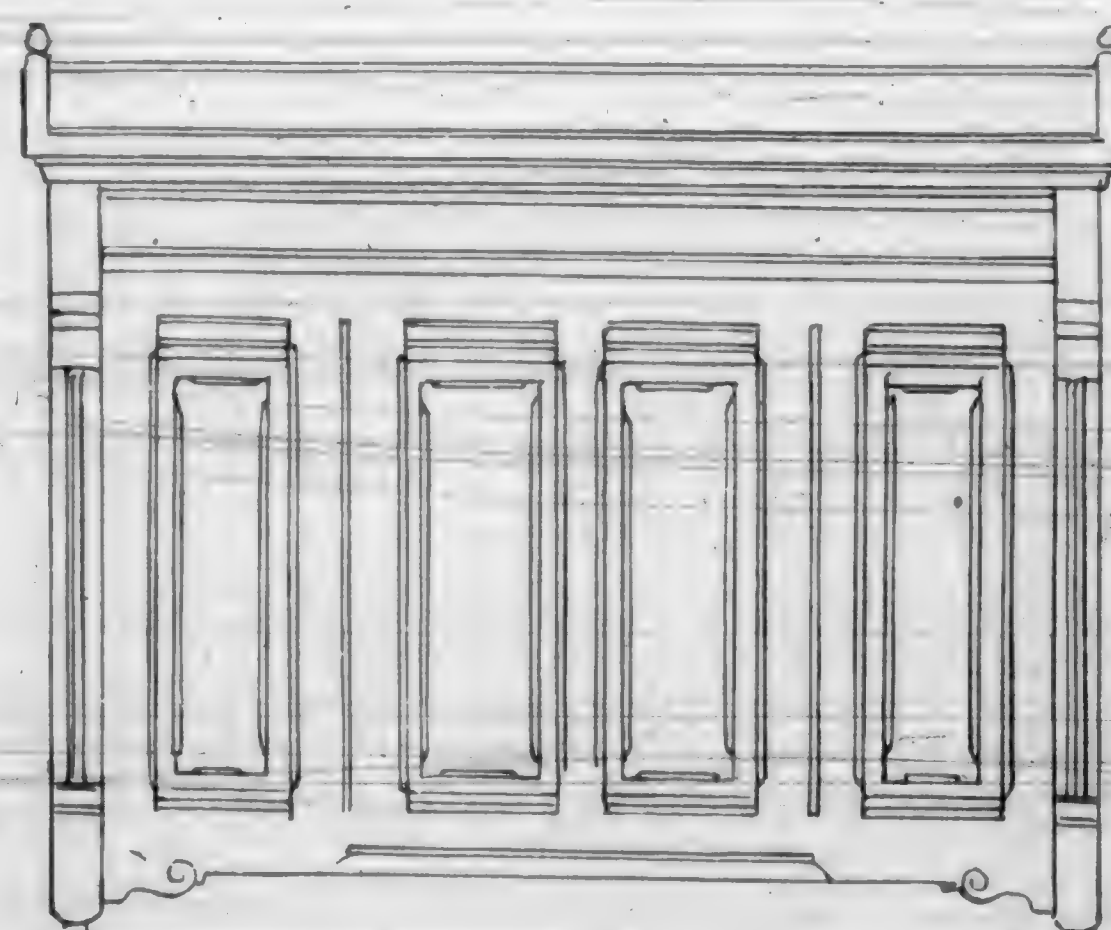
A general idea of the arrangements may be gathered from the accompanying desk elevations and interior perspective on following pages. All the woodwork is in solid Eastern oak. The wainscot is surmounted by a band of Lincaster Walton 15 inches in width. The frieze and cornice are finished in oiled, light greys, producing a very pleasing effect, and displaying excellent taste in this style of decorating. A vault of solid brick and cement 18 feet 6 inches by 9 feet 9 feet has been built across the rear of the room. The area of the office is 18 feet 6 inches by 68 feet 6 inches, and is only sufficient for the City Fire and Marine Departments.



SIDE ELEVATION BROKER'S DESK.



REAR ELEVATION BROKER'S DESK.



FRONT ELEVATION BROKER'S DESK.

We note from the last quarter's report of the Underwriters' Fire Patrol of San Francisco, that there are ninety-six fire companies operating in this city, and that the receipts of the New Zealand Insurance Company are neither least or last. The New Zealand has, since its advent upon this coast in 1875, taken a prominent position in the matter of receipts, as well as figuring in every large fire, and many of the smaller ones, from which our city has suffered during the last eleven years.

The property upon which the offices are located was purchased from Sir Robert Burnett, Aberdeen, Scotland, the Newhall heirs, and M. Rosenbaum of this city. The frontage of the three properties is 60 feet on California Street, with a depth of 124 feet, with a rear frontage on Halleck Street of 60 feet 6 inches.

When foreign capital, represented by companies of this standing, comes among us and identifies itself with our citizens, we cannot do better than give it our earnest support. Had the above investment been made by a company hailing from London, we would not have been at all surprised, because we can give them a much greater return than can be obtained in the United Kingdom. But it has remained for the most progressive and youngest of Britain's daughters to come to us and put New Zealand money, which brings a higher rate of interest at home, into property in San Francisco.

We wish them continual prosperity, and hope the receipts of this bold and conservative company will so far exceed the losses and expenses as to justify them in soon erecting the large building and spacious offices for which Messrs. Wright & Sanders have already prepared plans.

The following brief history, showing the progress of this company, was handed to us by Mr. Hugh Craig, Manager for the Pacific Coast:—

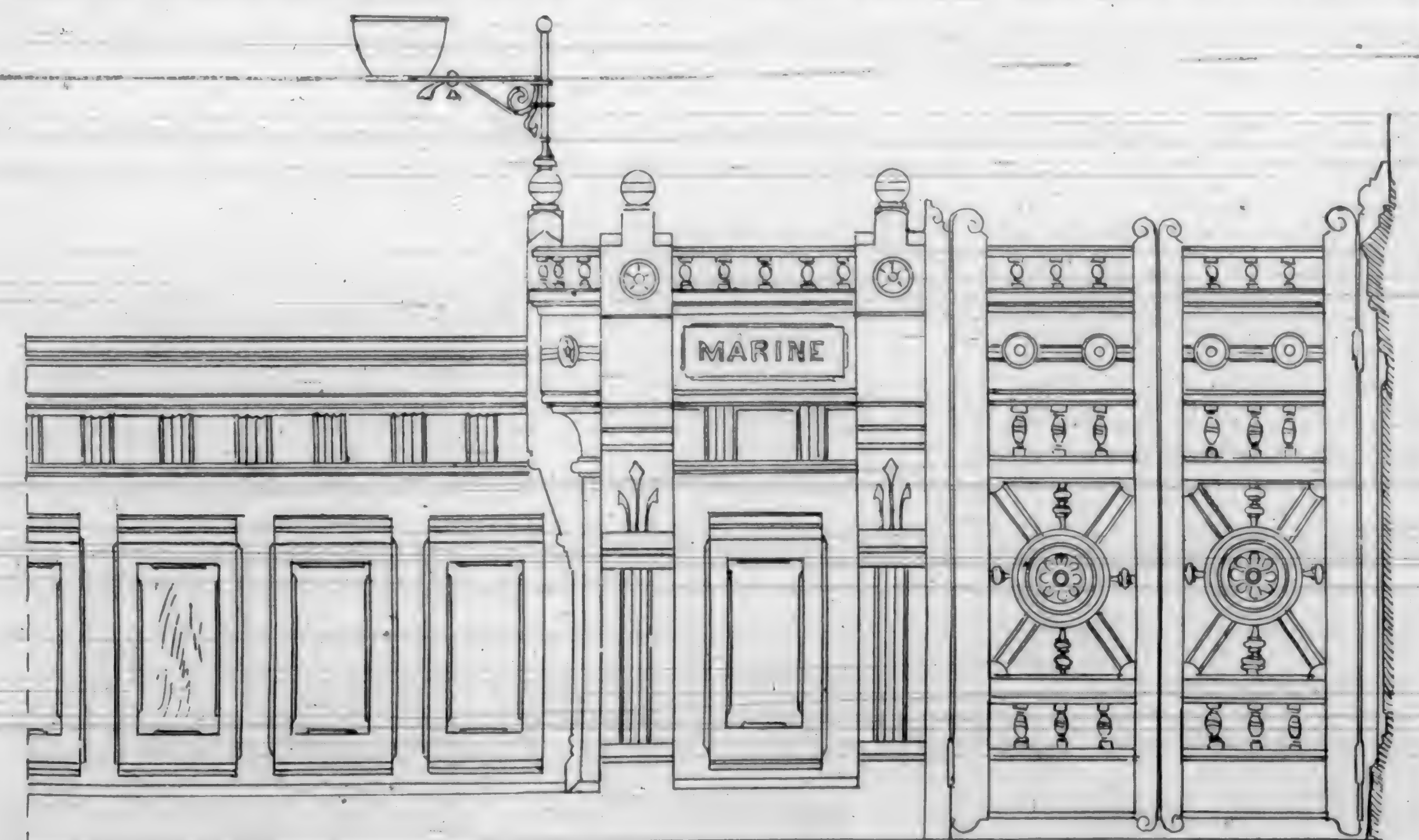
"The company was established in Auckland, New Zealand, May, 1859, with a paid-up capital of \$24,225. In 1862 its paid-up capital had increased to \$75,000; in July, 1863, to \$150,000; in July, 1864, to \$225,000; in January, 1865, to \$250,000; in 1871, to \$375,000; in 1873, to \$500,000; and to-day the paid-up capital stands at \$1,000,000; assets, over \$2,750,000, with unlimited liability of shareholders."

TO IMITATE BLACK ROSEWOOD.—The work must be grounded black, after which take some red lead well ground and mixed in the usual way, which lay on with a flat, stiff brush in imitation of the streaks in the wood; then take a small quantity of lake, ground fine, and mix it with brown spirit varnish, but not with more color than will just tinge the varnish, and if still too red, add a small quantity of Vandyke brown. If the work is well done, the surface, when varnished and polished, will scarcely be known from rosewood.—*Painters' Magazine and Coach Painter.*

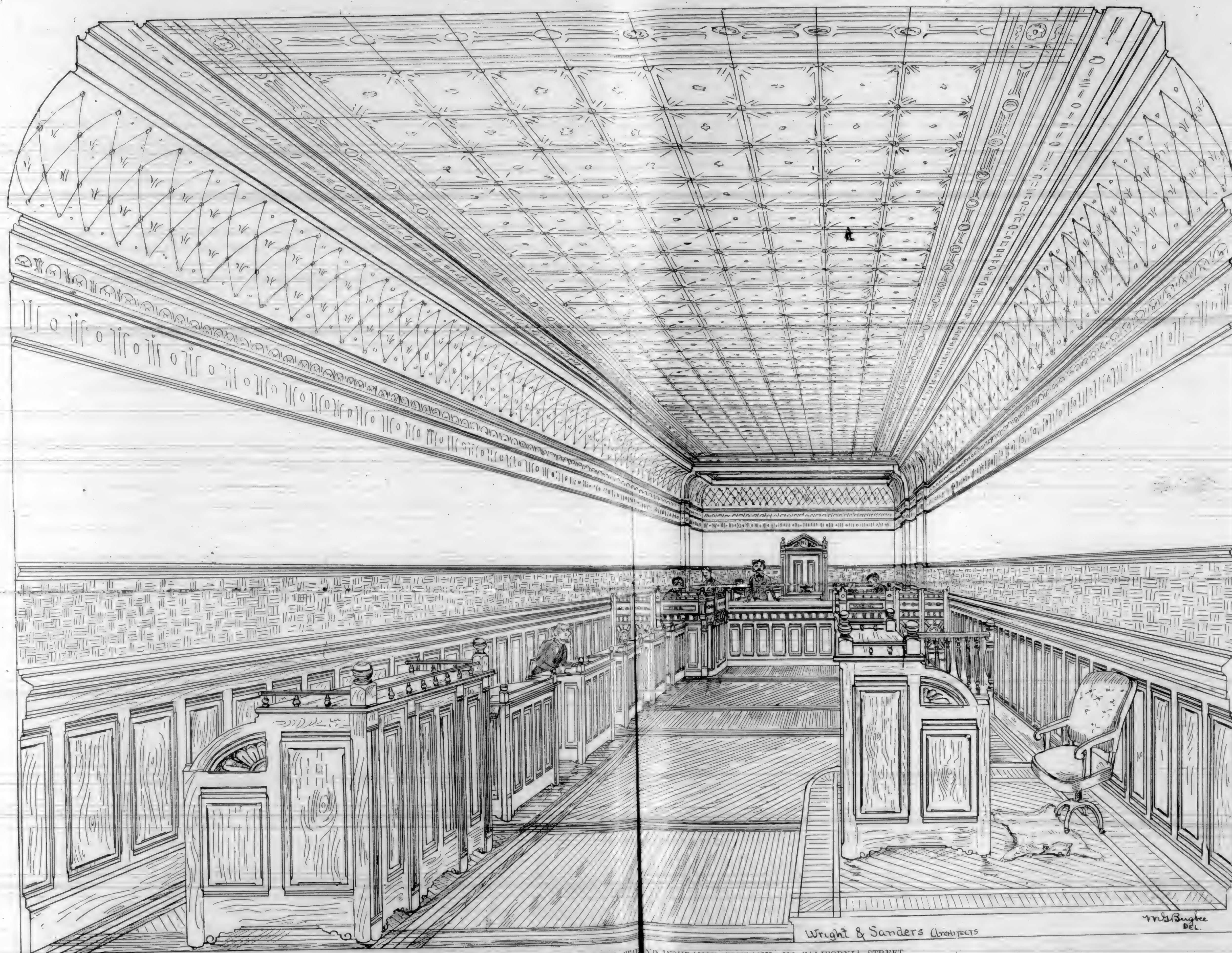
SHINGLE ROOFS SHOULD BE WELL PAINTED.—There is no portion of a building of greater importance, and none subject to greater "wear and tear," than the roof. And as a general rule, no part which receives so little attention after it is on. Owners seldom trouble themselves about the roof so long as it keeps out the rains, and no effort is made to preserve it, until it begins to leak; by which time the decay assumes such magnitude, that patching and repairs simply prolong for a year or two, the time when the putting on of a new roof will become inevitable. All exposed portions of buildings require constant attention and care, and this is supremely true in reference to roofs, whether laid of shingles or metal. Shingle roofs may be preserved for a lifetime, by being properly painted when new, followed by additional coats at proper intervals. The preservative advantages of painting shingle roofs have not attracted general attention from either owners or architects, although there is no place in the known world where the necessity is greater than in California, particularly in San Francisco, where as an almost universal rule none but thin redwood shingles are used. The severe and sudden changes to which roofs are subjected, of hot suns, heavy fogs and dews, drying "north winds," occasional spells of "scorching heat," heavy rains, etc., are very severe upon so light a roof covering as the fragile redwood shingles. It is, therefore, wise to protect them by painting, which increases durability, adds largely to appearances, and if a really good fire proof paint is to be found, and is used, gives security from fire to a considerable extent; as burning embers falling on a roof so painted, will not ignite the shingles.

EDITOR CALIFORNIA ARCHITECT—Dear Sir: How few there are who give credit to the architect, or appreciate his many perplexing studies. He is expected to furnish, off-handedly, all information demanded of him, by whomsoever asked, whether the inquirer be a tailor, a shoemaker, a hatter, a blacksmith, or even a full-blown flower of femininity—an old maid. Even the judicial mind makes demands upon the mental resources of the architect, and but little credit is given for the numerous and varied experiences and studies necessary to all this. The professional architect is looked upon as one whose mind is equal to a common library.

If duly qualified as such, he stands at the head of all the professions. He must be a good geometrician; must be skilled in the art of writing up contracts and bonds; must be fully conversant with the strength of all building materials—wood, iron, stone, bricks, cement, etc.; also the market value of lumber of all grades—hardware, wrought and cast iron, glass, paints, slate, plumbing



ELEVATION OF ONE-HALF MAIN COUNTER



INTERIOR OF NEW SAN FRANCISCO OFFICE, NEW ZEALAND INSURANCE COMPANY, 312 CALIFORNIA STREET.

materials, etc. Also enjoy a knowledge of the difficult science of acoustics—a study requiring a large portion of a life-time to gain proficiency. In addition to all these, the mechanical science of construction, ventilation, proportions, symmetry, foundations, stairs, and innumerable other things must be well, if not absolutely perfectly understood.

But in the matter of remuneration, it is too often the case that the professional man's services are demanded upon the basis of but little better than day's labor compensation, although his services are expected to be almost inestimable. If the standard of remuneration for architectural professional services could be measured by the rules applied in other professions, where far less hard mental work and general knowledge are required, the profession would represent a large amount of wealth. The doctor, for a dime's worth of powder, or a shilling's worth of fluid, accompanied by a grasp of the wrist and a glance at the tongue, is at liberty to demand five or perchance ten or more dollars as a fee for services rendered if not rendered in good faith, which multiplied by numerous patients each day, must—as it does in numerous cases—rapidly augment the cash or bank account of the medical man, and enable him to erect buildings, and luxuriate in all the pleasures of a fine span of horses, with appurtenances, etc.

The legal brother professional likewise for an hour's consultation may demand a fee of twenty-five to a thousand or more dollars, and the charge is more frequently paid than refused. But the architect is drawn down under taught, financial lines, without any of the soft snaps enjoyed in the other professions.

The architect must content himself with wending his way to buildings under charge as best he pleases, through mud, slush, and dust, and move around through mortar beds, under plasterers' scaffolds, to be besmeared with the compound of lime, sand, and hair; climb up ladders and upon scaffolds of not over safe construction, over roofs and dangerous places, sometimes spoiling a whole suit of clothes, lime burning a pair of boots, and knocking fifty per. cent out of the value of a silk hat, if such a luxury is indulged in,—all in daily devotion to the duties imposed upon him as an architect.

But these are not all; at the office, numerous interviews draw upon time, and days in each month are wasted in profitless intrusions upon valuable time. Endless questions have to be answered, work on the boards criticised and corrected, calculations and estimates prepared, documents to write up, and the days filled up with cares and watchfulness for the best interests of clients, and sketching and planning carried late into the hours of night.

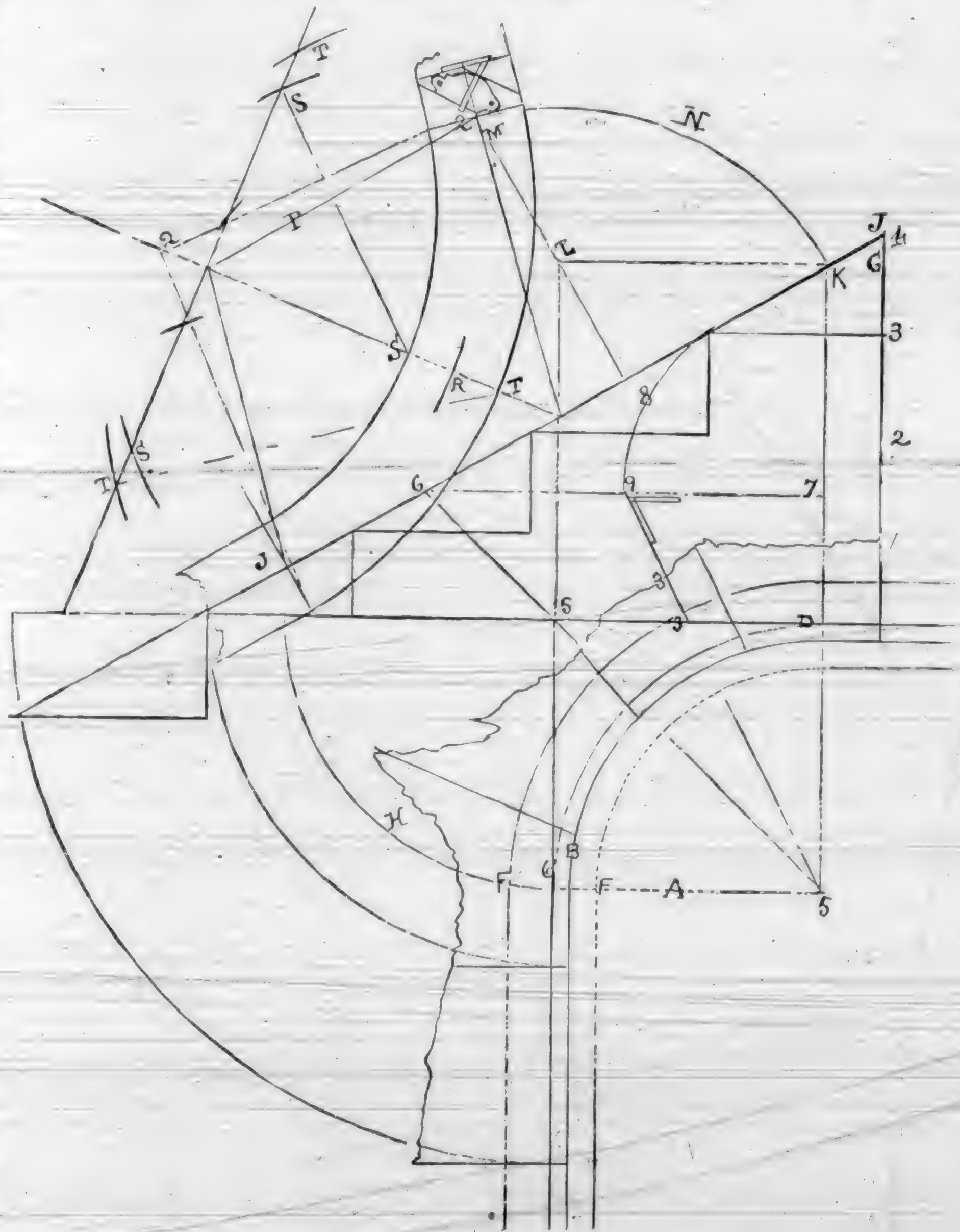
Pardon if I have assumed too much in this writing; but I have been so much in contact with architects' offices in so many States and large cities in the Union, that I feel an interest in the high and honorable profession, and regard its worthy, intelligent, and proficient practitioners as men entitled to the highest considerations. And pity it is that the profession is marred by a single

individual whose exalted standing in point of honor, competency, and invulnerable integrity and trustworthiness are not such as to defy criticism.

The following cut furnishes a graphic illustration of finding the cuts over a quarter turn stairs. Let B be the face of cylinder; make C, D the center of rail; make half breadth of rail right and left of C, as F F; square through center of rail from C and D to 5', as tangents of rail full there; space off the risers in the cylinder as shown; set up the height of risers, as 1, 2, 3, 4; now continue line D, 5 to J; take compass and stand in 5, and draw curve from F to line 5 J; do the same with curve I; next draw the line of pitch from J to J, 4; continue line from D to K; likewise line 5 to L; square from K, D, over to L, from pitch line J, J; square through L; take compass, and stand in 1; open out to K; draw curve N, cutting line M, M at 2; connect 1 and 2; which will give the tangent in mould; make line J, O parallel with line 1, 2; make line P, 2 parallel with J, 1; we will then have the parallelogram wherein the mould is found.

Now to find the bevel, draw through 5, 5' to 6; square from 6 over to 7; stand at 7; draw curve 8 to 9; connect 9, 5; that gives the bevel; breadth of rail is found at 3, 3; take breadth of rail; lay off each side of 2 and J; now find the pin points, and draw the curve of mould; after mould being drawn, you can cut and stand up as a model.

Explanation: Cut around curve S; cut from J to 5', from 6 to J 4; from 4 to line D; hinge from 5' to 1, from 5' to D, from J to 6; cut across the joints and stand up. M. J. M.



S. F. Chapter of Architects.

THE regular routine of business being disposed of, and the member designated to address the Chapter on "Ancient and Modern Plumbing" not being present, and having by letter informed the Secretary that it would be impossible for him to prepare a paper for the occasion which would be to him satisfactory, or instructive to the Chapter, other subjects were taken up and discussed until a late hour, with earnestness and profit.

Mr. Williams presented a drawing delineating a device for safety at elevator wells in cases of fire, which was favorably received and commented upon. The necessity for greater security in this connection was admitted, and it is only a matter of time when—as the outcome of destructive conflagrations—a practically perfect method will be found, serving that purpose, without the necessity of inclosing elevators in brick or iron shafts.

The recent destruction of Bancroft & Co.'s building, and facts known in connection with its construction, were freely talked over, with no flattering comments as to its sufficiencies as a five-story structure. It is generally understood that the best quality of hard-burned brick, laid in mortar composed of a good and sufficient quantity of Portland cement, were not imposed requirements at the time the building was erected; consequently the walls were not the most difficult ever built to topple and fall. The ruins, of course, expose the system of bond irons employed, which, if sufficient to meet the requirements of the fire law at the time the building was built, would not be so considered at the present time by any qualified architect.

The construction of the walls was such as is generally employed in California, as far as the bond is concerned; i. e., headers each fifth course. The value of this method of bonding was contrasted with that of the English and Flemish bond, with no concession in favor of the former, except custom and cheapness.

This was followed by a general and earnest discussion of the matter of plan competition in connection with the Stockton Court House, Hall of Records, and jail.

The course determined upon by the Board of Supervisors having the matter in hand was reviewed in plain terms and condemned as unjust, inequitable, and promotive of, if not designed to cover up purposes and intents which dare not face the clear light of square and upright dealings. It is well understood, and well and conclusively known by all intelligent architects having any experience in such matters, what is meant and intended by \$800 for the first, \$400 for the second, and \$300 for the third best plan—all of which, however, to remain the property of the Board. The *joker* in such cases is an old familiar card, and cannot be played with impunity upon those understanding the game.

It may be that the San Joaquin County Board may be better than other Boards have been, and may be innocent in the error they have made. But if so, then they had better seek shelter by resigning, as the responsibility of what they propose to do must rest on them, whether they are acting and do act understandingly and intelligently for themselves, or are the servitors of others.

There have been too many of the unfair and unjust, and too few honorably and equitably conducted competitions for informed and competent architects not to feel aggrieved at the repetition of what, upon its face, is transparent in the case under review; and while the members of the Chapter recognize their entire inability to reform the abuses practiced in such cases, or to convince those who have happened or managed to be placed in position, to repeat another competitive wrong in the Golden State, they have the right, as architects, citizens, and men, to express in unmistakable terms their hearty disapproval of the method and manner of competition resorted to by the Stockton managers.

Mr. Sanders presented a drawing, delineating a most ingenious device applicable in testing the strength of timbers in various ways, utilizing a one pound weight in a given position to produce a pressure at another point of 2,000 pounds. The whole affair is simple and possible of being made useful in many ways. Mr. S. proposes to complete a working model of the device.

A committee was appointed to consider the Stockton competition matter, and report resolutions in reference thereto to a special meeting of the Chapter, to be held on the 14th inst.

"FAMILY colors" is a term familiar to English coach painters. In this benighted land of ours, under the new order of things, there is no distinction in "regard to color or previous form of servitude."

PURE linseed oil may be free from adulteration, yet unfit for use, because not properly refined, or freed from mucilaginous matter.

Transparent Colors.

IT is well understood that transparency in the proper sense is opposed to opaqueness. A transparent body—strictly speaking—suffers rays of light to pass through it, so that objects can be seen distinctly.

Air, water, and glass are examples of transparent bodies. The word, however, is sufficiently accurate for all practical purposes, and, although in the use of a transparent color we cannot see the ground color over which it is laid, still the groundwork exerts a modifying influence on the so-called transparent color, and the educated eye of the painter sees the ground color, or at least is conscious of its modifying effect on the superimposed color. There is a mutual support between the two, a giving and taking, the end sought being what painters term depth and richness, which cannot be gained by an opaque or heavy-bodied color.

An opaque color presents to the eye a compact film, while the beauty of a glazing color is due to its property of lying loosely, so to speak, and as varnish is employed the color is asserted by the transparent medium.

The painter may obtain transparent colors in crimson, scarlet, purple, blue, yellow, green, and brown, and semi-transparent ones of less purity of tone; and as the may be used clear, over various grounds, mixed with one another, or modified by small proportions of opaque colors, every desired effect presented in nature may be correctly imitated, and the extreme richness be produced on surface work.

Carmine and the lakes, from cochineal and the madder root, supply all that is desirable in red.

Dutch pink, Italian pink, and patent yellow furnish the yellow tones, and ultramarine stands unrivaled as a blue.

Verdigris, emerald green, and green lake add to the list transparent greens of great beauty; and asphaltum has no equal among the browns. Raw sienna supplies a dull yellow, and burnt sienna a very valuable brown orange. The list might be somewhat enlarged, but those given comprise those which are most useful.

An opaque color may be rendered semi-transparent by using a large proportion of the vehicle to that of color, but such mixtures are comparatively of but trifling value.

Transparent colors are usually applied so as to retain the tone of the pigment, as it appears when moistened with oil or varnish. Thus scarlet, crimson, and purple-toned lake are painted over grounds of light and deep vermilion, Indian and Tuscan red, and as greater depth of color is desired, the change is made in the ground color. A very brilliant red is produced, by giving a thin wash of carmine over vermilion, and the same shade of carmine may be deepened through browns of varying depths, the limit being black. We may glaze lake over blue, or blue over lake, and produce purple and violet hues, but this is not generally practiced outside of stripping and ornamenting. The red-toned lakes place at the disposal of the painter a wealth of warm glazing colors; in fact, nothing better could be imagined.

Next in order is yellow, which is termed an advancing color, and when free from the orange cast, and is glazed over white, or delicately tinted grounds, produces brilliance, without gaudiness.

Patent yellow gives clear, bright tones. Dutch pink and yellow lake, when "wet up," are of a dull yellow, and may be glazed over drab ground-colors, with good effect, but they are at present employed to add richness to what are termed sea, bottle, and olive greens. In this arrangement, the true color of the yellow is hidden, and its yellow tone interposes between the foundation color and the eye, a yellow medium thus producing transparency and richness that cannot be gained by any other means.

The soft, mild green, produced by English varnish over black, is well known to coach painters, and they know also, that the precise tone cannot be imitated.

A pure, dark, rich blue is supplied by ultramarine blue. It may be classed as more retiring than many shades of green that are popular, and yet blue is but little used for panels.

It is usually glazed over, dark lead color, and mixtures of Prussian or Antwerp blue and white.

But that is by no means the limit, as it may be successfully glazed over white, straw color, yellow, orange, etc., etc.

Verdigris is a perfectly transparent, bluish green, of exceeding beauty, and in former times was in constant use by coach painters, for the panels of heavy work.

Ornamental painters are now lavish of it on gold and silver leaf, and it has almost lost its place as a panel color.

Among the browns, asphaltum is the most transparent, and when painted over a dark groundwork, imparts richness, all its own.

Transparent colors are sometimes modified or changed by the addition of those that are opaque. Thus, burnt umber and yellow

low lake, or Dutch pink, produce a soft, warm brown; Prussian blue gives a rich green, and so on. The reverse of this process is to add a small proportion of the transparent to the opaque color, as lake added to Indian or Tuscan red, and to the strong-bodied, mixed browns. Of course this is in the line of economy, the purpose being to retain the body or covering power of the opaque color, and a tinge of richness from the transparent one. There is scarcely a limit to the variety that may be produced, and hence the skilled painter has no difficulty in bringing out new effects in colors. — *Painters' Magazine and Coach Painter.*

Mistakes in Building.

OWNERS are often sadly disappointed and grieved at their mistakes in the means adopted by them to avoid the expense of an architect, and obtain plans for their buildings. Sometimes they know, or become acquainted with some *honest mechanic*, to whom they are induced to intrust the whole matter of plans, specifications, and construction, only to repent when it is too late. The party to whom the proposition is made, elated with the splendid opportunity opened up to him, and full of conceit in his own abilities, uses all possible means to secure and consummate the arrangement, and plans are made—and *such plans!*—and the work progresses. Once under way, there is no stopping it, and step by step the owner discovers and realizes, one after another, grievous errors, which are difficult to remedy. And when the building is completed, he simply feels disgusted. Imperfect arrangement, poor construction, homely design, and innumerable defects crowd upon him, as the reward of his folly; and regrets for his error haunt him day and night, but it is too late—the building is erected, and he must endure its defects.

But the first general dissatisfaction is primary and bearable, compared with after experiences in their various details. The plumbing work has, perhaps, been done by some tenth-rate man—some spoiler of good materials, who calls himself a "practical plumber," but who has not the slightest idea of what constitutes a really good job, not to say first class. Nor would the payment of ten times the value of the work done secure skillful workmanship at the hands of such men, for the simple reason that they do not possess, and therefore cannot practice, mechanical skill and abilities. And owners who employ this class of plumbers are unfortunate, indeed. But to continue, defects show themselves in all connections. Pipes, under the old free and easy rule, were put in of insufficient capacity, wastes entirely too small, and sometimes so cramped in making bends as to diminish their practical size one-half. "Tinker" instead of "wiped" joints; leaks at various points and places; wetting and spoiling ceilings and walls, and not infrequently carpets have to be torn up to escape the deluge. All this was followed by a still more serious defect—one affecting the health and lives of the occupants, *viz.*, imperfect or insufficient traps, pipe ventilation, bad sewerage, etc., resulting in the distribution of the vicious and poisonous sewer gases through the building, and as a consequence, the ill health and sometimes *premature death* of loved ones. The intended pleasant home is thus transformed into a mere fume-castle, a disease-breeding charnel house, not fit for human habitation.

All this is followed by continual repairing, tearing up floors, removing finishes to get at concealed places, etc.; and for all this the owner has been made to pay a good round price, amounting to more, as a rule, than it would have cost him to have secured a good building erected under the superintendence of a trustworthy architect. But bad plumbing work is not the only serious defect which so often occurs in such cases. The foundation is often wholly insufficient, and settling occurs, with any quantity of ugly cracks in the plastering. The structure is perhaps so poorly braced that the edifice trembles with every wind that blows. And when the rains fall, leaks are found at every exposed window and opening, and the roof itself yields its proportion of internal wettings. But we will not continue our enumeration of "bad things," as to do so would consume columns of space. Such gases are known to all architects, and many a "served him right" is indulged in, upon the principle that a competent physician laughs at the sufferings of a patient whose pains and agonies result from self-treatment or quack practice, and the educated lawyer smiles when his client gets himself into a *terrible fix* by intrusting his case to some pettifogger, or who tries to work out the intricacies and problems of law by his own self-conceived legal ingenuity.

UNCOVERING THE BASE OF THE SPHINX.—Since the 7th of January last, several hundred Egyptian fellaheen have been at work under the direction of Brugsch Bey (formerly commissioner to the Centennial Exhibition) removing the sand which has hitherto enshrouded the great Sphinx up to its very neck. By the end of this month the whole of it, amounting to over 20,000

cubic meters, will have been removed, and the grand old monument, raised by the Pharaohs over 4,000 years ago, will be again visible in all its beauty. A high wall is being built around it, to prevent the desert-sands from again submerging it.—*New York Mail and Express.*

THE ARCHITECT OF THE CELESTIAL KINGDOM.—The Mormons have just had another revelation from Heaven, which indicates that their prophet, the late Mr. Joseph Smith, is much more innocently employed there than he was on earth. They are building a big tabernacle at Provo, the second city in importance in Utah Territory, and the architect, a Mr. Folsom, was much perplexed about the entrances and exits, when (so he says) the Prophet Joseph appeared to him in a vision and straightened out the crookedness, remarking that architecture is his particular employment in the celestial kingdom. The Salt Lake *Herald*, a journal run by Mr. Cairne, the Mormon delegate in Congress, observes:—

"As the arrangement is altogether novel, and a great improvement over similar edifices throughout the Territory, there is no reason for discrediting Mr. Folsom's somewhat startling assertion."

We recommend this seemingly well-attested vision to the consideration of the American Institute of Architects. We have heard that when the elevators were put into the Equitable Life Assurance Society's Building on Broadway, the contractor successfully consulted his deceased father or uncle, through a medium in Ohio, for the plan of them. If the Institute can make a permanent arrangement with the late Mr. Smith for professional services in difficult cases, it will be a great thing for American architecture. It is a pity that some way to communicate with him was not contrived during the building of our local monstrosity, the New York post-office. But it may not be too late even now to call him in for consultation about the Albany capitol.—*New York Herald.*

LIENS UPON PUBLIC BUILDINGS.—A decision of the supreme court involving the question of the validity of mechanics' liens upon public buildings, holds that liens of this character are contrary to public policy, and therefore void.

Parties contracting for the erection of this class of structures should therefore bear in mind the fact that the Lien Law affords them no protection in case of failure on the part of boards, and commission controlling constructive—public—works to pay the contract sum. There are methods by which collections may be reached, through suits, relief bills, etc., but these are always more or less vexatious, and often very expensive to the creditor.

Market Report.

Pine, Rough, No. 2, per M feet, \$15 00	
" " " 2 in. lengths, " " 12 00	
" " " 40 to 50 feet lengths, " " 13 00	
" " " 50 " 60, " " 18 00	
" " " Selected, " " 20 00	
" " " Clear, " " 25 00	
" " " Fire Wood, " " 8 00	
T. & G. Flooring, 1 x 6, " " 27 00	
" " " 1 1/2 x 6, 1 x 4, 1 1/2 x 4, 1 1/2 x 3, " " 30 00	
" " " 1 x 3, and narrower, " " 22 00	
Sepping, No. 2, " " 35 00	
Furring, 1 x 2, " " 27 50	
Redwood, Rough, " " 14 00	
" " " Surfaced, " " 30 00	
" " " T. & G. 6 in. 12 ft. and over, " " 28 00	
" " " " 7 to 11 feet, " " 25 00	
" " " " under 7 feet, " " 20 00	
" " " Rustic, " " 30 00	
" " " No. 2, " " 26 00	
" " " T. & G. Beaded, 12 ft. and over, " " 30 00	
" " " " 7 to 11 ft., " " 25 00	
" " " " under 7 ft., " " 20 00	
" " " Siding, 1 inch, " " 22 50	
Pickets, Fancy, " " 25 00	
" " " Rough Pointed, " " 16 00	
" " " " Square, " " 14 00	
Battens, 1 x 3, " " 00 1/2	
Shingles, " " 2 00	
Laths, 1 1/2, " " 3 25	
" " 1, " " 3 75	

NAILS—Rates were recently reduced to—

200 keg lots, " " 2 70	
100 keg lots, " " 2 75	
Smaller quantities, " " 2 80	

PAINTS AND OILS.

Pioneer White Lead (local factory), 5-ton lots, " " 6 1/2 @ 6 1/2	
Cal. Linseed Oil, raw (single bbl lots), " " 4 1/2	
" " " boiled " " " 4 1/2	
Turpentine, per gallon, " " 58	
BRICK—California Building Description, soft, per 1,000, " " 5 50	
" " " " red, " " 6 50	
" " " " hard, " " 7 50	

Building Intelligence.

B	E	F	H	M	N	O
Broadway , south side, bet. Gough and Octavia. Two two-story frames. O.—T. C. Delanater. C.—G. M. Salisbury. \$5,000.	Devisadero , nr. Oak. Two-story frame. O.—J. Gatto. C.—J. Sheppard. \$2,500.	Fifteenth , bet. Castro and Noe. Two-story frame. O.—J. Levy. A.—J. Marquis. C.—J. H. Sheppard. \$6,500.	Hickory , nr. Gough. Two-story frame. Two flats. O.—W. Lang. A.—S. Field & John. C.—J. Klein. \$3,500.	Market , bet. Church and Sanchez. One and one-half story frame. O.—J. B. Clott. C.—Cormack & Elam. \$2,000.	Noe , nr. Market. Two-story frame. O.—J. Flood. C.—Dutton & Kennedy. \$2,000.	Oak , bet. Fillmore and Webster. One and one-half story frame. O.—W. Life. C.—H. G. Monrad. \$2,300.
Bryant , nr. Third. Two two-story frames. O.—J. Curry. A.—J. E. & T. D. Newsom. C.—J. Adams. \$11,000.	Devisadero , bet. Hayes and Fell. Alterations. O.—J. R. Dwyer. A.—S. & J. C. Newsom. C.—J. H. McKay. \$600.	Fulton , nr. Scott. Two-story frame, two flats. O.—F. Volkmann. A.—S. Field & John. C.—B. Dryer. \$4,000.	Grove , bet. Larkin and Polk. Two three-story frames. O.—A. Fassman. A.—P. R. Schmidt. C.—A. Norton. \$3,800.	Liberty , bet. Noe and Church. Two-story frame. O.—M. Brook. A.—Townsend & Wynekin. C.—H. Cragenbush. \$3,500.	Noe , nr. Sanchez. One-story frame. O.—J. H. Carah. A.—J. J. Clark. \$3,500.	Oak , bet. Fillmore and Webster. Two-story frame. O.—G. Gellspie. C.—Martin & Maguire. \$2,500.
Broderick , cor. Hayes. Two-story frame. O.—J. Klopfer. A.—H. Gellfuss. C.—T. Von Borstel. \$3,600.	Dupont , cor. Geary. Four-story and basement brick. O.—A. M. Davis, of Davis Brothers. A.—Copeland & Banks. Carpenter work—Treadwell & Thompson. \$13,655. Iron work—O'Connell & Lewis. \$1,419. Sidewalk lights—Mahoney Bros. 4,051. Total, \$39,156.	Fifteenth , nr. Market. Two two-story frames. O.—H. Horstmann. A.—S. Field & John. C.—J. Klein. \$7,000.	Grover , nr. Polk. Army Building. O.—2d Regiment, N. G. of California. A.—John J. Clark. Day work. \$6,000.	Lyons , bet. Tyler and Turk. One-story frame. O.—B. Golding. C.—J. J. McKeagus. \$1,600.	Octavia , cor. O'Farrell. Two-story frame. O.—G. Cohn. A.—P. R. Schmidt. C.—Mahoney Bros. \$10,500.	O'Farrell , near Buchanan. One-story frame. O.—J. J. Brady. C.—Bateman Bros. \$2,000.
Broderick , near Grove. Two-story frame. O.—Mrs. Russell. A.—McDougall & Son. C.—Kerrigan & Lufkin. \$4,000.	Eddy , cor. Devisadero. Two-story frame. O.—A. and B.—F. Buckley, Jr. A.—J. H. Humphreys. \$3,500.	Fulton , bet. Fillmore and Steiner. Two-story frame. Day work. \$4,500.	Harrison , nr. Second. Additions. O.—R. Mayers. C.—J. C. Brown. \$2,000.	McAllister , cor. Webster. Three-story frame store and two flats. O.—Mrs. A. Muschler. A.—C. Kenitzer. C.—J. Miller. \$7,500.	Market , bet. Eighth and Ninth. Three-story frame. O.—L. Haber. A.—C. Kenitzer. C.—C. F. Rupper. \$12,000.	Market , cor. Franklin. O.—J. Nightingale. A.—A. J. Barnett. Plastering—John Donovan. \$4,350. Plumbing—J. K. Prior. 4,576. Total, \$8,926.
Broderick , bet. Fulton and Grove. Two-story frame, two flats. O.—H. Mayer. A.—J. Chadwick. C.—H. G. Monrad. \$4,500.	Ellis , bet. Pierce and Scott. One-story frame. O.—Mrs. Lang. C.—W. Puls. \$2,500.	Fifteenth , nr. Twenty-second. Five two-story frames. O.—M. Kane. A.—M. J. Welch. C.—Barrett & Cremer. \$12,000.	Howard , bet. Fifth and Sixth. Alterations. O.—B. Pasquale. A.—B. E. Henriksen. C.—W. H. Burt. \$1,250.	Montgomery Ave. , cor. Francisco. Three-story frame. O.—J. Cano. C.—M. F. Harley. \$3,500.	Market , cor. Fourth. Five-story and basement brick. O.—J. C. Flood. A.—A. Laver. Carpenter—C. G. Terrill. \$102,000. Cast iron—R. Llewellyn. 49,000. Wrought iron—Sims & Morris. 45,000. Grading—A. G. Buckman. 5,500. Brick work—McIntosh & Butler. 45,000. Total, \$249,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.
Bush , bet. Baker and Lyon. One-story frame. O.—W. D. Nicholson. C.—G. G. Gellspie. \$2,500.	Franklin , southwest cor. Post. Six two-story frames. O.—H. Moffat. A.—Curlett & Cuthbertson. C.—P. Orlinton. \$42,500.	Fifteenth , bet. Noe and Castro. Two-story frame. O.—James Healing. A.—George E. Voelkel. C.—Jos. W. Maher. \$2,100.	Jackson , northeast cor. Pierce. Three-story frame. O.—A. N. Brown. A.—Curlett & Cuthbertson. C.—Mahoney Bros. \$20,000.	Market , bet. Twentieth and Twenty-first. Three-story frame. O.—H. B. Headley. A.—P. R. Schmidt. C.—A. Klahn. \$6,000.	Mason , nr. Filbert. Three-story frame. O.—B. L. Wessman. Day work. \$5,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.
Castro , cor. Fifteenth. One-story frame. O. and B.—T. Darcy. Day work. \$2,000.	Franklin , southwest cor. Post. Six two-story frames. O.—H. Moffat. A.—Curlett & Cuthbertson. C.—P. Orlinton. \$42,500.	Fifteenth , bet. Noe and Castro. Two-story frame. O.—James Healing. A.—George E. Voelkel. C.—Jos. W. Maher. \$2,100.	Jackson , northeast cor. Pierce. Three-story frame. O.—A. N. Brown. A.—Curlett & Cuthbertson. C.—Mahoney Bros. \$20,000.	Market , bet. Twentieth and Twenty-first. Three-story frame. O.—H. B. Headley. A.—P. R. Schmidt. C.—A. Klahn. \$6,000.	Mason , nr. Filbert. Three-story frame. O.—B. L. Wessman. Day work. \$5,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.
Castro , cor. Seventeenth. Two-story frame. O.—J. D. Wulzen. Day work. \$6,000.	Freelon , bet. Fourth and Fifth. Two-story frame school-house. O.—Father Nugent. A.—J. Clark. C.—M. Lynch & Preston & McKinnen. \$9,500.	Fifteenth , bet. Noe and Castro. Two-story frame. O.—James Healing. A.—George E. Voelkel. C.—Jos. W. Maher. \$2,100.	Jackson , northeast cor. Pierce. Three-story frame. O.—A. N. Brown. A.—Curlett & Cuthbertson. C.—Mahoney Bros. \$20,000.	Market , bet. Twentieth and Twenty-first. Three-story frame. O.—H. B. Headley. A.—P. R. Schmidt. C.—A. Klahn. \$6,000.	Mason , nr. Filbert. Three-story frame. O.—B. L. Wessman. Day work. \$5,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.
Church , nr. Twenty-fourth. Additions. O.—J. Duffy. Day work. \$700.	Guerrero , bet. Eighteenth and Nineteenth. One-story frame. O.—J. J. Carroll. A.—P. R. Schmidt. C.—Cormack & Elam. \$2,200.	Fifteenth , bet. Noe and Castro. Two-story frame. O.—James Healing. A.—George E. Voelkel. C.—Jos. W. Maher. \$2,100.	Jackson , northeast cor. Pierce. Three-story frame. O.—A. N. Brown. A.—Curlett & Cuthbertson. C.—Mahoney Bros. \$20,000.	Market , bet. Twentieth and Twenty-first. Three-story frame. O.—H. B. Headley. A.—P. R. Schmidt. C.—A. Klahn. \$6,000.	Mason , nr. Filbert. Three-story frame. O.—B. L. Wessman. Day work. \$5,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.
Columbia , nr. Harrison. Additions. O.—H. B. Russ. A.—McDougall & Son. C.—J. H. McKay. \$2,500.	Guerrero , bet. Eighteenth and Nineteenth. One-story frame. O.—J. J. Carroll. A.—P. R. Schmidt. C.—Cormack & Elam. \$2,200.	Fifteenth , bet. Noe and Castro. Two-story frame. O.—James Healing. A.—George E. Voelkel. C.—Jos. W. Maher. \$2,100.	Jackson , northeast cor. Pierce. Three-story frame. O.—A. N. Brown. A.—Curlett & Cuthbertson. C.—Mahoney Bros. \$20,000.	Market , bet. Twentieth and Twenty-first. Three-story frame. O.—H. B. Headley. A.—P. R. Schmidt. C.—A. Klahn. \$6,000.	Mason , nr. Filbert. Three-story frame. O.—B. L. Wessman. Day work. \$5,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.
California , bet. Buchanan and Webster. Additions. O.—H. Erlanger. A.—C. Kenitzer. C.—H. Jackson. \$5,000.	Guerrero , bet. Eighteenth and Nineteenth. One-story frame. O.—J. J. Carroll. A.—P. R. Schmidt. C.—Cormack & Elam. \$2,200.	Fifteenth , bet. Noe and Castro. Two-story frame. O.—James Healing. A.—George E. Voelkel. C.—Jos. W. Maher. \$2,100.	Jackson , northeast cor. Pierce. Three-story frame. O.—A. N. Brown. A.—Curlett & Cuthbertson. C.—Mahoney Bros. \$20,000.	Market , bet. Twentieth and Twenty-first. Three-story frame. O.—H. B. Headley. A.—P. R. Schmidt. C.—A. Klahn. \$6,000.	Mason , nr. Filbert. Three-story frame. O.—B. L. Wessman. Day work. \$5,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.
Devisadero , nr. Oak. Two-story frame. O.—J. Gatto. C.—J. Sheppard. \$2,500.	Guerrero , bet. Eighteenth and Nineteenth. One-story frame. O.—J. J. Carroll. A.—P. R. Schmidt. C.—Cormack & Elam. \$2,200.	Fifteenth , bet. Noe and Castro. Two-story frame. O.—James Healing. A.—George E. Voelkel. C.—Jos. W. Maher. \$2,100.	Jackson , northeast cor. Pierce. Three-story frame. O.—A. N. Brown. A.—Curlett & Cuthbertson. C.—Mahoney Bros. \$20,000.	Market , bet. Twentieth and Twenty-first. Three-story frame. O.—H. B. Headley. A.—P. R. Schmidt. C.—A. Klahn. \$6,000.	Mason , nr. Filbert. Three-story frame. O.—B. L. Wessman. Day work. \$5,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.
Devisadero , bet. Hayes and Fell. Alterations. O.—J. R. Dwyer. A.—S. & J. C. Newsom. C.—J. H. McKay. \$600.	Guerrero , bet. Eighteenth and Nineteenth. One-story frame. O.—J. J. Carroll. A.—P. R. Schmidt. C.—Cormack & Elam. \$2,200.	Fifteenth , bet. Noe and Castro. Two-story frame. O.—James Healing. A.—George E. Voelkel. C.—Jos. W. Maher. \$2,100.	Jackson , northeast cor. Pierce. Three-story frame. O.—A. N. Brown. A.—Curlett & Cuthbertson. C.—Mahoney Bros. \$20,000.	Market , bet. Twentieth and Twenty-first. Three-story frame. O.—H. B. Headley. A.—P. R. Schmidt. C.—A. Klahn. \$6,000.	Mason , nr. Filbert. Three-story frame. O.—B. L. Wessman. Day work. \$5,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.
Dupont , cor. Geary. Four-story and basement brick. O.—A. M. Davis, of Davis Brothers. A.—Copeland & Banks. Carpenter work—Treadwell & Thompson. \$13,655. Iron work—O'Connell & Lewis. \$1,419. Sidewalk lights—Mahoney Bros. 4,051. Total, \$39,156.	Guerrero , bet. Eighteenth and Nineteenth. One-story frame. O.—J. J. Carroll. A.—P. R. Schmidt. C.—Cormack & Elam. \$2,200.	Fifteenth , bet. Noe and Castro. Two-story frame. O.—James Healing. A.—George E. Voelkel. C.—Jos. W. Maher. \$2,100.	Jackson , northeast cor. Pierce. Three-story frame. O.—A. N. Brown. A.—Curlett & Cuthbertson. C.—Mahoney Bros. \$20,000.	Market , bet. Twentieth and Twenty-first. Three-story frame. O.—H. B. Headley. A.—P. R. Schmidt. C.—A. Klahn. \$6,000.	Mason , nr. Filbert. Three-story frame. O.—B. L. Wessman. Day work. \$5,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.
Ellis , bet. Pierce and Scott. One-story frame. O.—Mrs. Lang. C.—W. Puls. \$2,500.	Guerrero , bet. Eighteenth and Nineteenth. One-story frame. O.—J. J. Carroll. A.—P. R. Schmidt. C.—Cormack & Elam. \$2,200.	Fifteenth , bet. Noe and Castro. Two-story frame. O.—James Healing. A.—George E. Voelkel. C.—Jos. W. Maher. \$2,100.	Jackson , northeast cor. Pierce. Three-story frame. O.—A. N. Brown. A.—Curlett & Cuthbertson. C.—Mahoney Bros. \$20,000.	Market , bet. Twentieth and Twenty-first. Three-story frame. O.—H. B. Headley. A.—P. R. Schmidt. C.—A. Klahn. \$6,000.	Mason , nr. Filbert. Three-story frame. O.—B. L. Wessman. Day work. \$5,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.
Eighteenth , nr. Shotwell. Additions. O.—F. Kruz. Day work. \$6,000.	Guerrero , bet. Eighteenth and Nineteenth. One-story frame. O.—J. J. Carroll. A.—P. R. Schmidt. C.—Cormack & Elam. \$2,200.	Fifteenth , bet. Noe and Castro. Two-story frame. O.—James Healing. A.—George E. Voelkel. C.—Jos. W. Maher. \$2,100.	Jackson , northeast cor. Pierce. Three-story frame. O.—A. N. Brown. A.—Curlett & Cuthbertson. C.—Mahoney Bros. \$20,000.	Market , bet. Twentieth and Twenty-first. Three-story frame. O.—H. B. Headley. A.—P. R. Schmidt. C.—A. Klahn. \$6,000.	Mason , nr. Filbert. Three-story frame. O.—B. L. Wessman. Day work. \$5,000.	Market , bet. Jones and City Hall Ave. One-story brick. O.—W. Heller. A.—P. R. Schmidt. C.—R. Mitchell. \$3,000.

P Pacific, cor. East. Two-story frame. O.—Geo. Livingston. C.—W. H. Wharf. \$1,700. Proffers Ave., bet. Twentieth and Twenty-first. Two one-story frames. O. and B.—C. E. Dunshie. Day work. \$2,000. Post, nr. Scott. Two-story frame. O. and B.—J. C. Wier. Day work. \$4,000. Pine, bet. Broderick and Baker. Two-story frame. O.—J. Cassidy. A.—Chas. I. Havens. C.—M. W. Kahn. \$5,500. Pierce, bet. Tyler and Turk. Two-story frame. O.—M. Doolley. Day work. \$4,000. Pine, cor. Baker. Six two-story frames. O. and B.—B. F. Norris. Day work. \$10,000. Post, bet. Broderick and Baker. Two one-story frames. O.—H. Johnson. A.—E. W. Pratt. Day work. \$3,000. Pacific, nr. Fillmore. Two-story frame. O.—A. W. F. Smith. C.—G. Hussey. \$4,000. Park Ave, nr. McAllister. Two-story frame and brick basement. O.—California Title Insurance and Trust Co. A.—W. F. Smith. Carpenter. Gray & Storer. Brick work—R. Mitchell. \$6,000.	Rincon Place, cor. Bryant. Alterations. O.—H. Diedrich. A.—J. J. Clark. C.—J. J. Dunn. \$3,000. S Silver, nr. Fourth. Two-story frame. O.—M. Mephist. A.—W. C. Hoagland. C.—I. Selander. \$2,000. San Jose Ave, nr. Twenty-seventh. Two-story frame. O. and B.—J. M. Comerford. Day work. \$3,900. San Jose Ave, nr. Duncan. One-story frame. O. and B.—J. M. Comerford. Day work. \$1,700. Seventeenth, nr. Sanchez. One-story frame. O.—Jas. Wolf. A.—Huerne & Everett. C.—W. J. Bowring. \$2,000. Sutter, cor. Laguna. Additions. O.—P. N. Butte. Day work. \$1,600. Stevenson, bet. Eighth and Ninth. Two three-story frames. O.—L. Haber. A.—C. Kender. C.—C. F. Ruppee. \$8,000. Sacramento, nr. Stockton. Alterations. O.—H. Rothschild. A.—J. E. Wolfe. C.—J. Smith. \$700.	Twenty-sixth, cor. Harrison. Two-story frame. O.—John Ryell. A.—M. J. Welch. C.—J. O. O'Connell. \$1,800. Twenty-first, cor. Howard. Two-story frame and brick basement. O.—H. Ludwig. A.—H. Gellius. C.—F. Klatt. \$16,500. Thirteenth, cor. Harrison. Two-story frame. O.—Geo. Munsteron. A.—John J. Clark. Day work. \$4,500. Turk, bet. Taylor and Jones. Additions. O.—M. H. La sak. A.—J. M. Curtis. C.—C. B. Green. \$10,000. Turk, nr. Franklin. Additions and alterations. O.—F. Bramah. C.—B. Pfarrer. \$6,000. Taylor, cor. O'Farrell. Two-story frame, four flats. O.—L. M. Starr. A.—S. & J. C. Newson. C.—D. B. Spangler. \$12,000.	V Van Ness, cor. Ash Ave. Four two-story frames. O.—J. Rich. C.—Townsend & Wynken. C.—C. H. Plummer. \$20,000. W Waller, bet. Buchanan and Webster. One-story frame. O.—Thos. Magee. A.—Curtlett & Cuthbertson. C.—W. E. Cummings. \$2,000. Webster, bet. Herman and Waller. One-story frame. O.—L. Goodchild. A.—Salfeld & John. C.—D. B. Spangler. \$1,400. Washington, bet. Octavia and Laguna. Additions and alterations. O.—Wm. Dunphy. A.—T. J. Welch. C.—J. Blake. \$12,000. Y York, nr. Twenty-third. Additions. O.—M. L. O'Brien. A.—G. P. Aston. C.—H. Wren. \$1,200.
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MISCELLANEOUS.

Los Angeles. Main cor. Court. Three-story and basement brick. O. Maxwell & Morra; C. Curlett & Cuthbertson; \$25,000. Two-story frame. O. W. H. Mansfield; C. S. McNally; \$6,000. Main cor. Laurel. Two-story frame. O. Dr. Custer; C. S. H. White; \$5,000.

Napa. Caymus. Frame church. O., St. John's Catholic Church; A. W. H. Corlett; \$2,000. Two-story frame. O. W. J. Kibbler; C. Bassett Bros.; \$7,000. Two-story and basement frame. O. M. J. Blanchard; C. Mison & Son; \$6,000. One-story cot; tags. O. Thos. Erwin; day work; \$900. Three-story wine cellar; O. John Benson; mason; J. Deluchi; carpenter; Mison & Son; \$10,000. Two-story frame. O. D. H. McLennan; day work; \$1,600.

San Jose. Market cor. San Fernando. Alterations to brick building. O. Rev. N. Congrat; A. Jacob Lenzen & Son; C. R. Summers; \$1,250. San Fernando, opp. San Pedro. O. Horticultural Society; A. Jacob Lenzen & Son; C. F. Davis; \$6,000. On the Alameda. Alterations. O. J. Ivanovich; A. Jacob Lenzen & Son; C. H. Skow; \$1,300. Second, bet. San Carlos and San Antonio. Two two-story frames. O. J. Hart; A. Jacob Lenzen & Son; C. R. Summers; \$4,610. Santa Clara cor. San Fernando. One-story frame. O. Mrs. Fairchild; A. Jacob Lenzen & Son; C. S. W. Lanning; \$1,855. On Alameda, bet. San Jose and Santa Clara. Two-story frame and brick basement. O. W. S. Clark; A. Theodore Lenzen; day work; \$55,000. Chapman & Davis Tract. One-story frame. O. A. Oswald; A. Jacob Lenzen & Son; C. F. Davis; \$1,250. Vine, nr. San Fernando. One-story frame. O. Louis Pfau; A. Jacob Lenzen & Son; C. G. Drew; \$1,400.

San Rafael. Two-story frame. O. D. H. Whittenmore; A. W. H. Wharf; \$3,400. Two-story frame. O. — Sweeney; A. Pissis & Moore; C. L. Frichette; \$11,500.

HILL'S PATENT INSIDE SLIDING WINDOW BLINDS

Are Adapted to Any Style of Window

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

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

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

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

There is NO SAGGING, BANGING, OR GETTING OUT OF ORDER!



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

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

U. S. Government, four sets officers' quarters, Presidio Res., S. F.; H. F. Bruns, cor. Geary and Taylor, S. F.; J. C. Weir, Post, near Scott, S. F.; John MacKenzie, cor. Grove and Broderick, S. F.; L. H. Sweeney, San Rafael; R. B. Gray, cor. Pacific and Van Ness, S. F.; Raymond Hotel, 1,600 windows, Pasadena, Cal.

ENGLISH AND AMERICAN VENETIAN BLINDS IMPROVED.

The only Perfect Venetian Blind in the market. For samples, prices and information, address,

EDWARD B. HINDES, 330 Pine St., Room 55. PACIFIC COAST AGENT.

THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

VOLUME VII.

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

NUMBER 6.

THE California Architect & Building News.

A MONTHLY JOURNAL.

Devoted to Architecture, Decorating, and Furnishing.

PRICE, \$2.00 PER ANNUM.

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

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

Advertisements inserted at reasonable rates.

SAN FRANCISCO, CAL., JUNE 10, 1886.

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Summary of Building Activities.

THE building trades have been fairly active during the past thirty days, with results as shown by our summary of facts and figures, as follows:—

Engagements, frame, 82.....	Cost, \$346,379
“ brick, 1.....	“ 10,000
Alterations and additions, 12.....	“ 45,160
Total for the month, 95.....	“ \$401,539
FOR THE SAME PERIOD IN 1885.	
Engagements, frame, 126.....	“ \$469,100
“ brick, 2.....	“ 72,000
Alterations and additions, 20.....	“ 60,810
Total for the month, 148.....	“ \$601,910
Showing a decrease for 1886 of—Engagements, 53.....	“ 200,371
First Quarterly Report for 1886—Engagements, 252.....	“ \$1,359,532
Second Quarterly Report for 1886—Engagements, 418.....	“ 2,127,101
Total for first six months, 1886—Engagements, 670.....	“ \$3,486,633
First Quarterly Report for 1885—Engagements, 291.....	“ \$1,967,750
Second Quarterly Report for 1885—Engagements, 463.....	“ 2,299,625
Total for first six months in 1885—Engagements, 754.....	“ \$4,267,375
Showing a decrease for the first six months in 1886 of—Engagements, 84.....	“ \$780,742

In view of the fact that the preceding year was one of extraordinary activities, the falling off, as shown by present report, should not be considered discouraging; for the movements in building operations are fully up to the requirements of the times, and a greater rush would simply add to the number of houses to rent, which, while not numerous, are sufficient to suggest a little moderation for the present.

The demand for good draughtsmen during the month has been large, owing to the competition for the Court House and jail at Stockton, which required a large force to compile ten sets of plans for a single building, three-fourths of which labor was simply thrown away, not a farthing being paid for the services rendered, beyond the paltry sum of premiums, insufficient in amount to compensate for a single set of plans, even had one architect received the entire amount. But with the *divis* and expenses deducted, the actual balance to the premium parties will be but little, and the rest of the competitors, who were silly enough to waste their time in efforts to secure results not assured upon merit, can only console themselves with the glory of the attempt, and hold their conceptions as the reward of their folly, and be ready for the next move made by some Board of Supervisors to humbug ambitious aspirants into another farcical competition, which nine-tenths, if not forty-nine-fiftieths, of all general competitions are.

To Our Friends.

THE proposition announced in another part of this issue, offering to dispose of our entire interest in this journal, will be a surprise to very many of its readers, and, in view of the fact that it is, and is recognized as, one of the journalistic successes of the period, it will naturally lead to inquiry as to the reasons for the course proposed.

We answer: It is a conclusion most reluctantly reached; but there is a period in human life when nature calls for relief from excessive cares and labor; when ambitions should yield to the restful peace of contentment with that which has been accomplished.

More than is meet for one to attempt, is not wise; nor can any one divide between two pursuits the time required for one, and do either well.

This we realize, and therefore propose to relinquish our editorial relationships, and devote ourselves exclusively to the duties of our profession as practicing architect, with the earnest hope and desire that those who succeed us may, in every way, be fitted and qualified for the responsible duties of directing and managing its future successfully, profitably, and alike creditably to themselves and to the class journal literature of the United States.

The multiplicity of personal engagements, and other drawbacks and interruptions in our editorial work, have imposed undue and excessive mental and physical labors, and prevented the utilization of the

NUMEROUS POSSIBILITIES OF THE SITUATION.

Which are practical, accessible, and important, and rightly manipulated, sufficient in themselves to furnish an almost exhaustless amount of matter and fact for future publication.

A change of management will also remove all the objections, prejudices, and jealousies more or less existing among architects, builders, and others, by reason of the fact of its being published by a practicing architect. For while it has been edited and conducted upon the broadest and most generous and liberal principles, consistent with its reputation as a representative journal, carefully avoiding and excluding all matter and references which could—in reason, without torture or forced construction of plain language, and a total disregard of fair interpretation of intended meanings—be charged as designed for personal, professional benefit, still there are those who claim to be able to trace the personal feature in every issue, from which they draw the conclusion and advocate the theory that a practicing architect in the chair editorial, no matter what the qualifications, is improperly seated.

We have realized and do realize the delicacy of our position in this regard, and have often restrained the free use of our pen in directions where to have done so would have been attributed to wrong motives on our part.

This restraint need not exist under a new administration, and we hope our successor will exercise his fullest liberty without fear or favor; for in California, of all other places, those who read journals of any class, like fire and force in the lines they read, eloquence simplified to the common understanding, and information and instruction plainly and clearly expressed.

AS AN INDIVIDUAL ENTERPRISE.

It offers strong inducements for investment, as, in the hands of right parties, it can be made

THE VERY BEST PAYING CLASS JOURNAL PUBLISHED WEST OF THE ROCKY MOUNTAINS.

And the fact is beyond all question, that a journal of its kind is an absolute necessity in San Francisco, to represent all interests in any manner pertaining to the architecture, erection, decoration, furnishing, and completion in every detail, of buildings of every class, together with all mechanical, laboring, manufacturing, and producing interests.

ITS PRESTIGE.

Occupying the field alone during the past eight years—the quarterly of 1879 included—has gained for it a

SUBSTANTIAL AND PERMANENT ADVANTAGE

Over all possible competition. And its most favorable recognition by the class journals of the United States and Europe has secured to it a widely spread popularity and prominence, which time, energy, and money alone could secure. The journal and

all its interests are entirely free and clear from all indebtedness and incumbrances.

Its future in the hands of an incorporated company of architects and builders, collectively or separately, or of individuals seeking investment, with proper editorial and managerial appointments, can be made to yield a large return upon the sum required in its purchase and improvement; particularly so, if, combined with the journal enterprise, there is a complete outfit and presses added for general and job printing, in addition to the journal work. We have thus far continued the printing, etc., of the journal by contract, but have frequently considered favorably the arrangement above suggested, and declined its adoption solely upon the ground that such a course would augment cares and responsibilities of which we have had more than we wish to continue in the journal work alone, in addition to our numerous architectural engagements and duties.

It is but seldom that an interest of so great value and assured prospects is offered for sale, but, feeling the twofold weight of professional and editorial responsibilities, it is a personal duty to ourselves to be content with the results of the former.

Redwood vs. Brick Foundations.

IN the "early days of California," redwood was considered to be a suitable and lasting material for foundation purposes, and was almost universally adopted. Many stories were related in regard to its durability, among which was one, that a certain post then (1851-52) standing in a "perfect state of preservation" at Santa Clara, had been planted by "the fathers, a hundred years ago." The general impression prevailed that redwood would last for all time, and nothing better was necessary for foundations, as a rule. But experience has demonstrated the fallacy of these first formed opinions, and shown that the redwood of California yields to the processes of decay when placed in the ground, varying only in rapidity of decomposition, according to the special characteristics of the earth, sand, or clay formation in which it is bedded, and the sapless quality of the wood itself. The black-heart redwood is far preferable to the softer, more punky and fibrous wood, but for many years it has been difficult to obtain the better kind in quantities, without selecting and extra cost. So that while some of the earlier put in foundations, where the better quality of redwood was employed, have lasted well, the material generally used at the present time, and for a few years back, is from upland growth, and will not last one-half as long, particularly with the common practice of the day, not to spend any time in selecting the really good pieces, and rejecting the bad, but to "take it from the pile," using all that does not possess conspicuously bad defects; and contractors generally are not critical in their judgment on this score. When a load of lumber is sent to a building, the next most important question is its speedy consumption in the work of construction, which might be retarded if portions of the materials were set aside, and a delay occasioned until a substitution could be effected. So, generally the good and bad go in together, either and both of which answer all purposes to the fulfillment of the contract, and the matter of last and decay is left with the owner, as a matter to be attended to as after circumstances may develop.

The old-wood foundations of very many buildings have been substituted by brick, and many more will have to be. Some



St. Lewis Alley north end.

very good structures rest on wood foundations, but the progress of decay and settling is such that changes are necessary. The removal of the poorer for the better and more durable is always expensive, and more or less damaging to the edifice. The difference between wood and brick is so small that no prudent man who is not pressed in circumstances is wise to build on wood foundations.

There are, however, in San Francisco, localities where either redwood or Oregon pine will last for generations, if not forever. Along the filled-in city front, where timber is bedded below the

tide level, rot does not occur. Illustrations establishing this fact can be seen at the office of this journal, one of which is of Oregon pine, taken from the foundation of an old brick building which stood on the northeast corner of Battery and Sacramento

old bulkhead built on the line of Market Street, below First, on the property of Mark Sheldon, Esq., as nearly as can be ascertained, built in 1852, and removed in 1885, show no sign of decay. Each of these were, however, buried in the mud, at or below tide water. The fourth example, in contrast, is from a foundation renewed under a building erected on Sacramento Street, above Franklin. The house was built in 1874, and when re-underpinned, in the latter part of 1878, the redwood taken out was more or less badly rotten, and, as may be seen by the sample, portions of the mudsills so thoroughly decomposed that chunks of it can be crumbled up in the hand like so much dry earth, scarcely sufficient fibrous tenacity remaining to resist the gentlest touch. From the foregoing, it is proper to advise that owners who desire substantial and lasting buildings should in all cases adopt brick, stone, or other indestructible material for foundations.

Interiors and Furniture.

EDITOR CALIFORNIA ARCHITECT: It certainly seems to me that persons who contemplate building homes for themselves will do well to consider thoroughly all of the points and features, present and prospective, before giving orders for their plans. Now, we all know that the general course pursued is to consult an architect, tell him what kind of a house is wanted, how much money is to be expended, and if these primary considerations are all satisfactory, the order is given to proceed with the plans. The house is finally erected, but as the total cost may have exceeded first expectations, economy becomes necessary in the fitting up of the interior, and the furniture and elaborations have to be curtailed. Now, it certainly seems to me that most people display a want of good taste and judgment in profuse exterior finishes, and exhaust their means in that which possesses no practical value as far as the real comforts of home are concerned, as compared with the pleasures to be derived from a due consideration of, and provisions for furniture and internal finishes. But few owners consider these points, or consult with their architects as to what furniture and finish will best suit certain rooms. This matter they reserve to themselves, and hence great inconsistencies exist in many fine edifices. Now, in my opinion, it is important that more attention should be paid to interior fittings and furniture. The greater portion of the leisure hours are spent with the family around the fire-side, and therefore it is highly important that the surroundings should be pleasing, which cannot be when there is a lack of harmony in those things which the eye must see and the hands handle. The furniture and decorations should be suitable for the respective rooms. Among the first thoughts in connection with the building of a home should be the matter of furniture, so as to secure a final result

satisfactory in every particular, which can be obtained by proper attention in the premises. Often the pleasure excited by exterior appearances receives a check upon the survey of the internal finishes and furniture. The confusions of styles, and absence of appropriateness, diminish the final admiration of all parts. The trims and finishes of the rooms may be in the Gothic style, but the furniture may be of no style, or a medley of all styles



St. Lewis Alley south end.

Streets. It was placed in the ground in 1852, as planking under the walls of the building, and removed in 1875 for the erection of a new edifice. It is not only apparently as sound as ever, but exhibits signs of petrification, and perhaps would have maintained its soundness for a hundred years or more, if it did not by that time assume an everlasting character. Two other samples, one of redwood and another of Oregon pine, taken from the

—the chairs being, perhaps, Renaissance, the table no particular style, the mirror Grecian, the mantel Egyptian, and the carpet some gaudy thing without any particular appropriateness or design. Too much care cannot be exercised in these and all other particulars, so as to insure harmony and appropriateness. The matter of hardwood finishes is one which adds much to the comforts of home where there is an appreciation of the beautiful and elegant, while the extra cost to indulge in them, in certain rooms, is not so great as to preclude their use where absolute restriction in outlay does not exist.



FRONT ELEVATION.

But many men erect homes which they admire, but have no conception of the style of its architecture. The only thing clearly understood by them is, that the front door is the principal entrance to the building. But the effect of the interior finishes and furniture is a different thing. The commonest mind is enabled to distinguish between interior harmonies and distracted taste, or no taste at all. Consistency and harmony in these particulars enlarge and increase the pleasures of home; for where all the parts harmonize, pleasurable results follow, inspiring the sentiment, "there is no place like home."

It is not necessary to expend large amounts of money to accomplish the suggestions herein made. As a rule, furniture can be obtained made to order from original designs, at about the price that similar things would cost in any first-class establishment ready made, and it would certainly be more satisfactory.

A word or two on the subject of finishing may not be amiss. Take for instance the parlor. It should present a cheerful and pleasing appearance. The trim may be in some bright-colored wood, say butternut, prima vera or cherry, combined with black walnut; or, if preferred, make it all black walnut. The furniture should show quiet taste, simple in construction, but strongly made. If carvings are added they should be from natural subjects. In fact, a piece of furniture should be like a book—something from which to educate the mind. The carpets should be of quiet colors, harmonizing with the curtains and hangings. The hall, if laid in hard wood, say two inches wide, with a narrow carpet, presents a fine appearance; and if the hat-rack is placed in a recess, removes an obstacle which generally exists in halls; and if doors with cut or colored glass inclose the same, so much the better. A dining-room with floor of hard wood, either continuous lengths of narrow widths or in ornamental figures, would obviate the expense of carpets, except the cost of a rug in the center for the table, which, with neatly-

paneled wainscoting, paneled ceiling, and trim of openings in butternut or oak, or other suitable hard wood, make a neat finish. The side-board should be built in a niche, and in my opinion should be a picture of the building and part of the room. The table should be of proper size, with the legs well under it, so that those sitting around it would not be required to hold a table leg between their knees.

Now, my reader, let me remark, that when you are ready to build, take the advice of your architect in reference to the interior finish and furniture of your building. When you are sick, you send for a physician. When you want to build, consult an architect; and in doing so, consult him in everything, for his studies and experiences qualify him to be your best adviser.

W. D. B.

Honorable Emulations.

PRACTICED in the higher and more elevated senses, free from all the belittling influences of the human mind, they are proper and productive of good, and tend to higher developments, and greater and grander results to mankind. They are simply the result of mind upon mind, thought feeding thought, and he who produces the greater should honor the source from whence his thinking came. For the larger part of the brain, scientific and mechanical developments of the nineteenth century, derive their source of origination in something that has been suggested, produced, or expressed in ages gone by. There is scarcely anything of recent production which does not find its *thought inception* in the past; as the steam, with its ten thousand applications and uses, came to light through the humble teakettle, and the prolific brain of a boy. And those who have emulated and improved upon those first thoughts, are indebted to a very insignificant and humble origin.

The proudest achievements of the present day are largely the borrowed ideas of the past. Perhaps the origin in many cases may be very obscure, and their obscurity may almost obliterate identity, yet the germ has been planted in years or centuries gone by, and as still and quiet inspirations have come to men of later days, from inconceivable sources, their minds have enlarged and expanded into greater achievements, whether scientific, intellectual, or mechanical, commanding and receiving the admiration of the world. The world is a great school-house, and all men are scholars, some bright and apt to learn, while others are dull and slow, groping along in mediocrity and scaling down to the lower grades of humble life, and some sinking into the depths of vice and degradation. The apt scholars grasping, mastering, and perfecting the more difficult problems, bringing forth hidden treasures of mind and matter, and making the world wiser, brighter, and better. As the rains from the clouds descend to refresh, invigorate, and fructify the earth, causing the seed planted in the soil, the trees and flowers, to grow and mature, and produce other seed and fruit, so do good and bad, wise and unwise thoughts spread broadcast before the world give birth to other thoughts, similar in kind, and the fields of good and evil, advancement and retrograde, are replenished and enlarged by the daily developments of life.

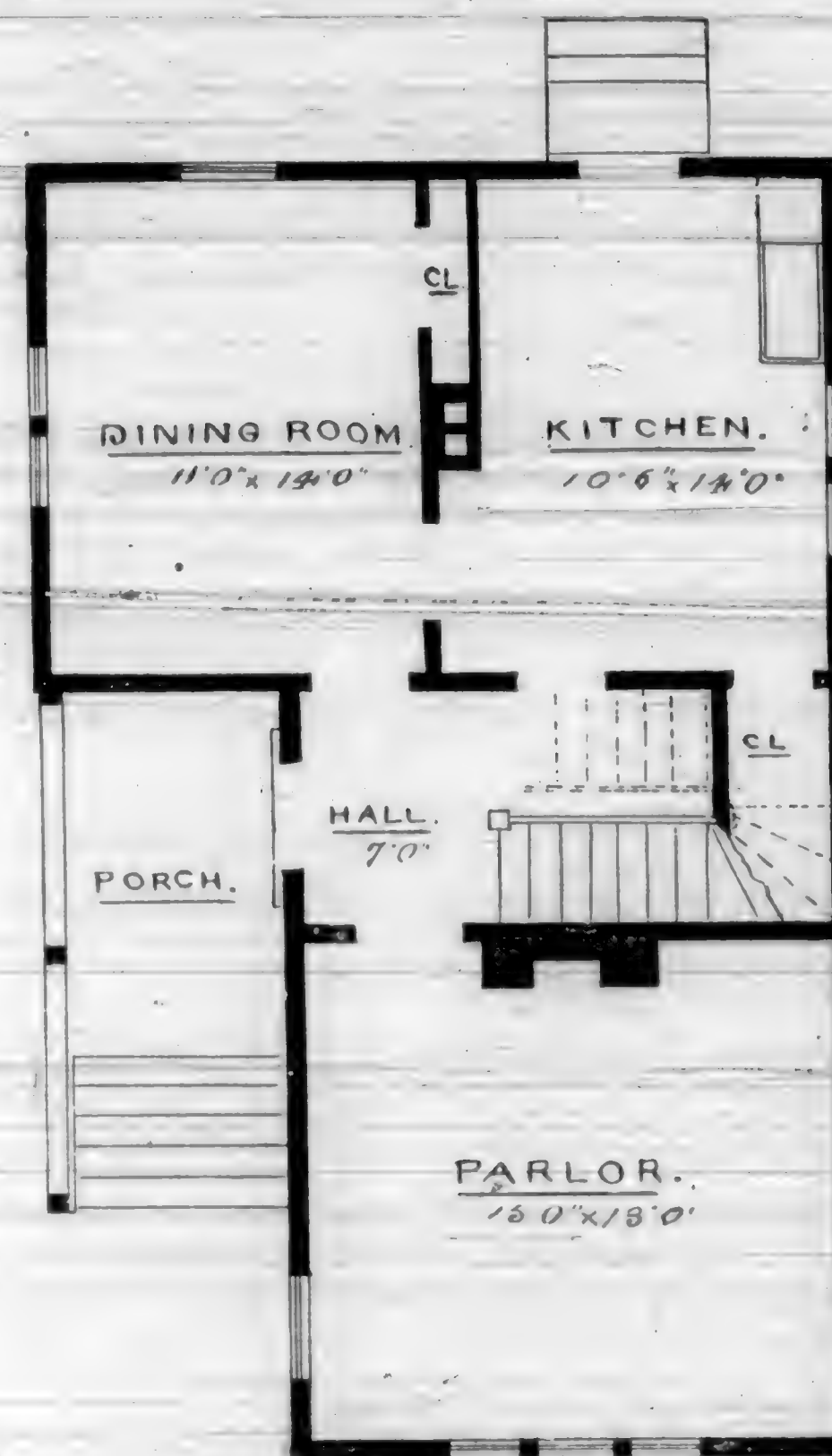
Personal glorifications too generally enter into results produced and laudations are poured upon those who have simply improved upon and perfected results, from the conceptions of some other and perhaps humbler minds to whom the birth right



PERSPECTIVE SKETCH.

properly belonged. As Jacob, through his mother's device, secured to himself the birthright of Esau, so have thousands since that time secured to themselves credit and praise for results produced, which would not have been conceived or reached by them, had not the origin existed in other quarters. Still, honorable emulations are proper, and the world and society are improved and

rendered wiser and better by the opening up of new, and the onward march of *improved thought*. And while present generations rejoice in their attainments over the past, they are furnishing ideas which will be emulated and improved upon in the future, by those who will hereafter perform their part in the great drama of life; and with increased learnings and experiences as age after age rolls on in the great volume of time, other and greater accessions will be made to the record of mind develop-



FIRST FLOOR.

ments, and one after another will appear on earth, simply to emulate, and still further improve upon the past and present, adding link to link, lengthening the great chain of human thought, results and developments, the ends of which will never meet, until human life shall cease, and the great family of mankind pass from earth.

REPORT OF COMMITTEE

APPOINTED BY

San Francisco Chapter, A. I. A.

TO CONSIDER AND REPORT UPON THE MATTER OF

PLAN COMPETITION

FOR THE PROPOSED

STOCKTON COURT HOUSE AND JAIL.

SAN FRANCISCO, May 14, 1886.

To the officers and members of San Francisco Chapter, American Institute of Architects:—

YOUR committee to whom was referred for consideration and report, the matter of competitive plans invited by the Board of Supervisors of San Joaquin County, State of California, in connection with the erection of a public building to be located in the city of Stockton, and for the purposes of Court House and county jail, respectfully report and submit the following:—

That the invitation issued to architects by said Board to submit plans for said building, contains provisions and features recognized by the profession generally as objectionable, and subversive of all right rules which should govern in all such cases.

That the conditions and propositions are inequitable, and therefore unjust; that the sums proposed as awards are insufficient—the cost of the building considered—and not so apportioned as to be an inducement to qualified and competent men, to employ their time and professional skill in the preparation of plans; that the apparent arrangements are such as to invite and make possible the practice of manipulations, the like of which, in many well-known instances have wrought great injustice upon architects who have relied wholly and only upon the merits of their plans

for success; that the retention by the Board of all plans receiving awards of premiums, should receive the unqualified condemnation of San Francisco Chapter, and all intelligent architects individually, as a suspicious means, through and by which great injustices may be, and in other cases have been accomplished, by the controlling powers selecting any one set of plans to receive the first premium, whether meritorious or otherwise; thus preparing the way for placing the work in the hands of preferred parties, and then in execution adopting in part or as a whole, either of the other premium plans, as the basis of construction; thus depriving their authors of the professional credit and financial profits which should accrue to them.

Such things are both supposable and possible, because known to have been so often repeated, that a large majority of qualified architects refuse to participate in any class of competitions; the fact being recognized in professional circles, that fair and just results are seldom meted out to participants.

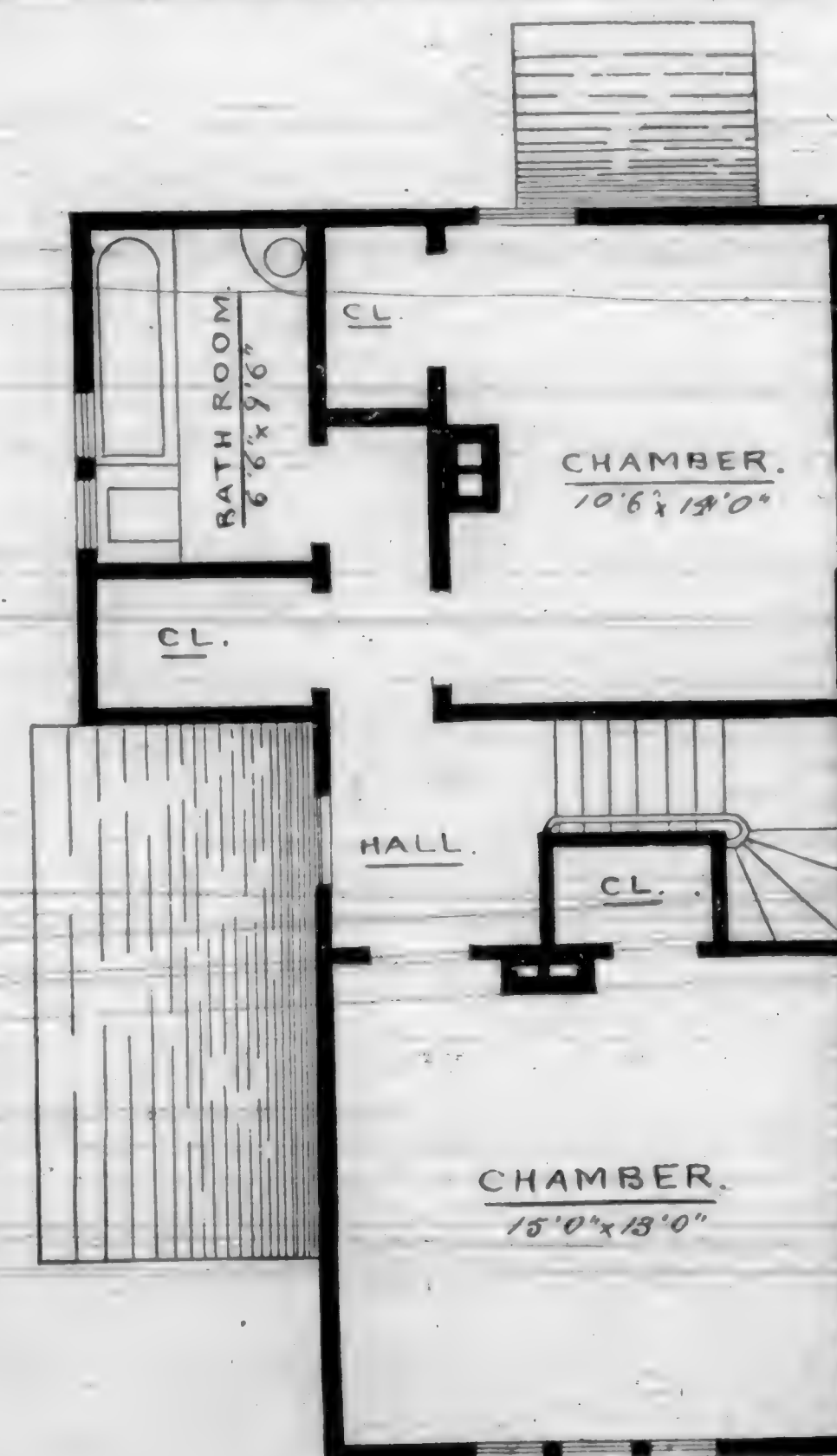
The propositions tacitly expressed, to terminate all architectural services with the adoption of plans, is unjust. If this is adhered to, then the all important and material work of details and construction must be entrusted to some favored party, who may or may not be competent. Whether this is intended as challenging the integrity of architects, or is provided to serve special purposes, it is a course which, if persisted in, must and will militate against the best interests of the commonwealth supplying the funds for construction. And if the proposition is not suggested in good faith, with full intent to carry the same into practical execution, then its present intimation is misleading and deceptive.

The Board certainly has erred in withholding the assurance of full architectural services and fee to the successful competitor. The right of an architect to furnish details, and supervise the construction of buildings planned by him, is one recognized and held throughout the profession, universal—as sacred. It cannot be questioned that the man who conceives and matures thought and study into practical illustrations on paper, is the better and only one fully qualified to exemplify such thoughts in practical execution. Plans are but outward expression of general ideas in tangible form—the germ of proportions and fitness lying in the development of the unexpressed thoughts, made complete through the harmonies and combinations in the details.

The need for the services of architects in planning important edifices, is universally conceded, in and by the fact that such services are sought in all such cases, as an indispensable requirement—Stockton not excepted; and so sought because of their value and materiality. Then why these studied efforts to withhold from those whose services and skill are admittedly so essential, fair, full and right compensation for services performed?

An important omission also appears in the entire absence of any provision for an impartial and intelligent arbitration of the merits of the respective plans. While this should be done by experienced and reliable men, fully qualified by practical, architectural and mechanical experiences—men entirely disinterested and free from all bias and personal or local interests or feelings,—such determination, and the rights and equities of the competing parties are left contingent upon the judgment, whims, and caprices of the honorable Board, and such influences as may be brought to bear.

It further appears that this is another of the numerous cases in which



SECOND FLOOR.

the attempt is being made to procure three sets of plans for a public building, at a price far below the rates of charges established by architectural societies, and the usages of the profession the civilized world over—for a single set—total cost of building considered; in addition to the large wastage of time and labor by those whose chances of any award is exceedingly remote and doubtful.

While it may not be, and confessedly is, not within the province, power, or influence of San Francisco Chapter, nor any number of chapters combined, to define and dictate rules, regulations, and methods of procedures in matters of competition for any class of building, nor to prescribe and regulate conditions, fix rates of compensation, nor determine the rights and privileges that shall be held as binding in such cases, we may, as a Chapter, and as individual architects, express our hearty disapproval of practices and procedures which are calculated to be, and in numerous well-known instances have, been so prolific in impositions upon our fair and equitable rights, that the echoes of favoritism, tricks, schemes, plots, and manipulations are, and reasonably may be pre-supposed in every case where general competitions are invited.

The intimations outlined may appear comprehensive, and to some questionable; but the facts known in architectural circles are such that we feel warranted in the assumption, that the reasonable and possible proofs fully sustain all and more than is intimated in this report.

We further recommend that no member of this Chapter, nor any reputable practicing architect in this State, countenance or participate in the competition in question, nor any of like objectionable character that may hereafter be offered for general competition.

In conclusion, we claim that, as a Chapter, and as individual members of an honorable profession, we have just and honorable rights which should be respected by those desiring our professional service; that the intelligence, knowledge, skill, and proficiency enjoyed by all qualified architects, are the results of arduous study and earnest devotion to their high calling, and as a Chapter, and as individual members, we would not be just to ourselves to remain silent and permit infringements of our rights to pass without an expression of disapproval.

All of which is respectfully submitted.

JAMES E. WOLFE,
HENRY C. MACY,
GEORGE H. SANDERS,
WILLIAM CURLETT.
Committee.

The above report was unanimously adopted as expressive of the views and sentiments of the Chapter upon the subject matter involved in the report.

Art and Architecture.

[Special for this Journal. By F. HILLERT, Architect and Mechanical Engineer.]

IN the first part of the present century, some architects at the time had the praiseworthy ambition—so far as the ambition went—to invent the sixth order of architecture; but it was simply recommended to them to study the orders existing, to study the principles of art and the laws of nature governing them.

This continent was settled by the Caucasian race of Europe. The southerly part was invaded and conquered by Spain, the conquerors having in the one hand the sword, in the other the emblems of Christianity. Judging from the constant strife and struggle, the Spanish conquerors were not able and rigorous enough to create out of the existing and destroyed civilization a new and better culture. The object of the conquerors was to gather from the conquered, treasures to be brought to the homes of the conquerors; they gave nothing in return. Christianity has not fulfilled its mission.

The northern part was peaceably settled by emigration from nations of the European countries, the emigrants bringing with them their customs, knowledge, culture, and unlimited energy, to make themselves here a new and happy home under the wings of liberty, social and religious, and a moderate climate, conditions required for a progressive, higher culture, if not retarded and stopped by political strife, interference and undisputed dishonesty.

The culture forming here had its beginning, its history, and tradition at the homes of the emigrant, and to there we must look and turn for information and assistance. So is it with art and architecture. The architect cannot invent a new style of architecture, unless he invents and applies a new building material, of a different cohesive structure than the one used in old and present times.

Art and architecture, to produce works of art, result from the collective exertions of all nations, from the very cradle of humanity. A true work of art will only be produced by genius, or by the application of rules on esthetics, reason formed from art work, and based on the laws of nature, and not by trying to produce something without that thought and phantasy have been exerted. The rule of thumb will not make a new style. Some works of pretension, appearing in execution and in print, show no symmetry and symmetrical equilibrium; do not bear out the stamp of purpose and utility. They are unnatural, and not truthful. They show really the want of knowledge of the beautiful, and of thought; and simply to criticise them in the spirit of art, would be doing injustice, unless it is known that the

designer was in possession of the laws of the beautiful, when, being conscious of the same, he would and could not help using and applying them.

When architecture follows the dictations of popular fashions, of an unartistic taste and useless purpose, and imitating those vagaries and abnormalities of an unhealthy imagination, over and over again, then this is a sign of a degenerated art time. When architects of some pretensions send off such work on the public, such artists have failed in their mission as instructors and cultivators of the public taste. Art, then, has failed to take its place in the general culture of mankind.

Modern architecture has no new style or types. It uses old perceptions, improving them in form and beauty, assisted in the execution of this work by a perfected mechanism and skill. Different is it with mechanical science, which in the last half century has made large strides in the progress, aided by the progressive sciences. To it society is indebted for the immense progress made in every branch of human activity.

I. UNALIENABLE DRIFT IN MEN FOR ACTIVITY.

The necessity of self-preservation compels man, even at the lowest state of culture, to express his wants and make an effort on the natural things surrounding him, to use them to satisfy his wants. The cravings of hunger compel the individual man to seek food to sustain his existence; the feeling of cold, to find shelter; these, and other wants and needs, compel him to exert his mental and bodily powers to provide against them. The first and primitive drift in man, is a deeply seated instinct for the exertion of his energies.

The result of his exertions on the outside world, and the benefits derived hereby, create in him not only satisfaction, but also the action itself. The feeling of his power, and the confidence in using the same, create pleasure and delight in him. He is urged from action to action; and therein rest in human beings an unalienable drift and impulse, the proof of which every leaf in history shows, and a glance in his own bosom proves.

II. THREE KINDS OF ACTIVITY.

In three kinds of activity, in which all human efforts range and concentrate, this natural drift shows and expresses itself, and obtains final results, which designate and mark the highest



possibilities of our feeling, actions, and thinking. As ideal, without which human being is impossible, and accordingly to it, are set up the ideas of liberty, immortality, and of God himself.

Liberty is the highest aim of our will, to which reason prescribes the laws of morality, without which, liberty is impossible. The idea of God leads to truth, then out of the conception of God, as the highest condition of the possibility of all, follows the perception of truth. The idea of immortality leads to beauty. Then the preservation of human products in their first original form, amid the constant changes of nature, gives us a presentiment of eternal duration, and we name, without prejudice to other definitions of beauty, the most perfect of such products, out of which, more than of others, the semblance of imperishability is shown, beauty.

The aims of all human efforts are, therefore, in intellectual respects, truth; in ethics, liberty, and in esthetics, beauty.

III. EXISTENCE OF THE SAME.

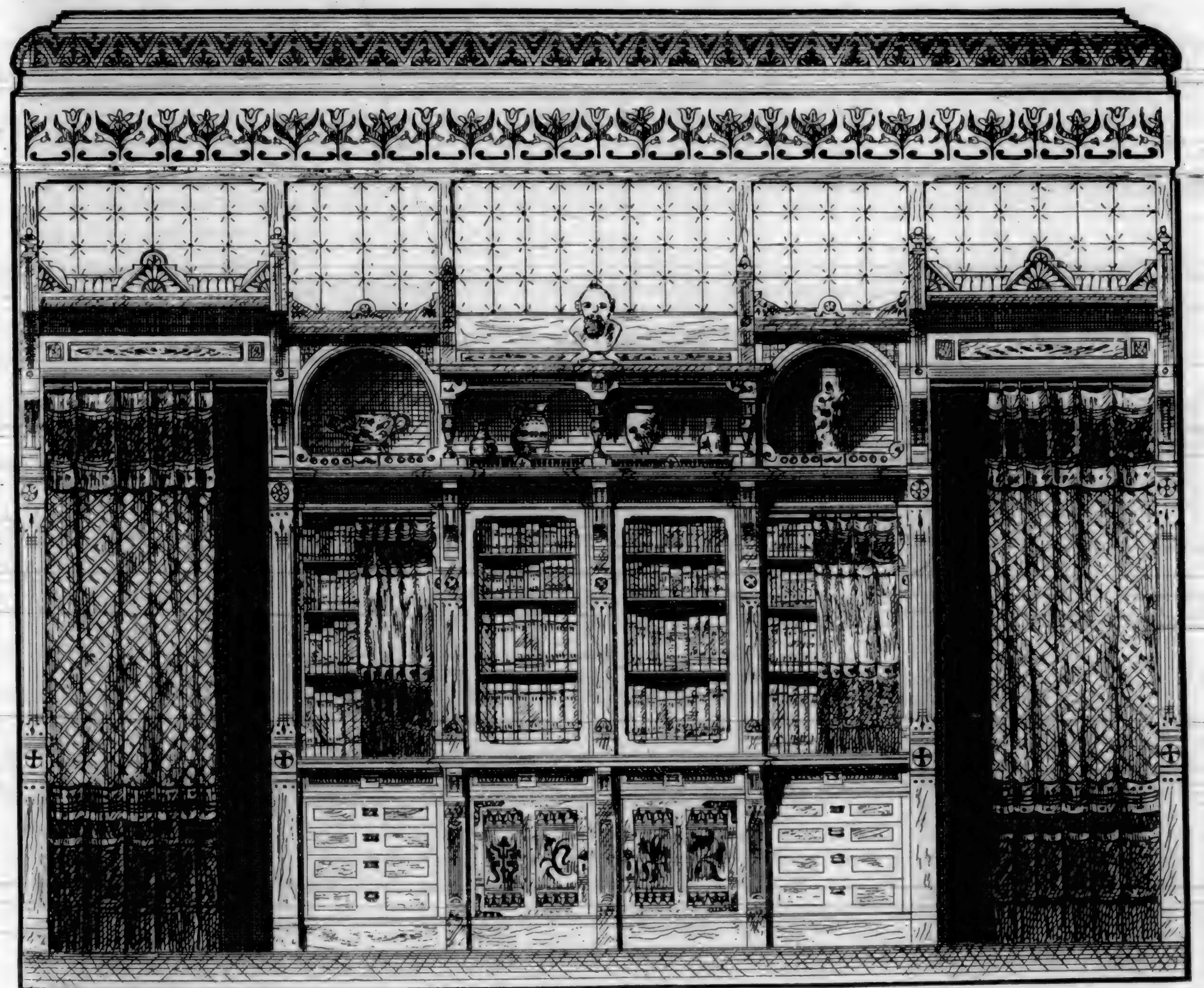
The natural instinct in its three different forms exists in every man, and shows itself with all nations, from the first and oldest traces of human culture up to our present day. The child's

question, "What is it," on seeing a strange object, is an expression of his inner instinct after truth. The struggle of a grown person with his bad instincts is nothing else but his effort for liberty; and the crippling of the feet of the Chinese woman is only the outcome of the instinct for beauty. Everywhere are perceptible the traces and the results of the activity of these impulses; here, in a known, clear practice; there, in an unknown, instinctive expression; here, in a uniform, systematic relation; there, in a sharp contrast of crude exaggeration and stupid neglect. With the India man the intellectual capacity is very small, the ethic laws deficient, and the esthetic creations, or forms, variegated exaggerations of an unclear phantasy. Harmony and accord predominated with the ancient Greeks. In the Middle Ages the intellectual stood back. Ethic and esthetic were shrouded and tied to positive, unremovable and fixed statutory laws and forms. In modern times these spheres balance each other more and more.

time created a clear way and put a stop by the secretions of the sick places; at least it tried, even if not everywhere with success; and open warfare exists yet between its spirit and the one of its predecessor. But only in conflict man tries his powers, and is the same decided, destiny will call on him again. But our time makes its moral law by the sentence, "Do good for the sake of good," which is comprehensible, and points hereby to the rapture consummated to the obedience of human fancy or to the dogmas of ecclesiastic by means of education to the belief of temporary or eternal punishment or blessedness.

V. IN THE INTELLECTUAL SPHERE.

The thoughts of men moved in an uninterrupted progressive education through centuries, even if the particular developing epochs were only of short duration and seldom returned. But in the time between them the attained culture acted quietly and powerfully, in making large strides onward, and preparing out of



WALL OF A LIBRARY.

IV. PROGRESSIVE DEVELOPMENT OF THE SAME. FIRST, IN THE ETHIC DOMAIN.

Only those denying history will dispute progress, and deny the educational advance made by mankind in ethical respect, during the last thousand years. From barbaric custom and degrading slavery, men lifted themselves to a regulated form of state, and to nobler, finer sentiments. But neither the theocracy of the Jews in their supersensible doubtfulness, nor the democracy of the Greeks in their dissoluble development; neither the Jew's polygamy, nor the Greek's contempt of woman, designate a happy solution of the important part of the moral problem. Milder customs and perceptions were brought about and introduced by Christianity. But the sanctity of family, love of fellowship, and the pure moral laws, stood under an outside influence, not necessarily belonging to the spirit of Christianity, and gradually threatened to destroy the fruits of one and a half thousand years—threatened to make the priest a god. Our

itself a new power, which again, together with the remnants of the old, started the same developing process over again. From the nearest outside things to begin, which thought men, as if it were, the spelling of thinking, he went over to other meditations on himself, inquiring after the laws of thinking and the boundary of his reason; he inquired after the connection of nature and the cause of all being—God.

VI. IN THE ESTHETIC SPHERE.

Not less is the same continuous succession to a continuous higher development in the esthetic sphere in existence. If we concentrate the exertions of the human intellectual drift in this direction in the widest sense, we comprehend hereby every change made on the objects nature has offered, and we will here unite all arrangements for the exterior living—all things that serve for the necessity, utility, convenience, education and the pleasure. It is evident that from the men of remote antiquity, living in forest and caverns, to the men living in wooden huts or

solid houses, the most influenced progress took place. Just so from this to the one which gave to the letter thousand tongues; to the wheel the speed of the wind; to the transmission of thought the speed of lightning. So on in general and the whole. A certain kind of things is between them, which we do not actually call necessary, useful, instructive, or agreeable, but which we call beautiful. These we separate and select from the many, to explore, investigate, and unite scientifically; and this is the problem of art history. To recognize their beauty and prominently the spirit of them, is the subject matter of the fine arts, or esthetic, in a limited sense.

The word esthetic means every observation made by our senses. In such an expansion it was used, setting in opposition esthetic and logic in relation to the sensible observation and reason. In the late new language, it is confined only to beautiful things, and we understand, in general, by esthetic, the science of the beautiful.

VII. CONTINUOUS PROGRESS IN ALL THREE SPHERES.

The progress in intellectual, ethic, and esthetic relation increases in an uninterrupted succession, notwithstanding the seeming retrogradation and stagnation in the activity of man; and with his larger achievements grows his next problem, and so on; thus a never-resting process of development is uninterruptedly effected, being the result and consequence of preceding conditions and the necessary conditions of all later exertions. Then it seems as if at many times, many nations were at a complete standstill; that the development and progress of the human race was at rest. This was even only seemingly. Unobserved, here and there, are germs of culture formed, and at another place just at the same time important visible steps of progress are made. An illustration may be cited: the first centuries of our independent Christianity. They discarded the old culture, philosophy, forms of state, literature and art, and returned in thinking and forming to cruder customs, their ethic feeling inclined to supersensible fanaticism, and missed frequently the right position and relation to actual life. But notwithstanding this clearly visible retrogradation, the most powerful progress was effected in the necessary fundamental principles, and later centuries proved that this time was of a far-reaching consequence, and its appearance was conditioned by the inner necessity.

VIII. COMMUNITY IN ALL THREE SPHERES.

The expression of the esthetic impulse in man is the first; then, before he is capable and in a position to think and to act morally, other objects impress on his mind, through his senses, and his necessary wants and requirements compel him to approach them direct, and unknowingly make them serviceable to himself. His first exertions are instinctively those of forming, moulding. From the simplest forms of formation, the club, broken from a tree, with which he killed an animal, men progressed continuously to make a multitude of well-formed instruments and tools, made well-arranged habitations, hereby above all assisted by the prometheic gift of the fire. But now he began to act; the one was the master of the other; parents brought up their children; families united to larger communities; and, lastly, originated from many such families and communities a whole—a State—in which ruled a law made and sanctioned by all, or they were governed by the fancy of a chief. In the same time the unknown impulse led men to inquire of the cause of the nature surrounding him, and also of himself, and brought him to think of the same as of a divine spirit. So was religion formed. Inasmuch as not one has much truth, as imperfection and sham is in each, they are, nevertheless, the most important means of culture of the human race, and early man manifested the desire to make himself of that which he venerated as the highest cause, a picture or image, to give to his sensitive views a nutriment heretofore required. If now he venerated the fire, it was easily made; was it an animal, he shaped it as well as he could, or something similar; was it a higher developed spirit, he fell to the impossibility and adhered to the commands which the servants of this god, the ecclesiastics, proclaimed as his divine will. Fitting samples are the Brahman pictures of the India people, with their fantastic monstrosities. Liberal thinking outside of the ecclesiastic rules could alone be serviceable in this direction, and, consequently, art returned to the simple and natural. So with the Greek nation. When the human race has once outgrown its primitive condition, its impulses are rarified and refined from the instincts to the known, and are in a constant reciprocity, leading in a constant flow to a harmonious expression of all impulses together. The action must be forethought; the forming and shaping desired and wanted; and even thinking itself can only, by exercise, give sense to those of action and forming and made capable to turn to the abstract; then a purely contemplative

condition towards nature cannot be thought of. In this large, general, and intensive reciprocity, men strive together for truth, liberty, and beauty, and try to perfect their beings in every direction.

(To be continued.)

The Average Life of Buildings.

How long does it take for a city to re-build itself? said the Building Inspector. "Well, that depends upon the progressiveness of the city. I should say about seventy-five years. That is the average life of a building now-a-days. There are very few houses in this city that were standing seventy-five years ago. The old houses on North Capitol Street, built by General Washington, are older than that, and there are other old buildings, but I am speaking of private houses. The buildings erected by the Government, under careful supervision and at great expense, of course, are more durable structures than those erected for private residences. The building which is being erected by Mr. Abell, on F Street, will cost more per foot, I suppose, than most Government buildings. No; it may not be a good investment, but it is not being put up as an investment; it is a monument. The new State, War, and Navy Department Building is, however, just as well built as that. That building will be standing a thousand years from now. It may, of course, need some repairs before that time, and the roof, of course, may have to be rebuilt. No material or work is allowed to go into that building unless it is up to the standard. The army engineers who have charge are very strict. Of course a private individual would not put up such a building. It would not pay. Yes; good brick ought to be as durable as stone. It depends a great deal upon the manner in which the bricks are laid. Good mortar becomes harder with age. It becomes harder than the brick itself. When dry bricks are laid during the warm months the bricks will absorb all the strength of the mortar. Brick laid at such a time ought to be wet. A wall erected in April or May, or October and November, of sufficient thickness, ought to last two or three centuries."—*Washington Star*.

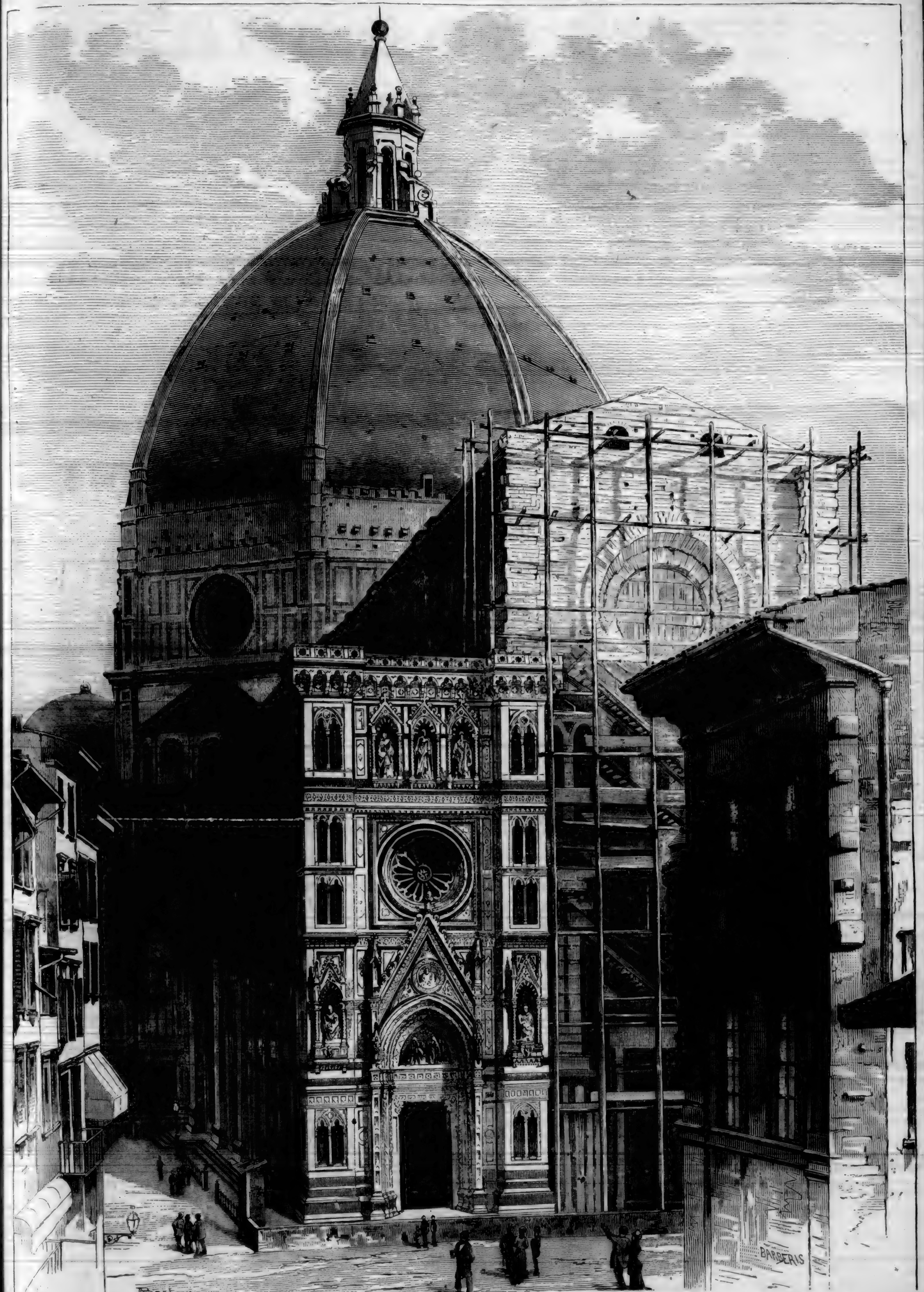
In a recent editorial article entitled "Architectural Conservatism Indoors," the *British Architect* draws the following characteristics of English architecture:—

"We are, as a profession, too conservative, and too apt to reject a useful suggestion because it happens to be new and contrary to our preconceived notions of what is right according to recognized rules and practice. We think some of the fault of this conservatism can be traced to a lack of thorough education, and the consequent inability to found a correct judgment upon things practical and theoretical, which may not have been included in past experience. Then, again, we need a more liberal spirit of inquiry amongst us, and instead of using a material or an article merely because it is made by a particular firm, there should be some certain knowledge on the part of the architect that no better is in the market. And when a new suggestion is made, or a new invention brought out, which has a reasonable likelihood of being turned to practical account, it is as well to try how best it can be utilized, rather than to see how effectually we can put stumbling-blocks in the way of its adoption."

Much of which is, without doubt, equally true of our American architects.

According to the *British Architect*, there is some talk of erecting the huge metallic tower invented by M. Eiffel, the mechanical engineer, on some convenient site within the precincts of the Paris Exhibition Buildings, and it is also satisfactory to know that a jury of experts will be impaneled to decide upon its structural safety prior to its erection. It will be 300 meters in height, and entirely constructed of iron. It will rest on five pillars, forming four immense arcades, lofty enough to exceed in height the towers of Notre Dame. On the summit of the tower will be erected an electric light-house, and a terrace to which visitors will be admitted. The form of the tower is specially adapted to give it stability in high winds. The oscillation at the top, under the influence of the most severe storm, will not exceed 75 centimeters. On a first platform, at a height of 70 meters, there will be a gallery of glass, which may be used as a café, or restaurant. A lift will take visitors to the summit. The expense of construction is estimated at from 5,000,000 to 5,500,000 francs.

The elaboration of interior decoration with hard woods is increasing to a great extent in the cities, and daddoes of satin, maple, cherry, mahogany, etc., are freely used.



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Another old friend, the CALIFORNIA ARCHITECT AND BUILDING NEWS, is greatly improved by its new form and style.—*American Architect*, Feb. 13, 1886.

The first number of the eighth volume of the CALIFORNIA ARCHITECT AND BUILDING NEWS appears in an enlarged form and new type. These signs of prosperity denote an appreciation of the journal by those in whose interests it is ably conducted.—*S. F. Chronicle*, Jan. 18, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS.—We find it one of the best architectural journals published, and, unlike some journals, it believes in justice to all, and upholds all legitimate efforts for the elevation of mankind, whether "professionals" or "laboring men." We wish it success and recommend it to our readers.—*Granite Cutters' Journal*, Philadelphia, Pa., Feb., 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS has been enlarged and much improved. The number issued to-day would be a credit to any city.—*S. F. Daily Report*, Jan. 16, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS in its new dress and make-up renders it more acceptable than ever. It is always replete with valuable matter, and is ever an acceptable visitor.—*Alameda Encinal*, Feb. 8, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS appears in greatly improved and enlarged form. The current number, we think, is the best that has been issued. It shows wonderful improvement within the past two years. It is just such a journal as is needed for the Pacific Coast.—*Northwestern Farm and Dairyman*, Feb. 11, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS, enlarged and much improved in appearance. As to its contents, it has always been good. It is the best class paper that comes to our table, and we always find it worth perusal.—*Lakeport Democrat*, Feb. 20, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS appears in an enlarged form and new type. These signs of prosperity denote appreciation by those in whose interest it is ably conducted. It has a large circulation. We wish it success.—*Weekly Sun*, Jan. 23, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS is the leading architectural monthly of the Pacific Coast. Its articles are well written on important topics.—*Brooklyn Real Estate Review*.

The CALIFORNIA ARCHITECT AND BUILDING NEWS is the official organ of the association of architects, and is a fit representative of that interest. It should find a wide circulation.—*Petaluma Weekly Argus*, Jan. 28, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS comes to us this month very much improved in every way—a decided credit to the Pacific Coast.—*Brick, Tile, and Pottery Gazette*, Jan., 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS is a very useful and interesting publication. It is handsomely illustrated with designs for home and business buildings.—*Reno Evening Gazette*, Jan. 21, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS is a monthly journal devoted to architecture, building, decorating, and furnishing, and is the official organ of the Pacific Coast association of architects. In its enlarged form it is most admirable.—*New Age*, S. F., Jan. 21, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS, in its enlarged and improved form, is a publication which will interest all who are connected with the building trade.—*News Letter*, Jan. 30, 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS comes to us very much enlarged and improved. It holds its own remarkably well against the older Eastern journals of the same class.—*American Building Association News*, Chicago, Feb., 1886.

The CALIFORNIA ARCHITECT AND BUILDING NEWS is an invaluable periodical, not only to architects and contractors, but to house owners as well. It gives valuable plans for houses, and careful attention to drainage, ventilation, and sewerage.—*Daily San Jose Herald*, Feb. 8, 1886.

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