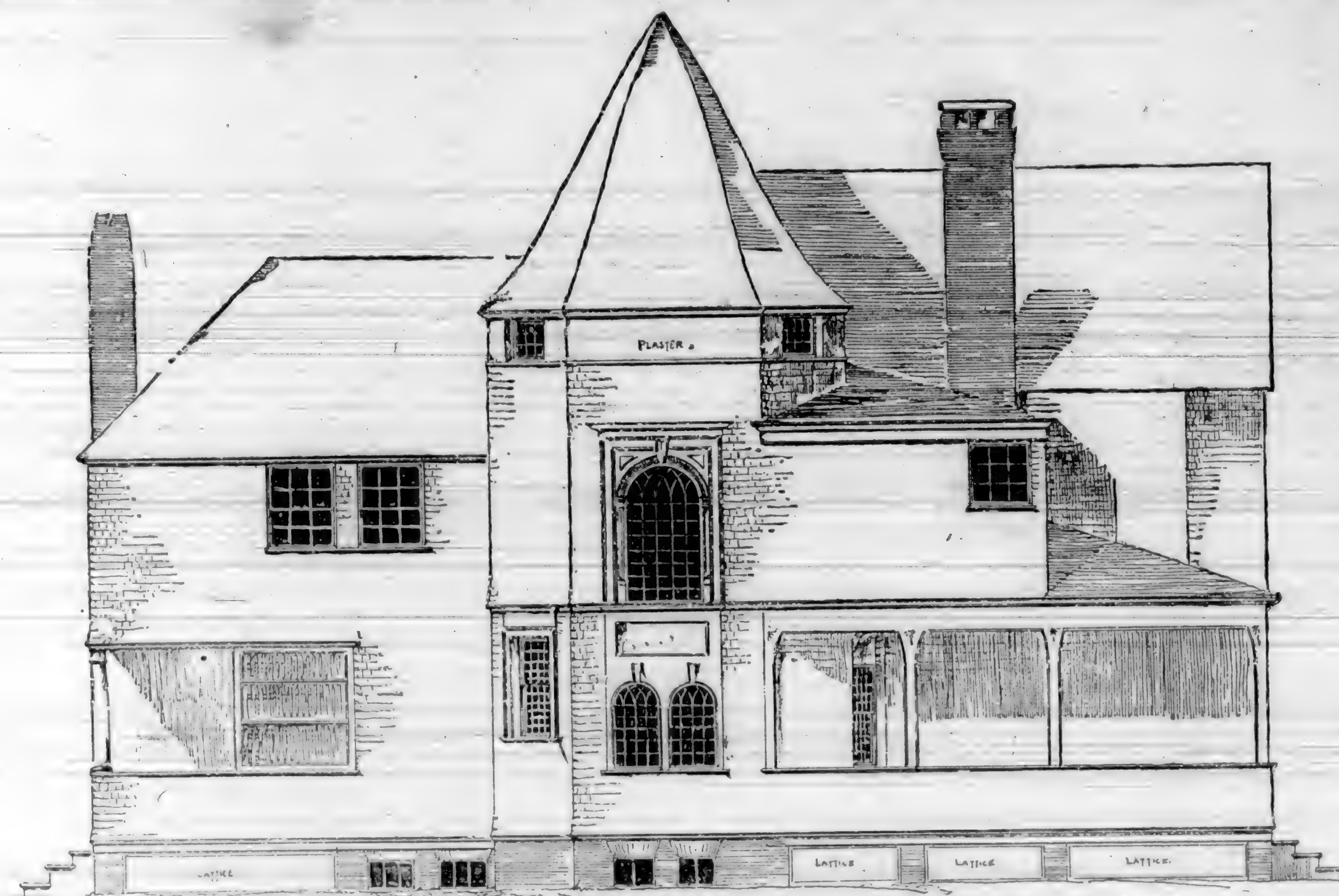




SIDE ELEVATION OF \$5,000 COUNTRY DWELLING.—SECOND PREMIUM DESIGN.

thing resembling it in this State. The elevations of the front, sides and rear being given, will enable any one to clearly understand how the house will look when finished.

ESTIMATED COST.

Below in full will be found the cost of the various parts of the work, as computed by the architect. It is greatly under the cost of the same design, if erected on this coast. The amount quoted for plumbing is greatly underestimated. Here we would not be satisfied unless each of the principal chambers contained a wash bowl. Multiply the figures given for plumbing by six, and the amount would be the average cost here of plumbing for a house of the size shown.

A great disparity occurs also in painting, the figure given would at least have to be multiplied by TEN, to obtain an estimate for which the work could be considered in this city. The price of lead and oil is very near the same as in the East, and we fail to comprehend wherein such a difference can occur. We give the estimate as prepared for publication and each one can study the differences in prices as they find time so to do.

California Architect—\$5,000 House Competition—Submitted by "Garrick."

Estimate of Quantities and Prices of Materials in, or Vicinity of, New York City.

THE following prices are given, including the labor of putting in place, also, in their respective requisitions; the price includes the necessary mortar, nails, glueing, wedging, etc.—

MASONRY.		Rafters, 2"x6"x12'-0", 22 sticks @ 35c.	
Excavations, 290 cu. yds. @ 28c. per cu. yd.	\$ 81 20	a piece.	7 70
Stone work, Foundations, 202 cu. ft. @ 12c. per cu. ft.	24 24	Furring strips, 1 1/2"x3"x12'-0", 120 sticks @ 12c. a piece.	14 40
Flagging, 61 sq. ft. @ 70c. per sq. ft.	42 00	Sheathing on roofs, 2,320 sq. ft. @ 5c. per sq. ft.	116 00
Window sills, 11 @ 80c. a piece.	8 80	Sheathing on sides, 2,996 sq. ft. @ 5c. per sq. ft.	149 80
Pier plates, 13 @ 50c. a piece.	6 50	Shingles on roof (5" to weather), 2,210 @ \$8.00 per thousand	17 68
Chimney caps, 2 @ \$4.00 a piece.	8 00	Shingles on sides (4 1/2" to weather), 2,990 @ \$8.00 per thousand	18 32
Brick work, for walls and piers, 4,870 @ \$18.00 per thousand	88 66	Moulded and turned (exterior work). Water table, 163 ft. @ 25c. per ft.	40 75
Brick work for chimneys, 1,060 @ \$18.00 per thousand	19 08	Belt course, 28 ft. @ 30c. per ft.	8 40
Brick work for fire-place facings (pressed brick), 6 @ \$19.00 a piece	114 00	Cornice, 251 ft. @ 38c. per ft.	95 38
Tiling for fire-places, 4 @ \$22.00	88 00	Window sills and baluster rails, 140 ft. @ 22c. per ft.	30 80
Plastering (includes lathing). Outside (rough sand-finish), 14 sq. yds. @ 32c.	4 48	Architraves on first story, 6 @ \$5.00 a piece.	30 00
Inside (hard finish), ceilings and under side of stairs, 360 sq. yds. @ 35c.	126 00	Piazza approach steps, 2 @ together.	9 00
Inside (hard finish), sides, 1,062 sq. yds. @ 35c.	371 70	" posts, square and cantilivers @ \$8.00 a piece.	40 00
Masons.	\$982 66	Piazza post, round with cap and base.	10 00
CARPENTRY.		Piazza screen, 60 spindles @ 20c. a piece; one frame @ \$5.00	17 00
Scantling, sills and girders, 6"x8", 241 ft. @ 40c. per thousand ft.	96 40	Piazza sheathing of ceiling and sides, 620 sq. ft. @ 20c. per sq. ft.	124 40
Plates and enteries, 4"x6", 454 ft. @ 40c. per thousand ft.	181 60	30 windows, box frames, blinds, sash and architraves @ \$12.00 a piece	360 00
Studs, 3"x4"x12'-0", 620 sticks @ 24c. a piece.	148 80	16 windows for attic and cellar @ \$3.00, swing on pivots	48 00
Sleepers, 6" diam., hewn on one side, 190 ft. @ 3 1/2c. per ft.	6 65	1 window, elliptical	6 00
Floor beams, 2"x10"x16'-0", 72 sticks @ 40c. a piece.	28 80	1 " staircase	33 00
Rafters, 2"x8"x16'-0", 164 sticks @ 40c. a piece.	65 60	Carpentry	\$1,716 08

JOINERY.

Doors, 3 outside doors with glass panels and trim @ \$8.00 a piece.	24 00
Doors, 1 outside split door.	25 00
Doors, 27 4-panel doors @ \$10.00 a piece (including trim and hardware)	270 00
Floors, 1,280 sq. ft., 9" wide @ 6c. per sq. ft.	76 80
Floors, 1,564 sq. ft., 3 1/2" wide @ 10c. per sq. ft.	156 40
Baseboard, 432 feet, 8" high @ 25c. per ft.	113 00
Wainscot, 120 sq. ft., for bath-room and water-closets @ 25c. per sq. ft.	30 00
Jobbing, fittings for water-closets, laundry tubs, kitchen sink, coal bins, cold air box, etc.	30 00
Staircase, servants, 23 risers @ 20c., 21 treads @ 28c., 7 newels @ 4c., 42 balusters @ 20c., 14 feet of rail @ 17c., total	24 20
Staircase, main, 32 risers @ 30c., 21 treads @ 40c., 4 rounded treads @ \$1.00, 16 newels @ \$1.75, 153 balusters @ 60c., 5 landings @ \$3.00, 51 feet of rail @ 40c., total	177 20
Allow for bed-room mantels, 5 @ \$15.00 a piece.	75 00
Allow for parlor finish with mantel.	100 00
" dining-room finish with mantel and side-board	150 00
Allow for first story hall finish with mantel and vestibule	100 00
Allow for second story hall finish with mantel	75 00
Allow for fitting shelves and doors to medicine closet	8 00
Allow for fitting shelves and hooks in other closets	12 00
Allow for shelves and glass doors in cupboard in butler's pantry	10 00
Interior finish, total	\$1,456 60

TINNING.

Flashings, 630 sq. ft., all painted and laid @ 10c. per sq. ft.	63 00
Gutter, 140 feet of 5" gutter @ 4c. ft.	5 60
" hooks, 30 ornamental @ 20c. a piece.	6 00
Leaders, 90 ft. of 4" leader pipe @ 5c. per ft.	4 50
Leader straps, 12 ornamental @ 40c.	4 80
Tinning, total	\$83 90

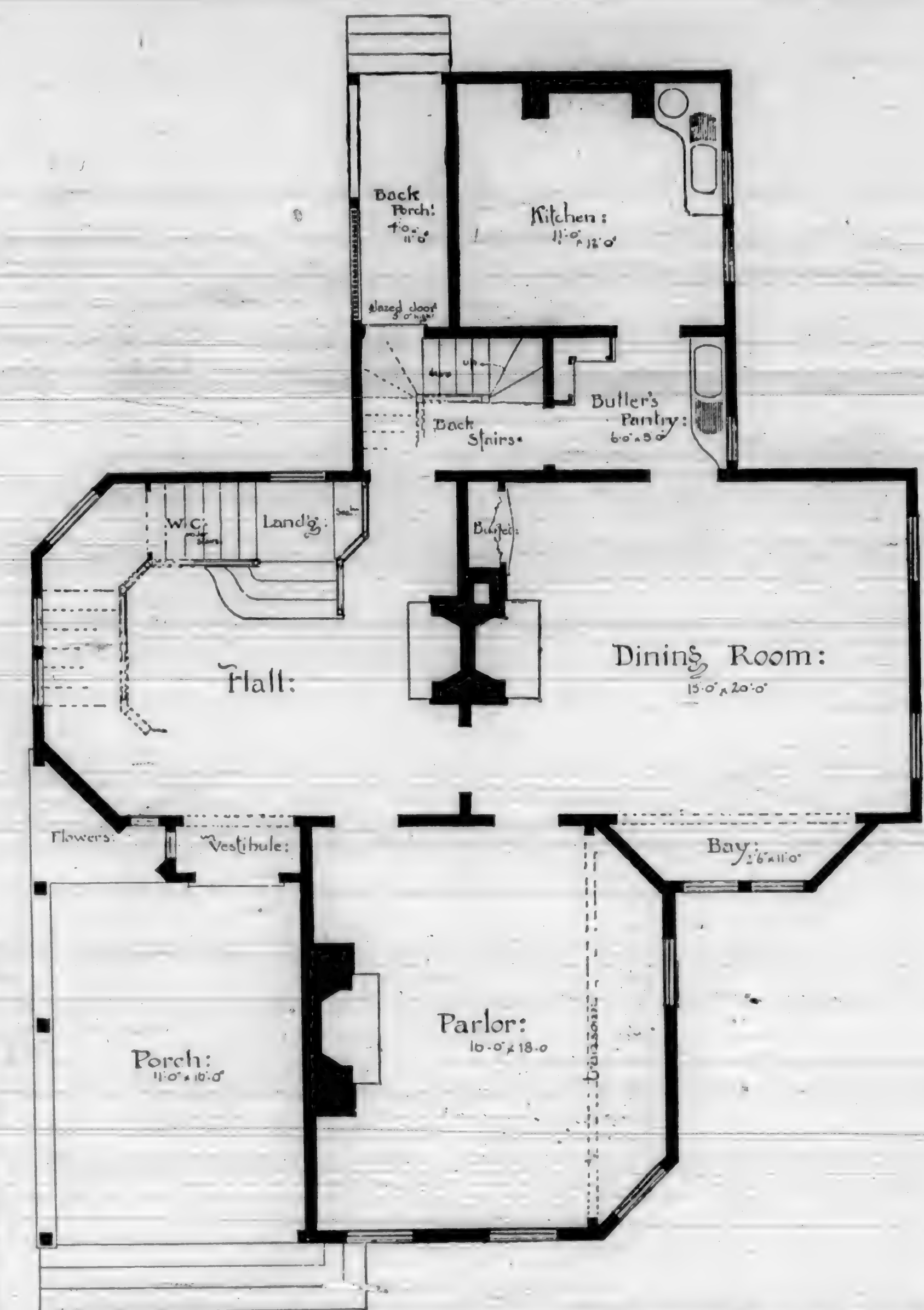
Heating furnace (including register faces and pipes)	220 00
Range in kitchen with hot water back and connections	50 00
Heating, total	\$270 00

PLUMBING.

Bath tub, 1 copper bath tub with plug and connections	10 00
Water-closets, 3, traps and safes @ \$22.00	66 00
Wash bowls, 1, cocks, plug and marble top and back	7 00
Laundry tubs, 3, linings and connections, with cocks and plugs	3 00
Sinks, 2, kitchen and pantry, with strainers and cocks	8 00
Boiler, 1, galvanized iron, with gal. stand and connections	18 00
Soldering and leading	10 00
Plumbing, total	\$122 00

PAINTING.

One cask of stain for shingles, 10 gallons @ \$1.50 gal.	15 00
1,020 sq. ft. of 3-coat painting (exte-	



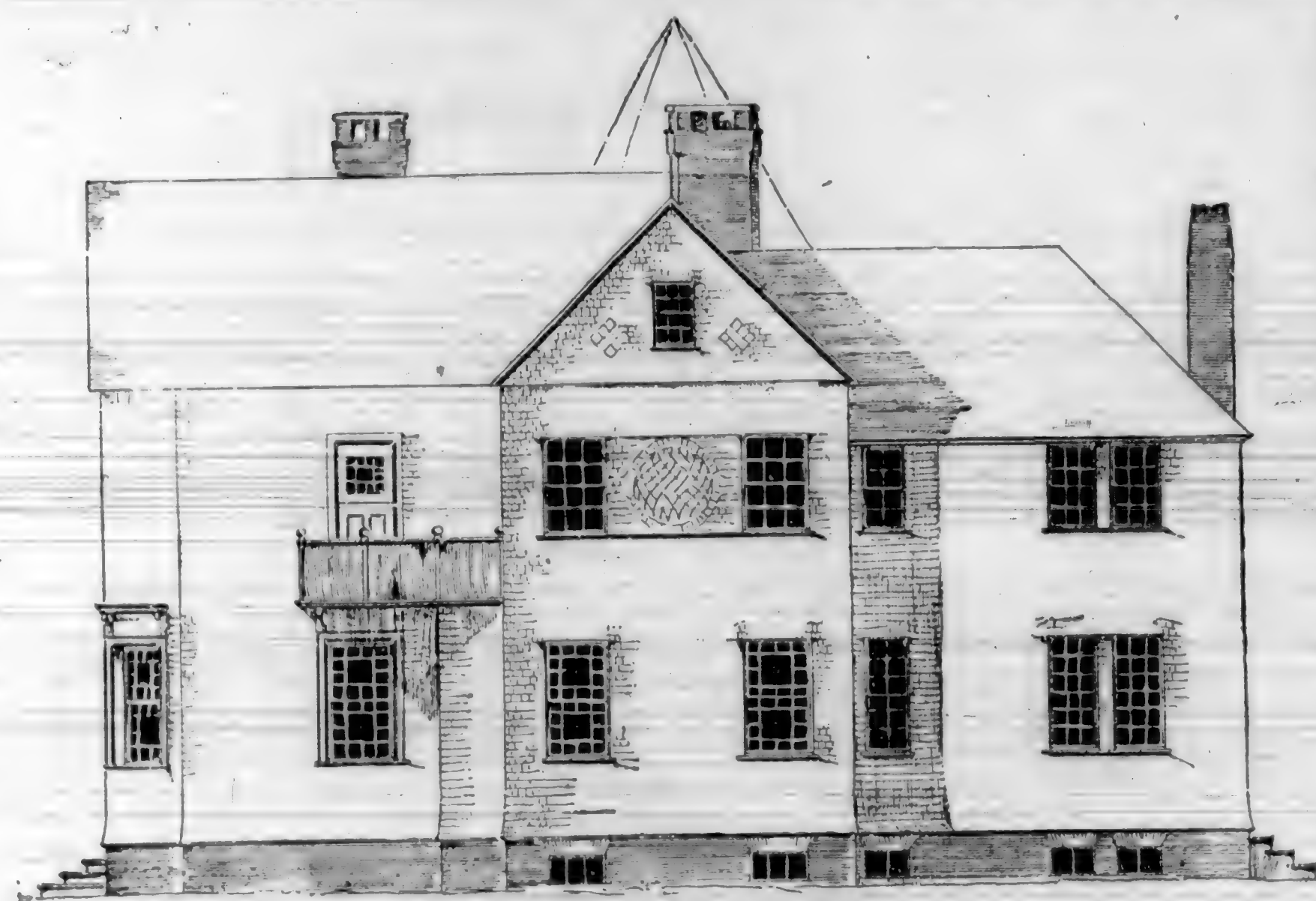
FIRST STORY PLAN OF \$5,000 COUNTRY DWELLING.—SECOND PREMIUM DESIGN.

rior) @ 3c. sq. ft.	30 60
Interior painting included in above allowances.	
Painting, total	\$45 60
TOTALS.	
Masonry	982 66
Carpentry	1,716 08
Joinery	1,456 60
Tinning	83 90
Heating	270 00
Plumbing	122 00
Painting	45 60
Grand total	\$4,676 84
Mechanics	4,676 84
Architect's fee, 8 per cent.	374 08
Entire cost of building	\$5,050 92

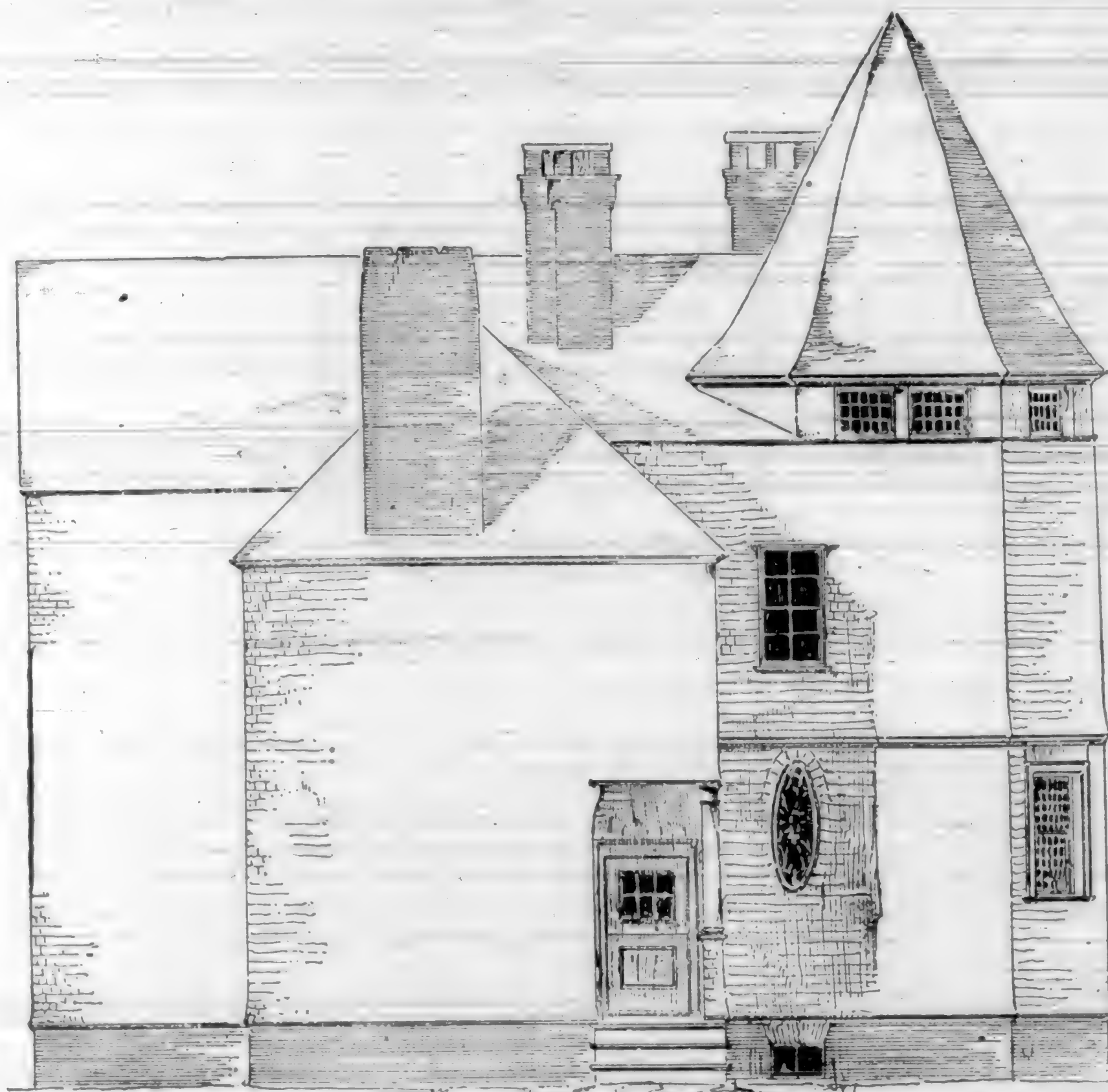
Artistic Homes. \$3.50
Modern House Painting. \$5.00.
Steel Square and Its Uses. \$1.00.

THE WAY IT HAS ALWAYS BEEN.—The constant clash between capital and labor is thus epitomized in the *American Miller*: "To get much for little is the real quintessence of happiness. Much for little has been the cry of Jew and Gentile for thousands of years, and to get much for little, men sacrifice their fortunes, their lives, and their sacred honor. On the one side, to get much money for little work, and on the other side, to get much work for little money, makes most of the troubles between employer and employed. It has been so in the past, and will be so in the future, until the end of time, all legislation to the contrary notwithstanding."

Complete Details. \$2.00.
Universal Assistant. \$2.50.
Cutting Tools. 2.00.



SIDE ELEVATION.—SECOND PREMIUM DESIGN.



REAR ELEVATION.—SECOND PREMIUM DESIGN.

THE coming question is, how to divide the profits fairly between capital and labor, and give each their proper share. Unfortunately labor cannot share losses. If \$50,000 is made one year, labor steps in for its share. If the same is lost next year, capital must sustain the loss, as labor spent what it made the pre-

vious year and cannot refund what it has not got. When labor gets forehanded enough to make a fair deal on losses as well as profits, does not labor then become a capitalist? Or, how much must a man be worth before he can be known as a capitalist? Where is the dividing line?—*Ex.*

Lunch or Dinner—Which Is Best for the Mechanic at Noon-Time?

OPINIONS differ in regard to the subject, and perhaps a few thoughts as expressed by various mechanics, may prove interesting to some readers.

Advocates of a hot dinner at the regular noon hour claim that it is much preferable, when possible, to sit at a table where the meals are served hot; that the walk from the building to the hotel or restaurant, is in many cases a needful change of exercise, especially when one has been working steadily at the bench; also, the mind receives rest by the different sights encountered, enabling the workman to put aside cares and trials for a while, so that upon his return his mind as well as body will be fresh to encounter any perplexities that may be met. Stress is laid upon the fact that the lunch men, especially when the day has been warm, and underclothes soaked with perspiration, are liable to colds or chills, from sitting around a whole hour in a tool house, or on the shady side of the building. Many other arguments are used, but the foregoing are the principal.

On the other hand, the lunch men claim that, in order to get a hot meal, one must be ready to instantly drop tools the minute the whistle blows, or upon the call of time by the foreman, in order that not a minute be lost, so that the "hot meal may be got at" in the shortest possible time. Rush, must be the word—to the meal, eating the same, and back to the building—all to be done inside of one hour.

The lunch men also claim that hot coffee is not the only stimulant necessary for the dinner men, and that the other hot is one of the principal reasons for a walk to dinner. The claim in regard to brain rest is all bosh. The latter named portion of the anatomy receives much more rest by an intelligent discussion for half an hour on the quickest method to find the length and bevel of any brace, rafter, etc. After a warm morning's work, the workman is exceedingly particular to pick out a nice warm spot, free from draft, where lunch can be eaten without danger of catching cold. Twenty-five minutes is an ample space of time in which to satisfy nature's cravings, leaving full thirty minutes for rest.

Each side advances good arguments in favor of their respective views. We are promised several communications upon the subject, and will publish those that are the most suitable. We will be pleased to hear from any of our mechanical friends in regard to lunch or dinner at the noon hour.

Every mechanic should at once send us \$2.00 for one year's subscription to this Journal. We are earnestly laboring for your welfare, and advancement in the art of building correctly. Not only do we present in each issue all the latest developments in the science of carpentry as practiced on this coast, but we also give you the cuttings of the principal Eastern journals. Back supplied. Bound volumes \$2.50 each.

Every Architect on the Pacific Slope Should Become Identified with the S. F. Chapter American Institute of Architects.

A WONDERFUL change has come over the architects of this city since the Chapter has become an assured success. It is now over three years since the architects resolved that it was for their general interest to encourage social intercourse with each other, and to hold meetings at which interchanges of ideas could be considered. At first it was a hard undertaking for the active originators of the Chapter to convince many of their brethren that it would be to their advantage to become identified with the Chapter. The impression seemed to prevail that it was for the best interests of architects to keep the knowledge gained by individual study to one's self. Plans were not allowed to be seen, elevations hidden from sight, for fear that the ideas shown would be copied. A careful concealment of intended improvements was practiced, so that a rival would not hear of the same and endeavor to convince the owner that a change of professional help would inure to his benefit.

Very different now is the feeling among the Chapter members. They vie with each other in extending courtesies. Friendly visits are occasionally made, greatly to the benefit of each party. Vexed questions are considered at these visits, and the visitor retires convinced that the architects are now in the right path to make their profession an honorable one among all classes of the community.

We earnestly call the attention of our country brethren to the necessity of becoming identified with the Chapter. The benefits from so doing will more than compensate for the small outlay required. For the information of those intending to join, we quote the fees and dues necessary to become members.

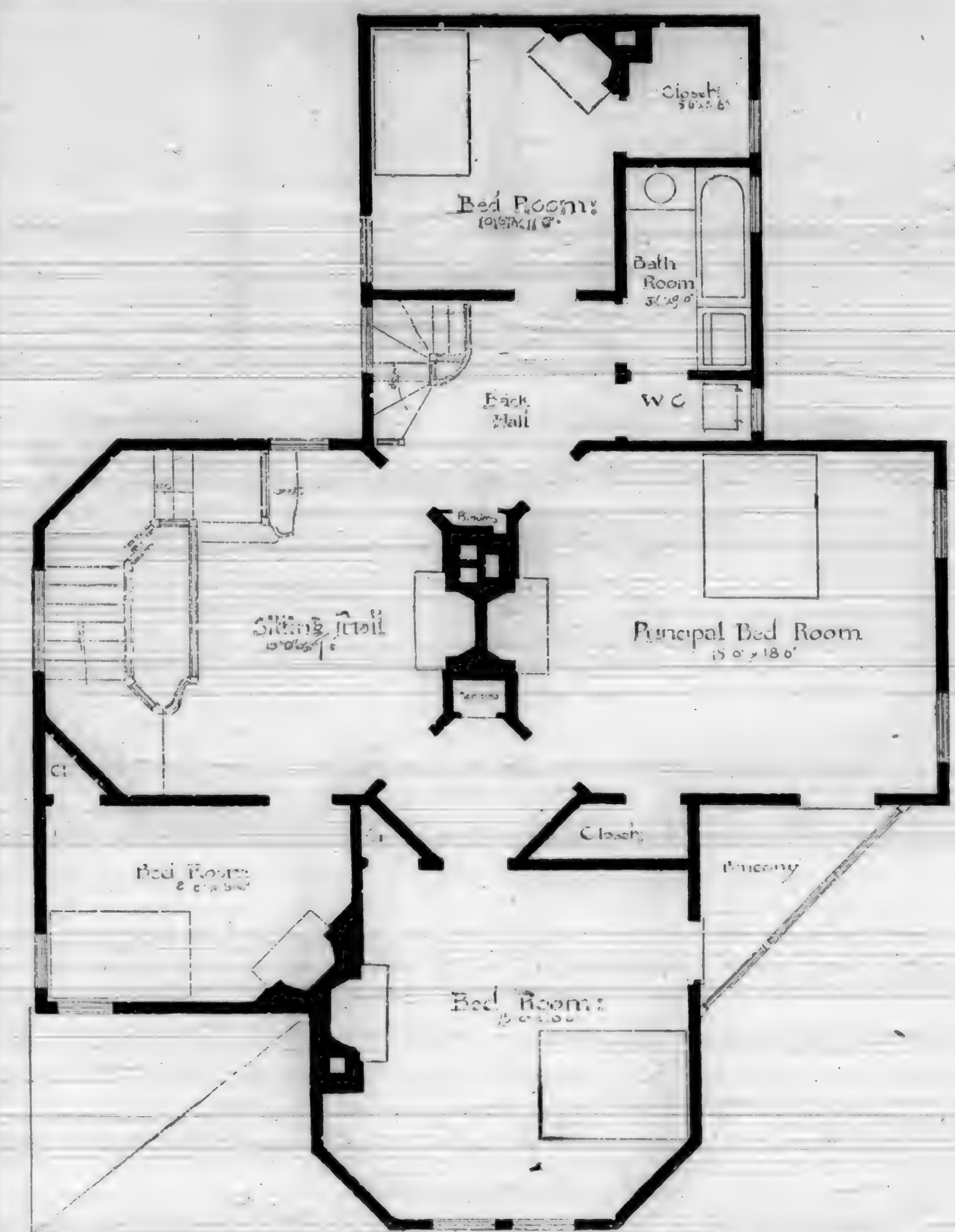
Membership is divided into four classes: Fellows, Associates, Draughtsmen, and Students.

	Initiation Fee.	Dues Per Year.
Fellows	\$6.00	\$6.00
Associates	4.00	4.00
Draughtsmen	3.00	3.00
Students	2.00	2.00

A copy of the by-laws, and any information in reference thereto, will be furnished by sending address, etc., by mail, or personal application to the Secretary, B. E. Henriksen, at his office, 218 Post Street, San Francisco.

Joinery.

THIS important branch of carpentry was comparatively unknown in the early days of mechanical arts—the first dawn of the existence appearing in the construction of thrones, pulpits, and screens used in churches and cathedrals. The work was evidently performed by the carvers of the period, as this less artistic portion bore signs of carelessness, such as an artist would likely bestow upon what was altogether mechanical. When, however, carving assumed more classical pretensions, and joinery became necessary to the further-

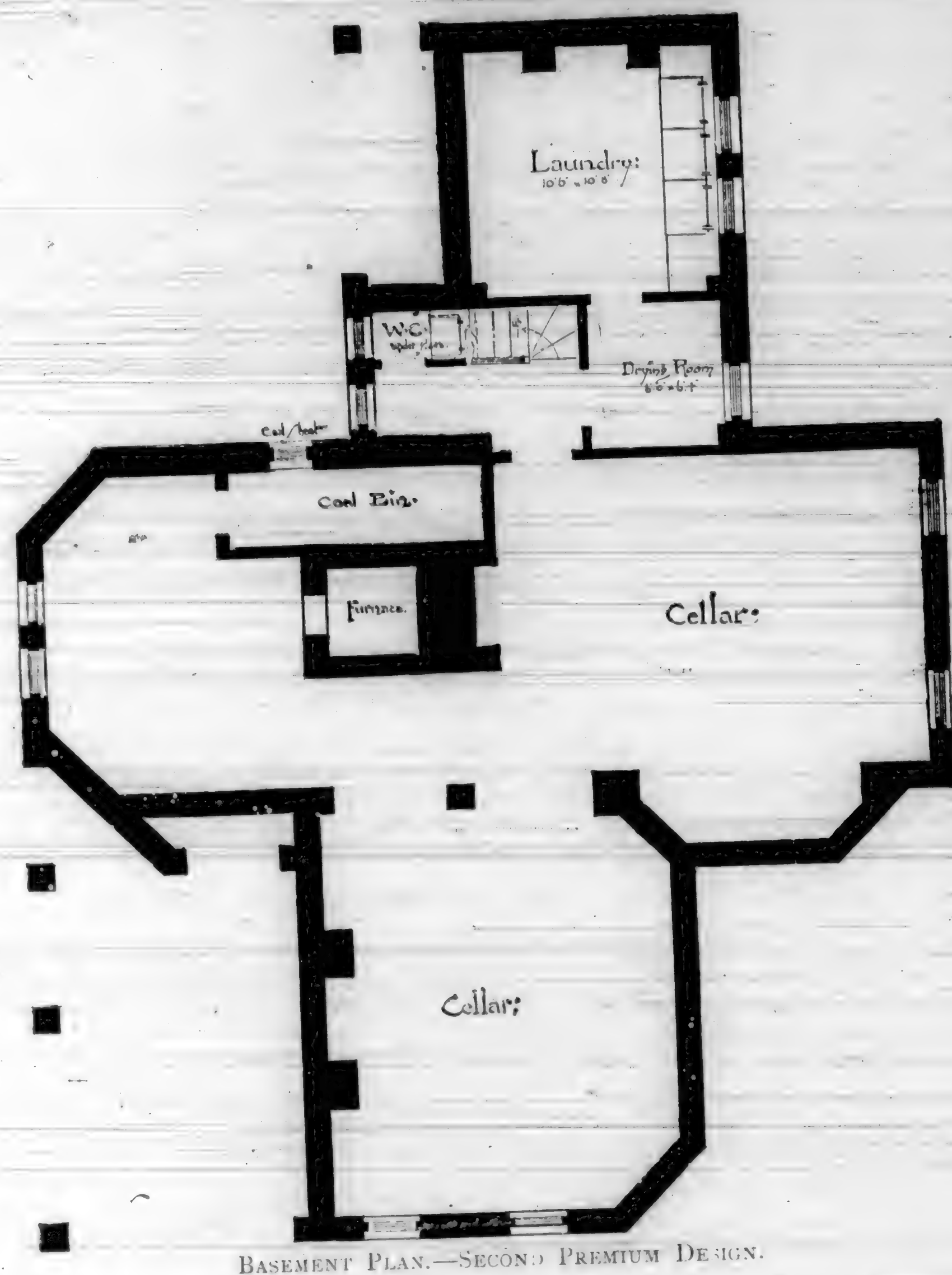


SECOND STORY PLAN.—SECOND PREMIUM DESIGN.

ance or perfecting of special modeling, then it was developed into a special department, and carried to a degree of excellence scarcely found among joiners of the present day. It is to the influence of this new study that the world is indebted for the light window sash, paneled doors, wainscoting, handsome mosaic floorings and a host of other interior decorations now so common. The inventive genius found scope in the improved practice of the science to produce machinery which not only assist the expert's joiners, but enables them to perfect work hitherto but partially well executed. There is still much room for improvement and invention. Wood shrinkage must be overcome, or so counteracted as to render the joiner's labors durable. The tools used by joiners are endless in variety, and need to be of great accuracy, so that the most perfect lines of the truth-telling rule may be adjusted with a precision barring detection. The work is necessarily tedious, and at times irksome, therefore of the number of mechanics who

attempt the acquirement of the trade, but a small number reach the summit of excellence.—*Ex.*

OCCASIONALLY we hear complaint of putty that shows through the paint that covers it, in stains that even several coats of good paint will not remove. We have taken pains to look into the cause, and find the trouble due to the use of cheap oils as substitutes for linseed oil in making the putty. Painters who are troubled with stains of this kind will do well to learn whose make of putty they have used, and to forever afterwards avoid it. Some cheap putties are made with a portion of fine marble dust mixed with it, as a cheapening process, as marble dust is cheaper than whiting. Some glaziers prefer it, as it works smoother than the regular article and takes hold well, but in most respects it is a quite inferior article. The old-fashioned putty has never been improved upon much, and is a pretty good thing to stick to.—*The Painter.*



BASEMENT PLAN.—SECOND PREMIUM DESIGN.

Practical Workmen.

NO MAN can be said to be a practical workman unless he thoroughly understands the theory as well as the practice of his employment. Some men are content in the simple accomplishment of results without endeavoring to study the why's and wherefore's which lead to their production. Some workers accept without investigation the formulas of their trade, and do not aspire to a knowledge of the principles upon which these formulas rest. They may be very good artisans in their way; they may, so far as their immediate tasks are concerned, be excellent workmen, but it is needless to say that they are not composed of the material which makes the great, the rising, and progressive spirits of the age.

—The Wood-Worker.

WE would like to place your name on our subscription book, if you are not already a subscriber.

THE following is given as the weight of hardwoods per foot, board measure. Some allowance must be made in the weight of fresh cut, as the same wood differs some in weight when green in different localities:—

Name of wood.	Green. lbs. to 1 ft.	Dry. lbs. to 1 ft.
Ash	4½	3½
Apple	5	4
Beech	5	3½
Birch	4½	3½
Boxwood	3½	2½
Chestnut	4	3
Cherry	4½	3½
Cypress	4	3
Cedar	4	3
Elm	5	4½
Hickory	5½	4½
Holly	9	5½
Lignumvita	9	5½
Maple	5	4½
Mahogany	6½	4½
Oak	5½	4½
Poplar	3½	2½
Rosewood	8	5½
Walnut	4½	3½

—Miss. Valley Lumberman.

Adulterated Oils.

LIKE all other trades and professions, that of the painter has met with many a serious drawback by the materials he uses being adulterated. At the present time, linseed oil seems

to have undergone a great metamorphosis, inasmuch as out of thirteen samples, procured from all parts of the country, none were found without traces of adulteration, and in some instances there were more deleterious matters than linseed oil. Artisans use these oils, fail to make a good job, and receive all the blame, while those who have profited by the adulterations go free. It is not the dealers or even the manufacturers who make these adulterations, for they are more anxious than any one to send out pure oils, as they have a reputation at stake, to maintain which is utterly impossible if their goods are found to be tampered with. One sample of adulterated oil, drawn from a lot ready for export, was found to contain cotton-seed oil, resin oil, a sulphuretted oil and fish oil, and exhibited the property of dichroism, showing a yellowish-red tint by transmission and a blue by reflection. Distillation would separate nearly all the resin oil, the residue in the retort lost its phenomenon of dichroism. The presence of resin may be proven by boiling for a few minutes with an excess of alcohol at 90°, decanting and treating with natural acetate of lead, the result, if a curdy precipitate, shows the unmistakable evidences of lead. If the oil is now subjected to the action of the vapors of nitric acid, and set aside, a semi-solid reddish-brown mass will probably be deposited; then to detect the presence of any animal or fish oil, pass a current of chlorine gas through the sample for nearly an hour, when, if present, a reddish-brown color passing into violet will then turn a blue-black. With all these indications there need not be the least doubt as to the nature of the adulterant.

Another article of great importance is white or oxide of lead, and perhaps in a long catalogue of paints there are none adulterated to the same extent. To retain its weight heavy materials are used, and the color retained by the use of alkalis. The easiest way of determining the adulterants of this article is to extract the lead by means of a flux; this will seize upon the minerals other than lead, the increase weight of which shows the adulteration, while the lead is secured as a bright button, the careful weighing of which will tell the per cent. of this element; thus we have two very simple tests, either of which is correct, and the results obtained are beyond all question.

As before stated, it is not generally in the legitimate channels of trade in these goods that we find adulterations, but almost invariably a class of unprincipled jobbers, not known or even recognized in trade, dare not meet fair and honest competition in market, who employ the requisite skill to concoct adulterated articles of all kinds. It may be stated as a fact that when we find parties selling goods very much below all competitors, these goods are not pure, for the margins of all goods have been cut down to the smallest possible point commensurate with expenses, and no sane person does business for honor to lose money.

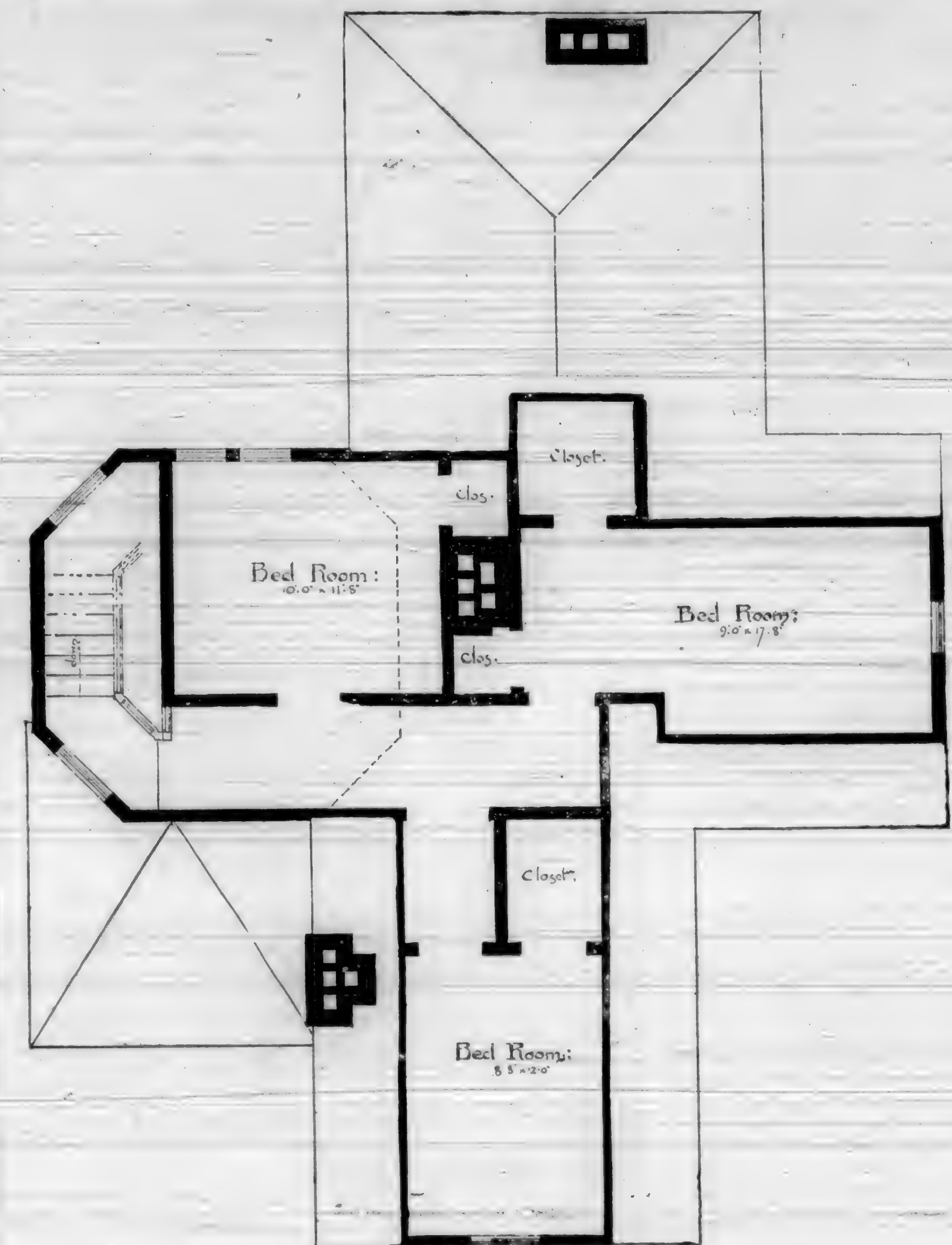
Johan Frederic Elsom, in the Painter.

School Department Matters.

TO SAY that the management of our public school interests is disgraceful, would scarcely express the state of things that have been and are in the hands of the present Board of Education. It would be as well or better for the educational interests of the city of San Francisco, if the present Board would change places with an equal number of fairly advanced—not necessarily high school scholars. If the boys should lack the wisdom which the experiences of manhood should bring, they would at least practice sufficient self-respect individually and collectively to avoid the numerous word encounters that have, during the term of office of the present Board, disgraced that body. If the same number of lads in either of the grammar or high schools should behave and act toward each other and their superiors as badly and as undignifiedly as the members of the Board have acted, they would be severely dealt with, and perhaps "tuned out of school," as violators of right rules, and as bad examples to good pupils.

It is a great pity that the members of the Board cannot see themselves as every intelligent citizen sees them, and with shame-facedness vacate the positions held by them. But unfortunately in this land of ours, men in official position, not blessed by nature with sensitive mind and a reasonably high and refined order of intellect, reject and poise themselves above public sentiment, and act as wise and good men would not dare to act. But nothing that might be said or written is likely to produce a change in some of the members of the present Board, and the interests of the school department will have to suffer on, until by lapse of time the present manipulators of the school interests of our city shall settle back into their individual retirement, with no ray of prospect of ever again being intrusted with like public responsibilities.

In the matter of honest management, the facts made public, and others not yet fully exposed, in addition to secret manipulations which may never see the light, draw around at least some of the present Board a suspicion of the darkest dye. There are none conversant with the affairs of the department, who question the existence of great irregularities in numerous ways, and the use of the situation for personal and party advantages. It does seem that, unless the twenty-four hands of the twelve composing the present Board, have been more or less, or in some way dipped in some of the various contaminated streams flowing through the department, an exposure should be made, which would reveal more fully the hidden and unpublihed workings, and open to clearer view the parties who are using a great public trust for personal and political gains and profits. The carpenter shop revelations, the lumber, plumbing, painting and numerous other transactions, manipulated and practiced under the disguise and at the cost and expense of the school department, should arouse every good citizen to a correct understanding of the



ATTIC PLAN.—SECOND PREMIUM DESIGN.

necessity of electing as school directors not simply men of fair repute as citizens, but men of unquestionable and fully demonstrated purity and firmness against all political devilry.

The methods of filching from the school funds and depriving school teachers and pupils of their rights under the school laws of the State, are not the result of clean hands and honest hearts. The marks and foot-prints of dishonesty and corruption are so transparent, and the machinations of those more guilty so outrageous, that it would be more an act of mercy than a miracle, if Almighty God should send an avenging angel with whips and scourges to drive out from the temple of education in San Francisco, as was done eighteen hundred years ago in Jerusalem, the rascals and evil-doers who perverted the sacred places to base purposes.

The daring affrontery and the deliberate coolness of the operators within the school department circle, if but one-half of what ap-

pears on the surface be true, may well surprise intelligent and honest people. But it is a well-understood fact, that in all cases of irregularities in human affairs, coolness and boldness are prerequisites to success. This is the testimony of "Black Bart," and all others of his kind, who preferred the dangers of a highwayman's life to the less manly and more ignoble pursuit of securing and dispensing to auxiliaries public funds through official position. The one demands and calls into exercise courage and the staking of one's life upon the issue, while the other is simply a toning down and modification of a like principle, involving neither personal courage, risk nor danger, so long as the perpetrators can conceal, gloss over, and manage to keep themselves just beyond the reach of criminal law.

The "higher law," which in the earlier history of San Francisco dealt with bad men as their conduct deserved, is a terrible resort to contemplate; but party corruptions and official depravity, continued and perpetrated with a too great boldness, may yet suggest measures not provided in the statute books of the State of California.

Authorize Firemen to Apply the Ax.

THE telegraph and telephone are necessities. Wires are necessities. The reliable and cheap transmission of messages is a necessity. Fire extinguishing machines are necessities. Corporations are necessities, and so are streets and high buildings. These different necessities collide. A big fire disjoins them all and they are confounded with confusion. Each conflicting interest then claims precedence and pre-eminence. Is there not some almost natural law that should determine which of these interests must bow down?

What is the most universally natural thing sought to be accomplished in the case of a great fire, which may involve life as well as property? Why, it is to subdue the fire as quickly as possible. That consideration is then held paramount to all others. If it is right to let such an impulse govern when a fire is on hand, the same idea should be the controlling one when there is no fire and when the only object is to so regulate the surroundings of property as that it may be saved when the flames break out.

The public necessity for telephone and telegraph should be pushed to the background before fire comes, so as to give extinguishing machinery a free chance to save property. A convenient passage of wires should be the secondary consideration.

We believe in the heroic remedy which has been devised but not really practiced in Chicago. Order the wires out of the way, and, if they are not withdrawn, remove them, and clear the streets of such hindrances of access to buildings by firemen. Let the wires be barred from any aerial passage across or along streets. Let the companies carry their wires underground or in a glass tubing along the sides of blocks or in any way they choose except through the air as now.

The cost to the public would be immense at first. The public would have to pay high for uncertain and unreliable service. After a while, however, that would all adjust itself and competition would operate to lower rates again. The companies would find ways to get their wires underground and make them work well there. And until they are most violently compelled to they will not find those ways nor abandon their aerial routes.

Meantime the public would save in another direction. The people's property would be saved from the flames to an extent which would more than make recompense for the higher rates which would be charged for messages. The value of the property which has been destroyed in St. Louis directly on account of firemen being impeded by telegraph wires, would many times pay for the cost of putting all the wires underground. This is an assertion that is impracticable to be proven by specific instances and figures, but every careful observer of our fires knows that the probabilities are strongly favorable to the assertion.

There is a possible remedy which seems to us easy of application, although it would per-

haps lead to some rather dramatic scenes. Assume that an ordinance should be passed in St. Louis directing that after a stated reasonable time it should be the duty of firemen in service at fires to tear down and remove all wires and telegraph posts which impeded them in the extinguishment of fires. It would be safe to warrant that in a very short time the firemen would worry the companies into finding underground routes for their wires. There ought to be such a law rather than one protecting the wires. In a large city there is always a vast danger of a fire growing to enormous proportions, if quick access to it be prevented. After it had grown nothing would be too sacred to tear away in order to stop it. Why, then, should the wires be sacred at the start of a fire?

The direct fight against wires is inevitable. The longer it is postponed the more desperate it will be. It is sure to be a violent fight, if successful. The quicker it comes, the better. The more violent it is, the more speedily it will end. Authorize the firemen to cut, and down will go the wires forever. Courts will sustain the necessity of getting at fire to extinguish it.—*Western Insurance Review.*

Fire, Flues, and Chimneys.

PROPERTY augmenting millions of dollars annually, is destroyed by "defective flues" as the cause, and the fiery elements as the agency of destruction. Yet these often repeated and multiplied warnings have but a limited effect in the matter of flue construction.

As a general thing, owners do not, practically, care anything about how the flues in their houses are built, leaving the whole matter with their architect or builder, without remark or comment. This is well, provided they shall have secured the services of a competent and careful man of plans, who will attend to it, and see that the flues are properly built and plastered inside. But if he is neglectful, and trusts wholly to the "chimney builder," and that individual happens to be not a competent and careful brick-layer beyond and in addition to building chimneys, defective flues are very certain to result. There is a class of would-be brick masons who claim special qualifications in the erection of chimneys, mainly because they are incompetent to take their places in line with good men in wall work. In a limited number of cases, such men learn fairly the art of flue construction, but as a rule their mechanical incompetency is notorious, and if they happen to build a safe and good flue, it is more the result of it-happened-so, or from abstract routine, than from good judgment, careful work, or a right knowledge of how the good result came about.

The danger from the cause under notice is far greater than is generally understood. Thousands of flues to-day which have not thus far caused conflagrations, are nevertheless in the exact necessary condition to serve that purpose at any moment when slight circumstances arise; they are comparatively "sleep-

ing fires," ready and liable to break forth in flame at any moment, from exceedingly slight causes; and the unseen and unrealized, "barely-escaped-from fire" cases in all communities, are very large, and the sense of safety indulged in in a large proportion of dwelling-houses is more fancied than real.

The Science of Drying.

THE science of drying is in itself exceedingly simple, but to those who are entirely unacquainted with it, it is very mysterious, for the reason that the medium for carrying off the water, being air, is not visible. Water and other substances which can be seen are much more readily understood.

All the science there is about drying, is that the air absorbs the moisture as a sponge absorbs water. In winter, when the out-door air is dry, as it usually is (the frost condensing the moisture in the air), it will, if heated up to, say 150 degrees, take in or absorb moisture much more rapidly than in summer, when the out-door air has from 50 to 80 per cent. of its capacity for absorbing moisture already loaded; precisely the same as a sponge, when dry, absorbs water in large quantities and more rapidly than when it is wet. Heated air absorbs moisture in proportion to the increase of temperature, its capacity for carrying large quantities of water being increased by the heat. A cubic foot of air at 32 degrees will carry off only two grains of water, while at 160 degrees it will carry off 60 grains—hence the necessity of heating the air, which should be as dry as possible, and made to move rapidly, so as to wipe off the moisture from the surface of the lumber or other fibrous material as soon as it reaches the surface, as it works its way out from the center of the body being dried.

All moist, green or wet substances requiring to be dried, should be treated in precisely the same manner, whether it be lumber, brick, wool, cotton, corn or other grain. The process of drying all these is the same, viz., the rapid circulation of heated air. *The Wood-Worker.*

NEW PUBLICATIONS.

Day's Colophon. An Encyclopedia of Prose Quotations, consisting of Beautiful Thoughts, Choice Extracts, and Sayings of the most eminent writers of all nations, from the earliest ages to the present time, together with a comprehensive biographical dictionary of Authors, 40,000 quotations, 8,000 authors, 2,000 topics, 125 beautiful portraits in steel and wood. Day's Colophon is an encyclopedia of prose quotations, and one of the simplest dimensions. The number of authors whose works are quoted in the collection is said to be eight thousand, comprising the chief names in ancient and modern literature. The quotations are ranged under two thousand classified headings, and amount to some forty thousand. As to the quality of these grains of wisdom there is probably not one which has not a profound value for some order of mind and some mood of feeling; at the same time it must be acknowledged, there are whole pages that certain fastidious students and advanced spirits will pass over as commonplace. This is inevitable from the vast plan of the work and the limitless progression of intellectual development. The compiler has manifestly not undertaken to suit the needs of any particular person or class, but he has made an immense gathering of waifs from the ocean of literature, and he invites every one to come and take what he fancies or needs. The materials are indexed so as to make reference easy and direct. The author's names, with biographical notes, are given in the appendix, making in themselves a quite convenient dictionary of literary biography. An attractive feature of the volume is the series of portraits which are scattered through it, numbering, large and small, a hundred and twenty-five. The price of this work has been placed at \$12.00. A copy is in our office, and we will take orders for the same.

P. J. Barber.

WE present in this issue an engraving of an architect whose skill has done much towards beautifying the section of country in which he is located.

Mr. Barber was born in Nelson, Portage County, Ohio, in 1830. He was by nature a mechanic, as was his father and his older brothers, three of whom were master builders; and from them his mind was early inclined to that branch of mechanics which has resulted in such developments of his genius as unfavorable circumstances would permit.

In the spring of 1847 he was apprenticed to a cabinet-maker, where he gave entire satisfaction, attending the academy three months during each winter. But relief was sought from the monotony of country cabinet shops, by engaging upon the best of work in the city of Cleveland, Ohio; and after finishing his apprenticeship he resolved to strike for something more exalted, and at once commenced the rudimentary studies of building and architecture.

For the period he worked as a journeyman carpenter and joiner, and down to the present time, his knowledge of cabinet work has been of daily practical use to him; and he has had no regrets that, while acquiring the use of tools, he at the same time gained a thorough knowledge of the highest order of wood working.

Possessed of an enterprising disposition, Mr. Barber was not contented with merely listening to the stories of fabulous wealth that could be obtained in the then new El Dorado on the Pacific Slope, and so we find him on his way to California, by the old Isthmus route, arriving in San Francisco on the 22d of May, 1852, after a voyage of one hundred and eleven days.

Old Californians may remember the barque *Clarissa Andrews*; it was on that "floating coffin," as she was appropriately named by Prof. J. W. Pike, one of the unfortunate passengers, that Mr. Barber made the voyage from Panama to this port, accomplishing the same in sixty-five days. Upon his arrival in San Francisco, he again turned his attention to his trade, first as a journeyman, but soon assuming the role of contractor and builder, in which he was reasonably successful.

In early times, in San Francisco, his off-

days and evenings were mostly spent in the libraries and in the society of architects. Many will remember the lamented "Reuben Clark," then in the zenith of his fame, and engaged in the plans of that proud monument of his genius, the State Capitol Building at Sacramento. Mr. Barber profited much in having the confidence and friendship of that learned man—his wise counsels and lessons in architecture, the principles of which he then became more familiar with, have been a source from which he has drawn on countless occasions during his practice.

Thus we see that Mr. Barber's career has been a gradually progressive one. Having mastered the principles of architecture, he

**P. J. BARBER.**

assumed the practice of his profession in this city previous to 1869, when, for the health of his family, he determined to take up his residence in that beautiful city by the sea, Santa Barbara, where he has followed architecture as a profession until this time, and has planned and had charge of nearly all of the important buildings that have been erected in that city, amongst which may be mentioned the County Court House, the College, the Arlington Hotel, the Presbyterian, Congregational, and other churches, several school buildings, the theater, Cook's Block, First National Bank, and others. He has been nearly three years engaged as architect upon a large classic dwelling (Ital-

ian), and it is still incomplete, the owner of which expects it will stand when all others now built in this country will have crumbled to the ground.

Mr. Barber still feels that San Francisco should be his home, so far as business is concerned; and it is there he points with pride for the best buildings (for their uses) in the United States, not only for the enduring character of the work, but for symmetry, proportions, and their elegant and appropriate decorations.

It was with many regrets that he was obliged to leave the city of his adoption, and the many endeared friends and associations of early times; and nothing now affords him

more pleasure than meeting with his old brother carpenters and the pioneer architects of San Francisco. The latch-string of his door will always be found on the outside, so all of his old friends, professional brothers, though strangers, should feel that they will be welcomed by him at his home in Santa Barbara.

\$160,000 Flue.

SINCE the last issue of this Journal, a single fire, consuming a splendid \$160,000 residence in Alameda Co., is said to have resulted from a defective flue. The architect in the case was and is a most capable man, but he likely trusted the erection of the chimneys and flues to the "mason," or "chimney builder" as the case may be. Who is to blame? That depends altogether upon where, under the circumstances of the case, the responsibility rested. If the owner interfered and reserved, assumed, and exercised certain dictation and direction, then to that extent he is

responsible for the resultants. But if absolute and unrestricted control and jurisdiction was given to the architect, the only excuse or relief possible for him is, that he trusted that part of the work to a "reliable man," and did not personally inspect, at least not more than casually so, the execution of the chimney work. Result and loss to the owner is all the same nevertheless.

Cottages. A new work that recommends itself on account of the number and variety of plans presented. Price, \$1.00.

Buck's Designs. For its size, one of the best books that has been presented to the public. Price, 50 cents.

The Late Fair.

SOME of the exhibitors in the late Fair, just closed, deserve special mention for the excellent display made.

PACIFIC SAW WORKS.—We think the Directors of the Fair should issue a diamond medal to be given to the firm making the best display. If such had been the case this year, the *Pacific Saw Works* would probably have been the one to receive the medal. In the artistic arrangement of saws, and the great variety shown, the company is deserving of special mention. Every variety of saw, from the mammoth seventy-two inch circular to the finest dentist's instrument, was exhibited by the company. This is strictly a home industry, and should be fostered by every mill-man and mechanic.

COOS BAY LUMBER AND STAVE COMPANY.—Although comparatively a new company, the exhibit presented would compare favorably with those in the older cities. Every variety of bucket, tub, and barrel is made, and the work and material is of the best quality.

CALIFORNIA ARTIFICIAL STONE COMPANY.—In another place we refer at full length to the meritorious exhibit made by this company.

HARVEY'S RADIATORS.—Every size of these noted heaters was shown, and the inventor was on hand to fully explain their working.

WEED & KINGWELL.—A beautiful exhibit truly, and one that proves that the manufacturing interests of San Francisco will be the means yet of making this the second city of the Union. Every description of brass work, and every shape and size of bells are made at this establishment.

G. W. CLARK & CO.—Artistic house decorations are now receiving the most careful attention of architects. The exhibit of this firm was a beautiful one, and drew around it many owners calculating to build. We noticed several of the latter in consultation with various architects, discussing the various styles of wall decoration. Stained glass is also a specialty of this firm.

JOHN MALLON.—The pioneer in artistic stained glass work was on hand with a novel and unique arrangement of stained glass in every conceivable form and pattern.

OSBORN & ALEXANDER presented a variegated assortment of every description of carpenters' and mechanics' tools. This house has fairly won the reputation of the leading supply house for fine tools.

BROWELL'S CHIMNEYS.—Mr. Browell had the advantage of compelling most every one who visited the Fair to gaze at his exhibit. Every variety of patent chimneys, and tops, sewer pipes, etc., was shown.

MONTAGUE & CO.—Marbleized mantles, art tiles, ranges, grates, architectural decorations, etc., were exhibited in profusion by this firm. The new quarters on Market Street are well worthy of a visit by those

desiring the latest patterns in above mentioned articles.

E. G. DENNISTON, of the San Francisco Plating Works, proved by his display that this city can furnish as good work in his line as any of the older cities. Every description of table ware is plated at this establishment.

FRANK P. LATSON presented a fine collection of bronze hardware.

BURR'S HOPPERS.—All the various styles were shown, and received much attention from those interested.

GRANOLITHIC PAVING COMPANY.—A notice of this new company appears in another column.

Good Bricks and Brick-work.

THERE are certain criteria of good bricks, which, being infallible and readily applied, constitute the best practical tests as to the quality of these valuable materials. In the first place, good bricks are always heavy—always solid and compact, ringing with a clear, sharp sound, when struck together, and well and truly formed with nice, sharp edges. Neither will they absorb much water. If you have to choose between two bricks of equal or nearly equal weight, immerse them in water after weighing them dry. Twenty-four hours after take them out, and reject the one which has acquired most weight, and therefore imbibed most water. Over-burnt bricks may be heavy, but they are also cracked and distorted in form by undue heat, and may be readily distinguished from the better sort by their general appearance. Bad bricks, on the contrary, are light, will not ring at all when struck together, are ill-shaped, hollow on one side and round on the other, readily abrade on the edges, suck up water like a sponge, and indeed are sometimes so soft that a strong thumb may force off the edges, such as they are.

Good brick-work is laid truly and accurately to a level, every joint answers truly to the line, and every part of the face coincides with the plumb. All the beds and joints are well filled with mortar until it is fairly pressed out in the faces; all deficiencies are carefully pointed up as the work proceeds, and the whole well flushed in course by course. The mortar is well mixed, lime and sand thoroughly blended, and the sand, if handled alone, is found to be clean and sharp to the touch, feeling thoroughly gritty, and free from all slimy, greasy, and tenacious qualities. The joints are never to exceed three-eighths of an inch and should never exceed one-quarter of an inch in thickness, and the vertical lines must be truly plumb over each other in such courses as intended, according to the kind of bond employed. The work is also carried up uniformly level throughout, and no difference permitted even for a temporary purpose, under any circumstances whatever. By these means only can unequal settlements be prevented. Contraction of bulk or settlement we know must occur from the combination of materials in an ex-

panded condition, as mortars and cements are, when in a plastic form; and therefore all walls must sink or settle down as the mortar becomes dry, but it is essential, to prevent dislocation, that this settlement be uniform throughout, and this can only be secured by adopting the precautions prescribed above. For the same purpose the back and interior of the work must be brought up, laid, and finished as completely as the front, and no gaps or crevices left for subsequent patching. One other rule has to be observed, and we reserve it to the last, and separate, and emphatic statement, to show our estimate of its importance, in order to produce good brick-work, which is this—that the mortar should be as thick as it may be, or as nearly approaching the solid form as is consistent with the degree of plasticity essential for its proper distribution and penetrating into the joints, while the brick should be thoroughly wetted on the surface. By these means the adhesion between them is rendered the more perfect, and the subsequent amount of shrinking and settlement is reduced to a minimum. The watery mortar, on the contrary, suffers extreme contraction, while the essential properties of the lime are actually dissipated, and when the wall becomes thoroughly dried, if ever it does, little remains in the way of cement but the sand compounded with it.—*The Northwestern Improvement Record.*

MARKET REPORTS.

LUMBER—Pine.

Common Rough, up to 40 feet, per M feet	\$22 50
" 41 to 50 "	23 50
" 51 to 60 "	24 50
" 61 to 70 "	25 50
" 71 to 80 "	26 50
Refuse Rough	18 50
Common Rough, sized with planer \$2 additional on above rates, per M feet	33 50
No. 1 Flooring, 6 inches and over, " 4 " and under, 1 1/2 x 4 and 1 1/2 x 6	40 00
Flooring and Stepping	" 40 00
Rough Clear for Flooring, \$1 less than above rates	" 28 50
Second Quality Flooring and Stepping	per M feet 28 50
Ship Plank, Rough	" 28 50
Planed 1 side	" 32 50
" 2 sides	" 35 00
Deck Plank, Rough	" 33 50
Dressed	" 37 50
Laths	per M 3 75
Wool Slats	" 10 00
Shakes	" 12 00
Redwood Posts	per piece 17 50

Redwood.

Rough Merchantable	per M feet \$22 50
Refuse	18 50
Surface No. 1	40 00
1 x 6	37 50
No. 2	27 50
Rustic, No. 1, 1 x 8	37 50
" No. 2, 1 x 10	40 00
" Under 10 feet	35 00
T. & G., 1 1/2 x 4 and 1 1/2 x 6	40 00
" 6 in. 12 ft. and over	37 50
" 7 to 11 feet	32 50
" under 7 feet	30 00
" No. 2, 12 feet and over	40 00
T. & G., Beaded, 12 feet and over	32 50
" under 7 feet	30 00
Half-inch Surface	32 50
Pickets, fancy	30 00
" Rough, Pointed	20 00
Siding, 1/2 inch	17 50
Shingles	per M 2 15
Battens, 1/2 inch, lineal feet	" 1c

NAILS.

10 d to 60 d	\$8.25
8 d out ore Extra per keg (over standard)	.25
6 d " " " "	.50
4 d and 5 d " " " "	.75
3 d " " " "	1.50
10 d to 20 d Brad, h'd	1.50
8 d " " " "	1.50
6 d " " " "	1.50
4 d and 5 d " " " "	1.75
Discounts from 15 to 20 per cent. on above quotations.	

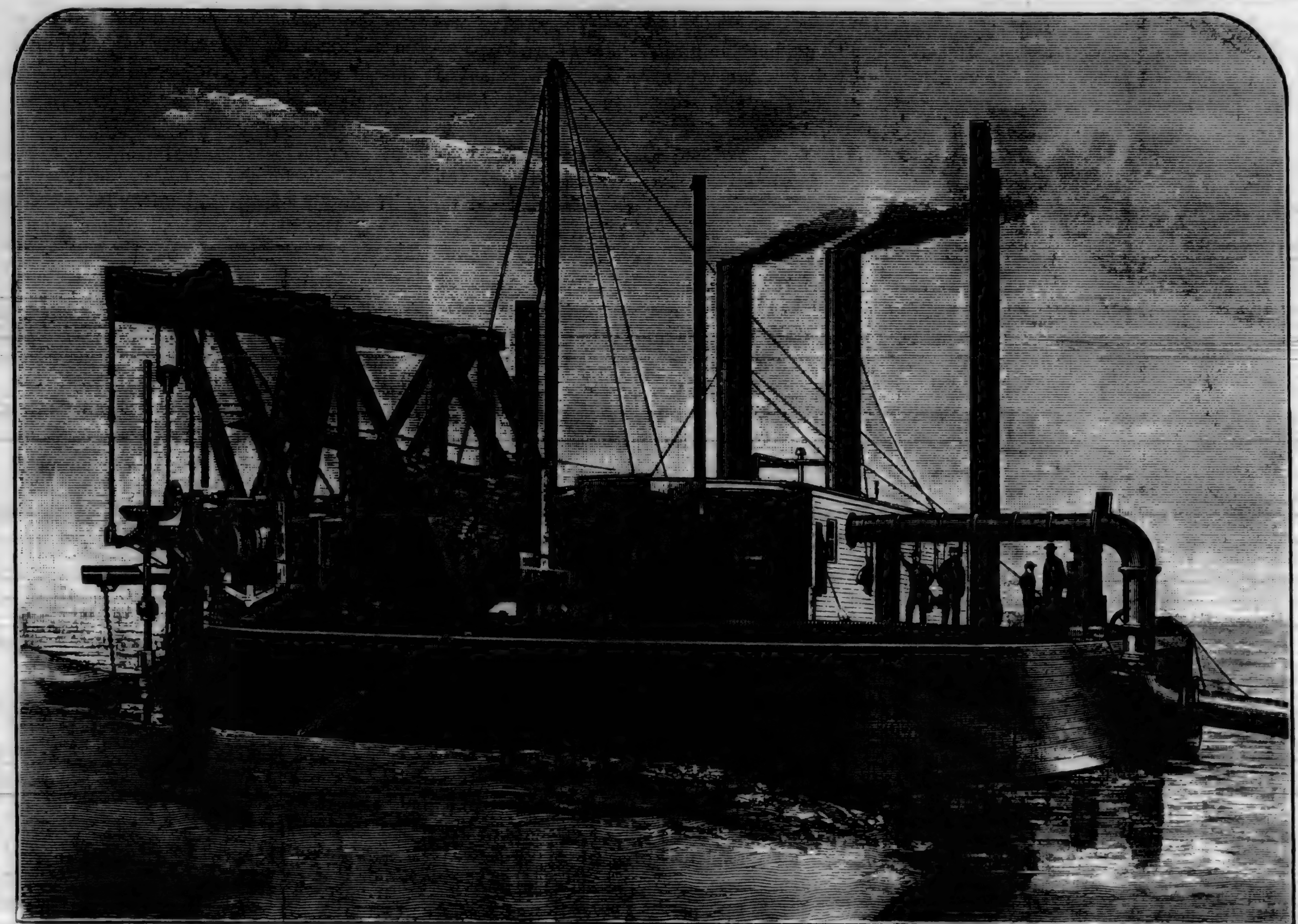


FIG. 1.—DREDGING APPARATUS AT OAKLAND HARBOR, CALIFORNIA.

Dredging at Oakland, Cal.

A PART of the extensive harbor improvements in progress at Oakland, near San Francisco, consist in the excavation of a tidal basin to improve the scour, at or near the harbor entrance. The material removed by the dredging operations is deposited in adjoining salt marshes, and retained there by means of embankments constructed along the shore line, so that a considerable area will be reclaimed. Fig. 2 shows the floating discharge pipe that carries away the mud. The dredging machines employed are, says *Engineering*, on the same principle as those used at the Grand Amsterdam Canal Works, that is to say, they belong to the type in which the material to be raised is first reduced by suitable machinery to a condition of mud, and then pumped to the surface, and delivered by means of a pipe line.

Fig. 1 illustrates the general form of the dredging machinery used at Oakland Harbor. The submerged and mixing part of the arrangement consists of a horizontal wheel with plowshares attached around the lower face. By means of steam power on the boat, rotation is given to this wheel, which is inclosed in a casing, so that water can enter only on the under side. On the top of this casing is fixed the rising main, twenty inches in diameter, of a centrifugal pump, six feet in diameter, placed on the boat. The delivery main of this

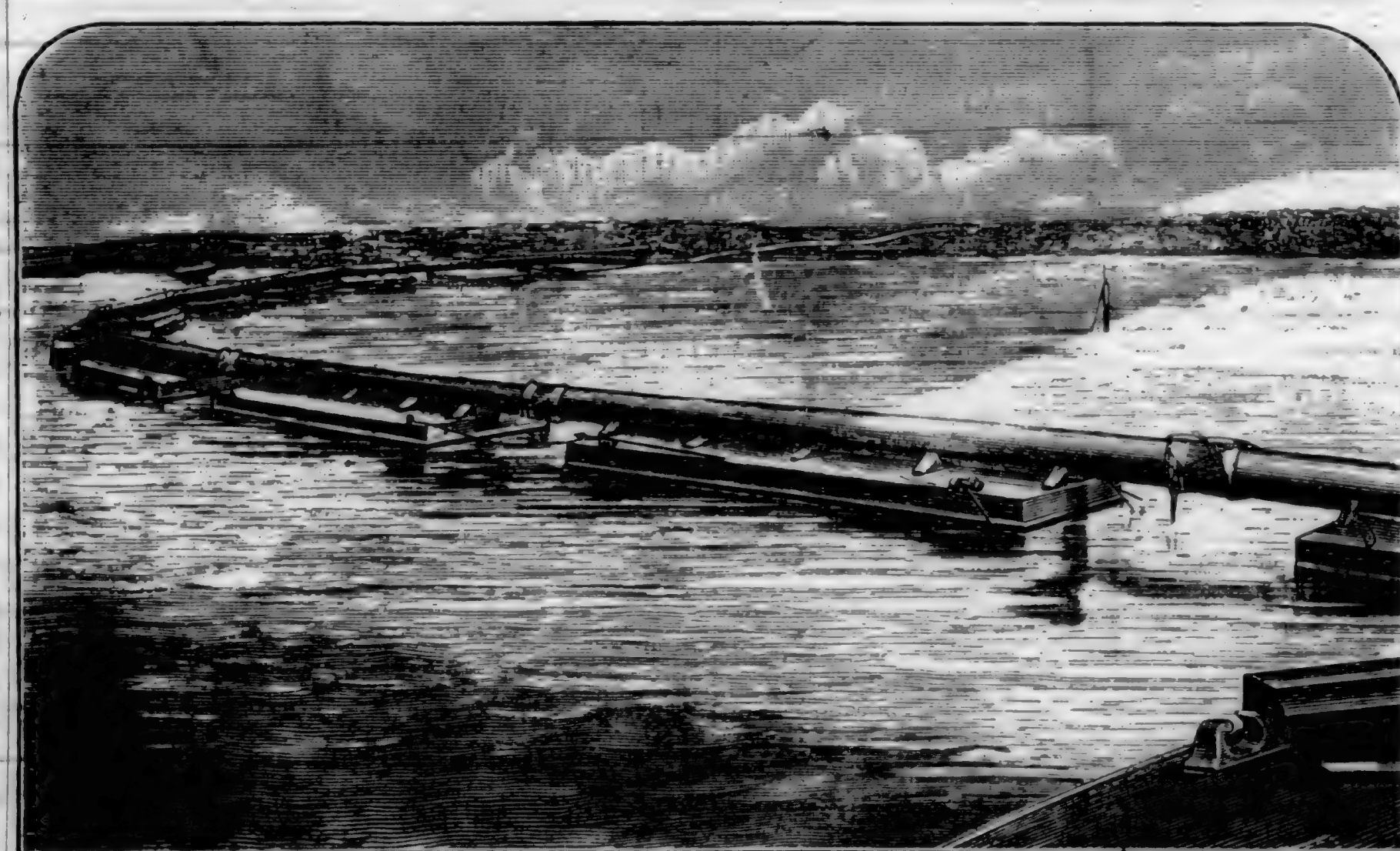


FIG. 2.—THE FLOATING DISCHARGE PIPES.

pump, also twenty inches in diameter, is extended from the vessel by a line of wrought iron pipe, with ball and socket joints and rubber connections; it is supported in position to the marsh where the mud is delivered. By this arrangement, which is shown clearly in the engravings, the material excavated, after being mixed, passes directly through the pump

and delivery mains, and only comes to rest when it is discharged. As much as forty per cent. of solid matter can be carried in this way, but fifteen per cent. is found by experience to be the most convenient amount, one obvious advantage resulting from this dilution being that the solid material is more widely and uniformly distributed over the area to be reclaimed.

The pump is driven by a pair of engines having cylinders sixteen inches in diameter and twenty-inch stroke, and two other engines with cylinders twelve inches in diameter and twelve-inch stroke, drive the cutting and mixing gear, the winches, hoists, etc. Steam of ninety pounds to ninety-five pounds pressure is supplied by two one hundred horse-power boilers. The greatest length of delivery pipes employed has been 2,850 feet, and through this length 41,000 cubic yards of mud were delivered in 190 hours. During a period of eight months one of these machines raised and deposited 250,000 cubic yards, or an average of 30,000 yards per month. In one month of this period there were moved over 60,000 yards, through a distance of 1,100 feet. The total expense per day of ten hours of one of these machines, including interest, depreciation, and insurance, amounts to 100 dollars or about 20%, and in connection with the work there are other expenses, as follows:—

1. The construction and maintenance of levees or embankments for confining the freshly dredged material.
2. The services of nine or ten men to guide the flow and distribution of the material as it is delivered.

The cost of previous dredging operations on the Pacific Coast by ordinary appliances has averaged twenty-four cents, or one shilling per yard, while the maximum expense per yard, with the system we now describe, is a maximum of six cents, falling in some cases to five cents per yard. The Oakland Harbor dredging operations are under the control of Col. G. H. Mendell, of the United States Corps of Army Engineers.—*Scientific American*.

"Won't Finish up Other Men's Jobs."

THERE is both a good and a bad "rule" and "combination" in practice among mechanics in this city, in the matter of refusal to complete, or finish up work commenced by others under contract. The rule is correct and warrantable when intelligent and good business reasons exist for the delay or stoppage of the work, because of default in payments, or other equally just and substantial reasons. To "stand in together" and protect one another under such circumstances, is but just and right to the respective crafts generally, and the mechanic who would step in and virtually aid and assist defaulting or dishonest owners or contractors, by completing unfinished work not paid for, nor secured in doubtful cases, is not honorable, and should receive the positive disapproval of his craft, and of mechanics generally.

But the law of "just discrimination" should be evoked and practiced in all such cases, and the bars of mutual protection removed, when the default and wrong is altogether on the part of the craftsman. Every man has rights which should be respected, whether he be master or vassal, employer or employed; and it is injustice of the grossest kind for one who has it in his power, to exercise a mastery over another, simply because he can do so with impunity. It is cowardice that defies resistance

from the helpless, and exultation over those who have been so unfortunate as to have committed the error of intrusting with innocent and right intent, work into unworthy hands, is diminutive.

The point and practice we are aiming at is this. It sometimes happens that original and sub-contracts are let to men who afterward develop characteristics, as individuals and mechanics, which should forever debar them from association and competition with qualified and good men. Such there are in all branches of mechanism, and it is unfortunate that the possibilities are not easy of access, by which they may be known and read of all men, other than that of severe experiences on the part of those who happen unwittingly to exercise mistaken confidence in them. But under the convention of mutual agreement among mechanics, the unfortunate employer of such parties, whether as owner or contractor, is powerless to shake off the mechanical incubus, as the "rule" forbids that any other should extend the relief of finishing up the work unreasonably long delayed or badly done by the first employed—no matter what the circumstances of the case may be, short of death itself. This is unjust in the extreme, and should be remedied; the better men should be equally prompt to redress wrongs practiced by their fellows, as they are to protect mutual interests.

A case in point: A well-known, practical stair-builder of acknowledged good qualifications, and comparative if not superlative large experience, entered into contract for the stair work in an \$8,000 residence, which was being built by contract under a forfeiture of five dollars per day for over time. As soon as the architect was advised who the "stair man" was, he warned the building contractor that there would be trouble in getting the stair work completed in time, and it so happened. The stair work was delayed, and weeks rolled by, yet no stair man to be seen. The architect complained, and the contractor urged and urged almost daily, but still—*rails*, newels, and balusters not forthcoming. The house was painted, grained, and varnished as far as it could be, and still the stair work not in. The contractor endeavored to employ other stair builders, but the imperative rule of non-interference was the only answer received. Full-progress payment had been made, and the balance was secure, and yet no man could be found to complete the work, and, directly and indirectly, full six weeks passed beyond the time for completion of the building, because the stair-builder was neglectful, and no other would complete the stair work for love or money. And with sorrow we say it, that the derelict party spent at drinking, and was besottedly under the influence of whisky a much greater period of time than it would have required one man to have done all the stair work in question. Still the "rule" protected this abuse of the owner's and contractor's rights, and the man who loves his cups more than he does the faithful pursuit of an honorable trade, received his pay in full, because not bound by

written contract to suffer liquidated damages for his default. The fully one and one-half months—forty-five days over time—could have been demanded and retained by the owner, from the contract sum, but it was not nor any part thereof, and he therefore suffered the loss of hotel bills for the period named, to a greater sum than the forfeit amount.

We claim that in any and all such and similar cases of failure on the part of first-contracting parties to perform the work undertaken, in a reasonably prompt and proper manner, the rule should be that any other party may, without violation of any principle of right, complete the unfinished work. Many like aggravating cases might be related, but this one is sufficient to illustrate the bad working aspect of a rule which certainly needs amendment in common practice.

Deceitful Builders.

THERE is seemingly no business carried on in the world where there is more fraud and dishonesty than in the building trades. All builders and contractors are not dishonest, but the number who are is legion. The chief aim of many of them seems to be to ascertain some plan for bringing in a bill for extras, or for evading the true intent of the contract by furnishing a different and poorer material than that stipulated in the specifications. It is a very difficult thing for a "green hand" at building to make a contract with a builder which will hold water. There is such a chance for ambiguity, and for concealments and omissions. Then, half of the parties do not know what is necessary to be done to insure a good building, and the honest carpenter is the last man to inform them. Go into court, and there will be seen case after case arising out of the attempt of some smart builder to palm off sham in the place of good work. There seems to be no way of avoiding this trouble unless one goes to a skilled and honest architect and places the matter wholly in his charge. Even then disputes and litigations frequently arise.

There is room for a radical reformation in the building trades. The cause of much of the dishonesty in these trades arises from the unscrupulous competition which there prevails. Bidders offer to take jobs at a loss, hoping to make up by scripping and by obtaining payment for a liberal amount of "extras." It is difficult to point out a remedy for this evil. If one can find a builder who is known to be honest, it would be better to patronize him, even if his bid is a trifle higher than that of his competitors. Underbidding is the bane of the building trades. Cheap contracts usually mean cheap and deceitful work, and unsatisfactory results all around. It is petty safe, too that no builder calculates to lose money on a job, and many of the gentlemen of the craft will get out from under a too low bid by means which will not bear the light of day.

All contractors for erecting buildings, as we have said, are not thus dishonest. Some, even, will go on to the end and faithfully perform their engagements when they know they will lose by so doing. Such men should be rewarded by good patronage, but unfortunately they do not always grow rich. The doctrine of the "survival of the fittest," we are sorry to say, does not always prove true in their case.—*Industrial World*.

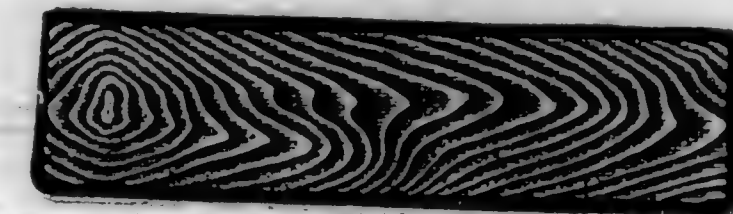
Practical Graining.

THE subject of graining in imitation of oak, walnut, and other woods is a very interesting study for amateur painters. There is much to learn and it requires a steady perseverance to acquire even a superficial knowledge of the art. To those who wish to learn to grain, and have a taste for the work, a few suggestions may not be out of place here, for a little practice. In the first place it is necessary to know something of the ground-work or base for the different kinds of work; and it is useful for all to experiment with different shades to establish the tone that is necessary to produce a proper imitation of the various woods to be grained. For oak, the ground color is made of white lead, tinted with chrome yellow and a little red, or yellow ochre alone; a light shade for light oak and a deeper one for dark oak. For walnut, various colors are used, white lead, yellow, a little amber, the yellow strong enough to keep it bright in tone and yet dark. Another color tinted with India red and yellow ochre in shade like sole-leather. This color gives a warm ground color and gives a pleasant effect to graining done over it. For mahogany, the color should be of a bright copper in tone, using Venetian red to tint with. A light straw color is used for laurel and a still lighter one for maple or ash. All these various colored grounds are put on in flat color, the paint having but little oil and more of turpentine, and when dry, sand-paper smooth and the ground-work is ready for the graining color. It is now in order to get the prepared colors at the paint stores, if they cannot be found, take burnt amber in oil, Sienna in oil red and some burnt Sienna, and mix them in two-thirds oil and one of turpentine. If the job of work to be done is small a very little of these colors is necessary, and put only a small quantity of the burnt Sienna in, and be sure and see that the color put into the oil and turpentine is only sufficient to color it lightly. It is customary to try a little on some part of the work to see that it is not too dark, for light oak requires but a very little color for general work.

The tools required for oak graining are a set of steel combs, one of rubber, and a sash tool, with a flat paint brush, some clean rags or cotton flannel. The rubber comb may be three or four inches long, 12 inches wide with one-half inch thick, the long edge to be notched with a knife into one-fourth inch teeth, and it is ready for use. Now everything is in order to commence graining, and as it is supposed to be the first effort, the panels of a door may be laid in with color or rubbed in, putting on only sufficient color to cover it evenly, and when set, having previously selected the style of work you wish to do, cover the thumb nail with the rag and wipe away.

The growth or sap is the work of the thumb nail, with a slight pressure of the ball side, ways to give the sweeps, and the nail regulates the form and its contractions. After the wiping the growth, the comb is used to give it

grain and complete the work of the panel. The lower panels may be chamfered to give variety, showing the oak lights in contrast to the heart growth. The latter can be re-touched when dry with the checks or pores and shaded where knots or centers occur.



Growth or Heart.



Oak Lights or Panel.

When the graining is done it should look like the samples above. For styles, plain grain for the outside, the center ones a little sweep of the rubber to strengthen the combing, following the same curvature with the steel comb. The center rail, when the growth is in full on the panels above, may show a little heart work on its lower part, but if the panels are done in oak lights, the center rail should have a full heart growth wiped out clean, leaving only enough color at each sap length for shade. The lower rail is done with the rubber comb in a slight wave across its length and toned with a fine steel comb. The outer styles are sometimes touched with the rubber opposite the panels, in contrast with the oak lights of that part of the door. The shading is done with the same color, on the center of the heart growth and on the upper side of the curve of the rubber combing. The first is laid in a V shape at the point above and below the center. The color can be laid on with a small brush, and if you have a blender, you can soften the outer verges. The shade on the coarse rubber grain is laid on its full breath and softened with cloth or a blender, always on the center of curve in flashes not over an inch in width. In giving you this description of the work, you may gain the ideal, but the real is gained only by practice and observation which in fact is the great instructor. A tool for dappling out the oak lights, is made of bone in shape like the case-knife blade made sharp enough to take out the color. In use when dappling, the bone is wiped off after each application. In a future number we will give some practical hints on graining in walnut, mahogany, maple, ash, pitch pine, and so with color mixing for the various grounds for the imitation of these woods. J. E. W. C.

All new subscribers for 1885 will receive the balance of the numbers of this year free. Send \$2.00 to the office of this Journal, and take advantage of this offer.

"Queen Anne" Style in Building.

A WRITER in the *American* thus fitly characterizes this so-called class of architecture: "I have never been able to find any one who could lucidly define the new style, or formulate the principles that govern its designers. But no one will deny that there is a new influence at work in modern architecture, even if they cannot analyze it. The fact is that modern work defies classification, simply because its distinguishing characteristic is eclecticism. The selection of incongruous material from the older styles, and the attempt to weld them into homogeneity, are not likely to conserve the sterling principles of good design. Queen Anne has little significance as a name. Popular considerations have more to do with it than anything else. Among the better class of architects the name is held in derision as the work of those who ape foreign fashions. Architecture is something more than a matter of fashion."

"The new movement, however, has a well-defined influence which has nothing to do with the appropriateness of its name. Its real significance is to be found not in its definite features as a style, but as showing how completely modern work has broken away from the spirit of the past and the principles of good design that formerly acted as a restraining influence. Up to a comparatively recent period architects have worked in, or under, the influence of schools of architecture; that is to say, certain styles were followed and developed at one time, and in which most architects made their designs. In France can be seen to-day an instance of a school of architecture dominated by the vigorous central influence of the *Ecole des Beaux-Arts*. With us, however, architects seek to be distinguished by the individuality of their work. The road to success lies through the tempting fields of eclecticism. In old times every man worked after his own method, but he kept the great principles of the style always in sight. There was to a certain extent a standard that might be appealed to, and by which the work could be judged. A controlling unity and fitness were acknowledged, but this did not prevent original conceptions. It was simply the restraint of law and order. As far as modern architecture has any tendency at all, I think thoughtful people must admit that it does not move in the direction above pointed out."

"There are few architects, even among our older men, who have not had their work affected by the fashionable demands of the day. This is especially noticeable in the designs for country houses. It is admitted that the new style has been rather unproductive of sterling results in the more important secular and ecclesiastical work. Here its failure is striking. Logical principles are here lost sight of, and the rage for 'something new' has resulted in a radical chaos. The conservative reaction has not fully set in. Perhaps when it does something good may result."

Drawing and Shading. \$1.25.

The Lick Free Baths.

AFTER a lapse of almost a decade, since the late James Lick bequeathed, and placed in charge of a board of trustees, the sum of \$150,000 to be expended in providing free bathing for the masses, the time for action, judging from the report of the trustees, that "no legitimate obstacle exists to the erection of the baths," seems to have arrived. This admission places the board in front, to receive commendation and praise for prompt and wise action, or censure and reproaches for tardiness, delays, and mistakes as the case may be. They can no longer lie at ease within the case-ment of unsettled or unavailable means, as they have thrown open the doors and exposed the true condition of affairs within, and placed themselves in the position of exclusively responsible parties for all the unnecessary slowness and mistaken management of the future.

They may also rest assured, that however well they may direct and manage affairs there will be tongues and pens to express and write out, and journals to print and circulate statements which may or may not contain a single whole sentence of exact truth. For this they should be prepared, but not in that spirit of stoical indifference which too often characterize men under similar circumstances, in defying and disregarding the well meant suggestions and honestly expressed opinions and advice of others, whose interest and rights, and good judgment in the matter controlled, may be equal with those who by circumstance may be placed in a position of trust which would be better filled, and the interests and purposes confided better served by others of more enlarged and liberal views.

There are multitudes of things to be considered, and a large amount of excellent, practical judgment will be required. Chief and paramount to all others, is that of location. Individually we say, let it be as central as possible; as near the new City Hall as practical; as conveniently accessible by the greater number of street railroads as can be, without special favor to any.

SALT WATER BATHS.

This they should be by all means, as salt water in abundance can be introduced at any point within the city limits, at much less cost, lifting apparatus, conducting pipe, etc., considered, than an equal supply of Spring Valley water would cost. This matter of water supply is a very material one, as it must be in abundance to insure cleanliness and healthfulness. The supply must be furnished by Spring Valley, be pumped from artesian wells, drawn from the waters of the bay and brought into the city, or the baths must be located near or at some possible beach, a long, and to the poor, expensive distance from reasonably convenient accessibility to the great majority of those who will use the baths.

But as the whole matter is in the hands of men who are not lacking in intelligence and business experience, although they may never have built nor run a public bathing establish-

ment, and may be novices in the details of such an institution, yet it is to be hoped that they will exercise as nearly faultless judgment as is possible, and consummate the completion of a bathing establishment which will be creditable to themselves every way, and fully respect the wishes, and do honor to the memory of the generous dead.

Tall Chimneys Are Dangerous.

It is surprising that the powers that be, who supervise, and to a certain extent dictate under the law, how certain things shall be done in house construction, permit those tall, risky, and unsightly chimney tops which are to be seen protruding through the roof of so many of the "fantastic style" of buildings in San Francisco. That they are dangerous to life and limb needs no more than ordinary common sense to determine. There are many striking examples in various parts of the city, of tall, slender, disproportionate, heavy topped chimneys, which should be taken down to a reasonable height in brick, above which should the erratic designer wish to "pile on the agony," a metal top will serve all the purposes of his wildest fancies with greater safety. These high tops are dangerous affairs, particularly when not provided with flue linings of heavy iron. They are not safe even during ordinary "gusty" or "squally" winds, much less so during the winds which accompany severe storms, and most assuredly they are menaces to human life in times of earthquakes, from which California is by no means safe, even if the shaking forces which have so often stirred up things on this coast, and in this city, have taken a trip around the world, by way of the Eastern States, London, etc.

We may be answered by the guardians of safety, that there is no special ordinance limiting the height of chimney tops, and therefore the matter is beyond the control of the fire wardens. This may serve as an escape-from-responsibility argument, but it is not consistent. The same unwritten law of "safety" which is applied in other matters not ordinated upon, may reasonably, with the same impunity, and with more reason and justice, be applied in cases of this kind, where men, without regard to consequences, pile up a ton or more of bricks above all support, likely to be toppled down upon the heads of people at any moment by the forces which have, and may at any moment, startle and affright the inhabitants of San Francisco. If a tumbling-down of these monstrosities—for such many of them are, without beauty or consistency—should do no greater damage than crack the skulls of those who caused them to be erected, there would be no loss of valuable human life—none that the architectural profession could not dispense with to advantage—and the entailment of reconstruction upon owners, who allow, and perhaps on account of their extreme oddness and peculiarities admire them, would be well deserved.

Stair Builders' Guide. \$3.00.

Planking Yards, etc.

MR. EDITOR: In the general building specification, it is usually provided that yards and passage-ways at the rear and sides of buildings shall be planked with redwood planks, spiked to a certain size sleeper, spaced as may be directed. And now comes the part to which I refer in this article, and that is, that the redwood sleepers must be solidly bedded in the sand. Now is it not an outrage on the pocket of owners, to allow the sleepers carrying his yard planking to lay solidly bedded in sand, and to be covered on the top with the yard planking, and so allow those sleepers to receive the whole amount of decaying properties, through the dampness that naturally will collect under the planking, and permit them to rot in prematureness, as there is no way provided for ventilation, and not a particle of air circulation can be had, because every in and outlet is closed up, first, by the solid bedding under and on the sides of the sleepers, and second, by the planking on top. Now I would suggest a mode of yard planking which is of long standing among practical men,—that redwood sleepers be lain to rest on rammed ground, distant between sleepers two feet; to be planked with one and one-half-inch rough redwood boards, spiked strong and secure to the sleepers; no earth, rubbish, or other materials whatever to be allowed between the sides of the sleepers, from the extend of under side of planks to under side of sleepers. You will observe that this will create a space between the sleepers, planking, and ground for a constant current of air to pass, and to dry the moisture collected, which, if the soil would be allowed to remain in the space where the air circulates now, it would hold the dampness and foster the rot of the timber.

M. P. SCHETZEL.

A MAN who is a thorough master of a trade carries his capital in his head. He is independent, and should be self-reliant, as his services will always be in requisition. Unless, perchance, he has drifted into some portion of the world where trade and manufactures are in a state of decadence. It may be an excellent thing to endow a youth with a splendid education, but often we find such young men failures in a business way. But there is no excuse for a first-class mechanic or engineer ever being found in such an unfortunate plight. The man possessing a good scientific or mechanical education who cannot make his way successfully through life must be composed of very poor material.—*The Builder and Wood-worker.*

All new subscribers for 1885 will receive the balance of the numbers of this year free. Send \$2.00 to the office of this Journal, and take advantage of this offer.

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

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

ROBERT MITCHELL, President, 807 Turk St., Box 26.	
J. WAGNER, Wagner's Potrero Ave. bet. 22d and 23d Sts.	3
CRAWFORD FERRIS, 9 Bourbon St.	20
JOS. SMITH, 2933 Mission St.	36
JOHN MCCARTHY, 2509 Folsom St.	7
WM. DUNBAR, 27 11th St.	14
GEO. RICHARDSON, 518 Ellis St.	39
C. R. WORRELL, 888 17th St.	5
J. G. LIEBERT, Treasurer, 330 Oak St.	32
JOHN HUGHES, 318 Fremont St.	21
J. J. O'CONNOR, 648 Minna St.	19
M. B. RICHARDSON, 2017 Howard St.	1
MATT. MCGOWAN, 614 Linden Ave.	17
JOHN CALVERT, 812 Hyde St.	40
THOMAS BUTLER, 593 Ash Ave.	28
ROBERT HIGGINS, 1724 Jessie St.	13
JOHN DOWNS, 269 Minna St.	18
J. HAF, 516 Kearny St.	6
G. D. NAGLE, 427 Montgomery St.	24
N. R. TUCKER, 1411 California St.	14
S. L. PLEACE, 634 Stevenson St.	11
O. E. BRADY, 822 Valencia St.	22
THOS. WHITE, 45 Minna St.	4
J. J. CROOKS, 1929 Sutter St.	9
JOHN COX, 608 Jones St.	16
J. F. RILEY, Secretary, 813 Howard St.	38
P. O. SULLIVAN, 543 Stevenson St.	35
BYRON BROS., 11 26th St.	34
JOHN BYRON, 19 Shotwell St.	27
M. FARRELL, 139 1/2 11th St.	52
W. E. STEVENS.	46
CON. HOLMES, 726 Hayes St.	10
JOHN H. HANAVAN, 1711 Jessie St.	15
G. W. KNEEDLER, 1013 Vallejo St.	51
B. A. THOMPSON, Oakland.	25
JOHN McDERMOTT, 124 10th St.	33
D. J. O'BRIEN, 323 Dupont St.	31
S. N. ROBERTS, 54 3d St.	56
G. T. WATSON, 638 Market St.	64
C. SOHOENMAKER, 323 1/2 Chestnut St.	62
CHAS. CATE & SON.	58
R. RINGROSE, 2618 Sacramento St.	75
J. BENDER.	73
PATTISON & OAKLEY.	54
DAVID PIERCE.	66
J. B. SANFORD.	50
JOHN MAGUIRE.	74
T. HOOK, 422 Golden Gate Ave.	
JAS. MULCHAY, 612 Larkin Street.	

PARTIES RENTING BOXES IN THE BUILDERS' EXCHANGE.

WARDEN & McCLURE, Teamsters.	Box 30
McVICKER & ROACH, Stone-cutters.	8
REMILLARD BRICK CO.	23
PAT. BRICK CO.	29
CHAS. WARREN, Grader.	37
A. E. BUCKMAN, Grader.	42
JAS. E. WHITTIER, Asphaltum.	41
DAVIS & COWELL, Lime and Cement.	43
KENNY & McCUE, Graders.	44
H. & J. RALSTON, Oakland Iron-men.	78
JOHN KELSO, Grader.	76
R. LLEWELLYN, Columbia Foundry.	77
T. W. PETERSON & CO., Brickmen.	68
WESTERN IRON WORKS, 123 and 125 Beale St.	67
J. BROWNE, Patent Chimneys.	71
R. TIERNAN, Lime and Cement.	65
CALVIN, NUTTING & SON.	49
O'CONNELL & LEWIS.	72

Granolithic Paving.

ONE of the silver medals of the Mechanics' Institute was awarded to the Granolithic Paving Company. This was an exhibit which every one who visited the fair admired, and it is safe to predict that granolithic stonework will become immensely popular in San Francisco. Granolithic stone has for a number of years held the first place in Great Britain, and has been declared by experienced architects and contractors to equal in strength, durability, and appearance granite itself. It was first introduced into Great Britain and was registered at the patent offices of Europe and afterwards in the United States. It is composed of ground Scotch granite and a cement especially prepared for the purpose. The granite is reduced by rollers or crushers to irregular cubes which will pass through a half-inch mesh, and is entirely freed from dust or flour, so fatal to cement, by an air blast from a blower. The gradation of particles, from the size of a large pea down to the smallest sharp granite sand, with irregular faces and a small proportion of voids and interstices, furnishes a compact, interlaced mass, which offers the most favorable conditions for the cement doing its whole duty.

The office of W. S. Somervell, the manager, is at 422 Montgomery Street.

Artificial Stone.

THE California Artificial Stone Paving Company also won a silver medal for their display of paving flags, several of which have proved to the satisfaction of everybody the durability of this material by standing the wear and tear of time and constant usage for periods ranging from eight to ten years on our most populous thoroughfares. This company's stonework is by far more serviceable than granite, for, while there is a difference in the hardness of different blocks of granite and one will wear out more rapidly than another, this stone is perfectly uniform in that respect, and no one block can be found which shows any greater wear than another, so that pavements laid eight or ten years ago are as unworn to-day as when they were first put down. Another great advantage is that these blocks, while perfectly smooth, are never slippery, which is a matter of no small importance in a city having as many steep grades as San Francisco. The office of the company is at 404 Montgomery Street, and is under the efficient management of J. Goodman.

New Books Just Received.

Street, Store and Bank Fronts.....	\$ 4.00
Wooden and Brick Buildings, 2 vols.....	18.00
Public Buildings.....	4.00
School House and Church Architecture.....	4.00
Practical Carpentry.....	1.00
Lessons on Hand Railing.....	5.00
Stables, Fences, Out-Buildings, etc.....	2.50
Artistic Homes.....	3.50
Modern House Painting.....	5.00
Old Homes Made New.....	1.50
Foundations (New Edition).....	2.00
Complete Details.....	2.00
Cutting Tools.....	2.00
Steel Square and its Uses.....	1.00
Mechanics' Geometry.....	5.00
Artisan.....	5.00
Detail Cottage Architecture.....	10.00
Village Builder.....	10.00
Builders' Guide.....	2.00
Album of Mantels.....	8.00
History of Architecture.....	15.00
Building Superintendence.....	3.00
Buck's Architectural Designs.....	50
American Cottage Homes.....	3.00
Village and Country Homes.....	5.00
Science of Carpentry.....	5.00
Universal Assistant.....	2.50
Plaster, How to Make it.....	1.00
Shavings and Saw-dust.....	1.50
Architectural Drawing.....	2.50
Lumberman's Hand-Book.....	2.00
Practical Geometry.....	1.00
Modern Architectural Designs.....	10.00
Practical Perspective.....	6.00
Architects' Companion.....	2.50
Model Homes.....	1.00
Hand Railing and Stair Casing.....	1.50
Drawing for Carpenters.....	1.75
" " Bricklayers.....	1.50
" " Cabinet Makers.....	1.50
" " Stone Masons.....	1.50
Building Construction.....	1.25
Linear Drawing.....	1.25
Cutting Tools.....	1.50
Cumming's Details.....	6.00
Stair Builders' Guide.....	3.00
Drawing and Shading.....	1.25
Carpenters' Manual.....	.50
Steel Square Problems.....	1.00
Work Shop Companion.....	.35
Bound Volume California Architect.....	2.50
Specifications.....	.50
Barn Plans.....	1.50
Solution Pyramid Problem.....	1.50
Swiss Cottage.....	2.50

THE PAINTER'S FOREMAN.

A BOOK OF VALUABLE RECEIPTS.

It explains how to grain or imitate French Walnut that cannot be discounted; also Black Walnut, Oak, Ash, Chestnut, Cherry, Satinwood, Bird's Eye, and Curly Maple; and the different woods that are imitated by graining. It gives you a sample color of the different kinds of background used to imitate the different kinds of wood, how to mix and what colors to use to make them, and how to apply them from the first coat to the last. The graining department is explained so clearly and fully that by following the directions any one can do a first-class job of graining. It also explains how to do different kinds of Fresco work, what colors to use, how to mix and apply them. How to grain or imitate the different marbles, what colors to use, how to mix and apply them. How to make the different kinds of wood fillers, the different kinds of oil finish, the different kinds of polishes. How to gild letters on wood. How to make and use small. How to paint banners, etc. How to make changeable signs that will read three different ways on same board. How to letter glass signs. How to do pearl work. How to gild on glass. How to color glass. How to choose wood. How to make paint for school blackboards, etc., etc.

In fact, it is the only work published that explains fully and clearly the different secrets of the painting art.

Price, by mail, post-paid \$2.00.

Address.

Crawford Co.,

F. C. SHEPARD,
EVANSBURGH, PA.

acter of positive outrages, so much so that the law-making powers have been, and from time to time will be called upon to change, modify, or entirely annul preceding enactments, which have been found to work hardships and injustice. All laws are presumed to be constructed upon the basis of equity and justice, but so long as they are of human origin, just so long will they be subject to human imperfections. Of this, however, for the present, owners and architects may rest assured, that in making excavations for cellars or other purposes, the party excavating is required, under the extra judicial edict of the Supreme Court in the case mentioned, to sustain and underpin all old, worthless, or other constructions on adjacent property, which has stood for five years or more; and by the decision proper, all adjacent owners whose improvements have not been in existence five years, are required to sustain and underpin their buildings.

No Cause for Owners or Builders to Rejoice When Lumber is Sold Below the Cost of Production.

ALTHOUGH the present price of lumber may be a boon to those building in the city, it is anything but agreeable to the wage workers in the lumbering districts. The rate at which lumber can be purchased, simply means a shutting down of the mills, or a decreased rate of wages; and as it is a well-known fact that a lumber mill deteriorates much more rapidly when idle than when it is in active operation, it follows that *low wages* will be the rule during the winter operations in the lumber regions, as the mills must be run part of the time in order to save the machinery from rusting, etc.

As explained in a previous article, over-production has been the cause of the break in the market; or, rather, to be a little more particular, non-consumption of the manufactured article, principally caused by the absence of a foreign demand, the latter item being the reason for the large quantity of lumber stored in the "Lumber Bone Yard."

It may be well to inquire what would be a fair rate for lumber, and yet leave a proper margin in first hands to cover extraordinary expenses. The price on the late schedule was \$22.50 per M. for rough. During the past week, we have heard of sales as low as \$13.00; while the former price is too high, the latter is decidedly too low. For although the latter may be of temporary benefit to those now building, or those able to lay in large stocks for speculation, in the end it will be found to work disadvantageously all around. There is, however, a fair profit all around at \$18.00 per M., and all over that price is but adding to the coffers of those who now have more money than they will ever need for the reasonable purposes of life.

It is almost impossible to name a price at which lumber can be sold the year around. The wage workers are in a measure responsible for this; the filling of unusual large orders, necessitates additional help; and when the lat-

ter observe that there really is lots of work ahead, they consider it a good time to *strike*, and so demand increased wages. The manufacturers, of course, add enough to the price to cover this increased expense, and thus the market becomes a battledore and shuttlecock.

This can only be remedied when men can be found who are willing to work by the year for a stated sum per month, taking the dull and brisk season into full consideration. Take a year's work under the present system; a common hand around a mill will get eight months' steady work at \$40.00 and board. Two months he will not obtain over \$30.00, and two months idle; during the latter period he will have to pay his board out of his previous earnings, say \$16.00 per month. So \$340 would be the full sum of his earnings. Suppose the same man should say to the owner, I will agree to stay one year for \$30.00 per month and board, and no lost time. He would have at the end of the year \$360, or \$20.00 more than by holding out for higher wages and temporary work.

We are not advocating by any means the rate mentioned; we use the figures given simply for comparison, to show that steady work is much preferable to occasional jobs. We are well aware that when lumber is selling at a high rate, it is not the wage workers that receive the benefit. True, they receive a slight advance, but nothing commensurate to the profit enjoyed by the manufacturers themselves.

Not only is it a sign of bad times in the lumber regions when the price is "way down," but the same thing is evident in every other trade, when the price of any particular commodity is below its normal condition. At present prices of hardware, the profits are so small that of necessity the manufacturers do not produce any more than is actually required, thus only calling into use a fraction of the great army of wage workers in that line. The same may be said of every other calling. Over-production or under-consumption of any line of goods leads to the same result. It is evident, therefore, that extreme low prices of any commodity, result in the end to the disadvantage of those who really require the most help.

San Francisco Chapter American Institute of Architects.

THE meeting of the Chapter was held on Oct. 3d. It being the first meeting since the election of officers, more than usual interest was taken by the members, and, as a consequence, a larger number were present than at any meeting since the installation of officers the preceding year. The President, A. Laver, occupied the chair.

The usual routine business was proceeded with. Proposition received from J. Laver as a student member. H. Geilfuss was elected a member as Fellow.

The President then read his acceptance of the office to which he had been elected. It was as follows:—

FELLOWS, ASSOCIATES, AND MEMBERS OF THE S. F. CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS: It is no ordinary meeting of the S. F. Chapter of Architects which I have now the honor of addressing; and with better health, trust that you will find me less remiss in my duties to the Chapter in the future than in the past.

You have placed me in the highest position, and to be connected with this meeting is not only to me a great honor, but also a great responsibility in one respect especially. I feel that the Association might have done well to have chosen another President. I cannot but congratulate you on the able administration of affairs by the past President and the other officers of the Chapter. Under their *regime* our Association has prospered and largely increased in numbers—the benefit growing out of the various schools of art and design for the advancement of the student, which have been established by them, should not be underestimated, in view of the great interests which cannot be withheld from the great future of San Francisco—the vast harbor with its defensible entrance which we possess, in which all the navies of the world can ride in safety, and toward which commerce seems to be gravitating, will make this city the equal in wealth and population to any city of the world. This, however, will perhaps not be for many centuries; knowing these probabilities, is it not well to lay the foundation for the architecture of the city worthy of its founders, and bring up our students in art to be equal to the great architectural future of San Francisco. Fellows and Members, it gives me pleasure to accept the position of President of the Chapter. I trust in your cordial support, and hope you will overlook my possible shortcomings. It is my fervent desire that good counsels, together with harmony and good feeling, will at all times prevail.

I now thank you warmly for the high compliment you have conferred on me by placing me in the chair. AUGUSTUS LAVER.

The committee in regard to the revision of the Fire Ordinances reported that they had received copies of the Ordinances of several different Eastern cities. During the coming week several more were expected. Upon receipt of these, the committee would be in a position to make comparisons with the older cities. Further time was allowed the committee to report.

Mr. G. H. Sanders then read an instructive paper on "Urban Improvements." It was ordered printed in full in the CALIFORNIA ARCHITECT. (It will be found on another page.) Adjourned.

Ingenious Idea.

It is told of a man living away down in the Nutmeg State, that he wanted to put a water pipe through a drain several feet below the surface of the ground, without digging up the drain. To accomplish it, he tied a string to a cat's leg, thrust her into one end of the drain, and giving a terrific "scat," the feline quickly appeared at the other end; the pipe was drawn through the drain by means of the string, thus saving considerable expense.

Balance of the numbers of this year given free to all new subscribers for 1885



FRONT ELEVATION OF \$5,000 COUNTRY DWELLING.—3D PREMIUM DESIGN.

Our Third Prize Plan.

In this issue we present the third of the series of prize plans. The author is W. Claude Frederick, 65 West Fayette St., Baltimore, Md.

The arrangement of the rooms is most certainly a novel one. The entrance hall is unusually large. It seems to have been the idea of the designer, to convert the larger portion of the first floor into one grand promenade, as he has omitted doors between the hall and the principal rooms connected therewith. We doubt the expediency of an open doorway in the dining-room, exposing those at the table to the gaze of all who may enter the front door. In California, even with its mild climate, fires would of necessity have to be kept in the fire-places most of the time, in order for the occupants to feel comfortable.

The conveniences attached to the kitchen are neatly arranged, the principal objection being the small size of that room.

The arrangement of the second floor is much more in keeping with our ideas on this coast. Abundance of closet room is especially noticeable. There is, however, an utter lack of stationery wash-bowls. One only is provided in the bath-room. It is almost inconceivable to us on this coast, that a house of this size should be unprovided with those most necessary appendages. It most certainly would cause a great deal of labor for a servant to carry all the refuse water down to the yard, as she must needs do, no hopper being shown in either story.

In the basement are located the laundry, vegetable cellar, wine cellar, fuel room, and

furnace. In the attic are three servant's rooms, trunk room, and a billiard room.

We regret that the various estimates for the different work connected with the design, have been misplaced. The amount as furnished us by the architect is \$4,889. To this should be added 5 per cent. for architect's fees, making total cost \$5,114. We are assured by the designer that the house can be built as per plans, for the sum mentioned, in the vicinity of Baltimore.

A LITTLE chloride of lime dissolved in warm water left in a lamp or a can which has held kerosene will deodorize it very soon.

Balance of the numbers of this year given free to all new subscribers for 1885.



Side Elevation of \$5,000 Country Dwelling.—3d Premium Design.

The Way That Houses Are Ordered and Planned.

WHEN a woman goes to a dry goods store to order the materials for a dress, she has usually something like a definite idea of the kind, color, quality, and quantity of the stuff and trimmings needed; but whether a man, or a married couple, or a woman give the order for a house, one and all have usually but a very undefined notion of the size or number of the rooms, of the quality and quantity of the materials, or of "trimmings," external or internal, that they require. All these things are left to the interpretation of the architect, if he is called upon, but, if not, to that of the builder, who, for the occasion, is compelled to do an architect's work. Under these circumstances it is no marvel that the plans have to pass through three or four editions, to the great dissatisfaction of both architect and client; for though it is doubtless the province of the architect to provide for all the needs of the plan and for the details of construction and ornament, it is yet impossible that he can make the size and arrangement of the rooms to suit, unless the client has definite ideas upon the matter, and is capable of explaining them. Few persons have clear conceptions of size. How large a room 16 feet by 12 is they have no idea. When the length and width are measured off for them upon the floor of a large office, they think the dimensions awfully small, and make them 20 by 15. This does very well on paper, but when the estimates come in, there is wailing and gnashing of teeth, and the design has to be submitted to the process often called "boiling down."

A design for a house is usually made something in this wise: A man suddenly makes up his mind that he will have a house built. He has waited until the last moment for his decision, and rushes to the knight of the T-

square with the request that he will at once get out the plans and specifications for a house to cost so many thousand dollars. Perhaps he wants it like So-and-So's house, and, occasionally, he has a wish for a bay window to one of the parlors, or for two communicating bedrooms. He wants to see the drawings in a day or two, and to commence work in two weeks or less. The architect—who is generally, in these progressive and mechanical days, neither an artist in general nor a student of architecture in particular, but simply a man with considerable tact, and knowledge of men, and with an extensive acquaintance among moneyed men and speculators on the one hand and among practical builders and artisans on the other—has been through the operation so often that he has become case-hardened, and simply orders one of his assistants, probably the youngest, to make a copy, with variations, of a plan that has been used before. This is done, the sketch is submitted, alterations are made, and finally all is ready. The architect puts as little thought and labor into it as possible. In matters of construction, sewerage, ventilation, etc., he follows the exact routine to which he is accustomed, and in ornament and finish he sticks to his own stock patterns to save time. Except in a few points of arrangement, which are evolved in consultation with the client, the house is as like a hundred others turned out by the same firm as though it were made by a machine. Some architects do better than this—think, plan, design, try to perfect sanitation, construction, ventilation, ornament, etc.; but such architects remain poor. They are voted slow and behind the age, get no work to do, and are usually considered fools for their pains. The same general truth holds good for houses and architects, medical practice and doctors, congressmen and government, namely, the general public that needs houses, medicine,

and government, must itself know more about house building, physiology, and social science before it can expect to be served by better architects, better doctors, or a better set of law-makers.—Sel.

Fire in Hay Lofts.

THE *Scientific American* makes a suggestion as to the cause of the frequent burning of barns, which deserves the attention of architects. As an illustration of its theory it relates a story of a workman who, while helping to get in some hay which had been gathered in cocks and protected with caps the night before, remarked that the hay was warm. Another man suggested that it might be hot enough to light a match, and the first, to satisfy himself, dropped an unlighted match into a rick near by. In five minutes the rick was in a blaze. If hay stacked in an open meadow will set fire to a match, the *Scientific American* thinks that when packed in masses in a close loft it may heat so much as to kindle the more combustible particles, and burn itself, with the building containing it. Any one can satisfy himself of the effect of fermentation in raising the temperature of leaves or other vegetable substances by looking at a thermometer plunged in a fresh hot-bed, or by thrusting his hand into a heap of moist leaves, or fresh-cut grass, or even tan bark. In the former case he will often see the mercury far above one hundred degrees Fahrenheit, while the hand will sometimes detect a heat in the interior of the mass which it cannot bear without some discomfort. The larger the mass, and the more closely it is packed, the higher will be the heat, and where the air is prevented from circulating, the constant addition of heat may bring it to the point of charring the woody particles. Once at this stage, the sudden admission of air would probably set the charred material into a blaze. The best way of avoiding this danger is to provide thorough ventilation for hay-lofts. With free access of air, not only is the fermentation of the imperfectly cured hay checked, and a part of it thus saved from spoiling, but the heat is carried away before it becomes intense enough to do harm.

A HINT FOR TAX DODGERS.—In Mianus, Conn., there is a house built twenty-five years ago by a man named Van Nostrand, who has lived in it all these years without removing the scaffolding that was used in its erection. Only part of the rooms are finished, and it is said that the house was left in that condition to escape the payment of taxes.

To WRITE upon terra cotta tablets, dip the clay tablet into milk with a few drops of acid added, and then dry. When this is done, you can write upon it as easily as upon paper.

Balance of the numbers of this year given free to all new subscribers for 1885.

FLATS, Their Disadvantages and Conveniences.

MANY have been surprised at the large number of "flats" erected in this city during the past three years. At first the impression seemed to be among those whose business it was to study the wants of the people and provide accordingly, that the "flat" system of building was an erroneous one, and in a short time would be relegated to the obscurity of the past; they did not comprehend that in this system there would be found a solution of a difficulty, the solving of which has occupied the attention of American housekeepers for years. The one great question has been, how best to combine the comforts of a home, and all the privacy and freedom thereby implied, with the smallest degree of expense, and the least household cares.

That this question has been answered satisfactorily, is proven by the large number of flats already erected, and in process of construction. We propose, however, to present a few of the drawbacks, as well as the advantages of the system under consideration.

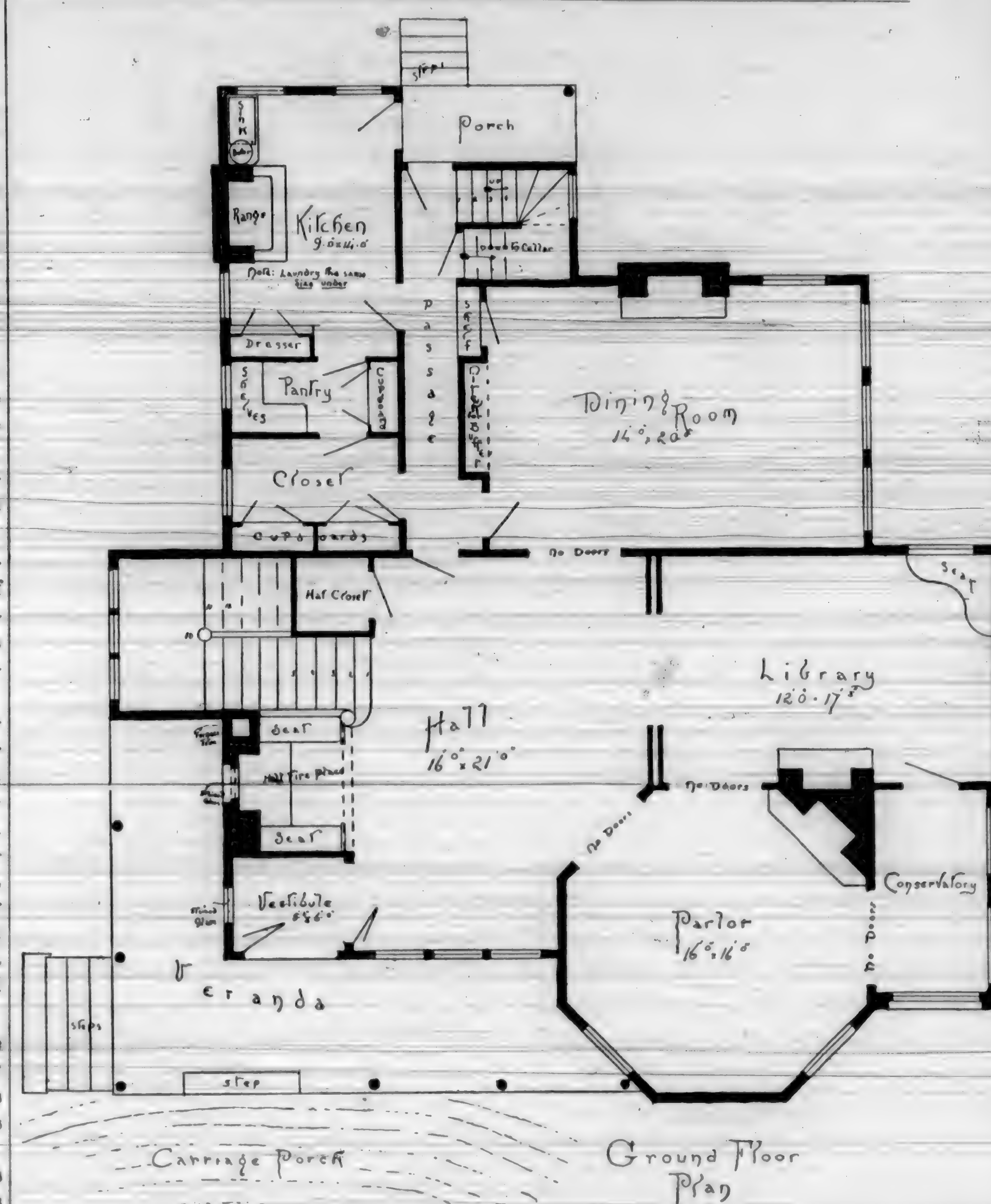
In the first place, there is always the impression—if you are a person of sensitive feeling—that you will annoy the people down stairs; and this impression is greatly heightened if you are lucky enough to possess several children. California children are proverbially healthy, and when they romp and play, no thought is given as to that which is over their head, or under their feet beneath; and so the delicate (?) tramping of the little feet may cause folks down-stairs to wish flats had never been thought of.

Again, it may be that you yourselves are quiet and the tenants above are the noisy ones. If so, you have a chance to see how it is for yourself, and endeavor to keep as quiet as possible for the comfort of those below.

Many complain that the servants in flats are too handy and just in the way; one does not, you know, feel free when a servant is in the next room, and liable to overhear your conversation. To this objection we will say right here, that the class of buildings referred to, are not for people able to keep servants. They are intended as a home for families, and, as a rule, but little provision is made for a room for any one outside of the family; a *spare* room is not to be thought of.

One of the most serious objections is the lack of yard room. This is especially felt when one is blessed with children. Probably much more confusion is caused by the noise from play in the yard than from any other cause. Generally the yards are covered with tongue and grooved flooring. Where there are three of these over each other, the lower tenants suffer at times more than their share from the noise.

Much of the inconvenience from this cause can be overcome by adopting a similar plan to that used inside, viz., *deafening*. The timbers supporting the different yards should be heavier



First Story Plan of \$5,000 Country Dwelling.—3d Premium Design.

to allow of the extra weight necessary for deafening to be used.

Another great advantage of flats is the inducement offered to young people by the knowledge of cheap rents, to get married. The first thought of every newly married couple should be to own a home. While saving their earnings for this object, nothing is more conducive to a general understanding of the ways of this world, than to keep house; by this means they learn to be frugal and to purchase only what they need, and not that which they may desire. Flats, from the cheap rent for which they can be had, give every young couple a chance to start immediately in their own cosy home.

Flats also give to many a chance to gratify their taste for show. Landlords have taken

this freak of tenants into consideration. The outside appearance of the house is made very ornamental; the interior, with the exception possibly of the parlor, is left with very plain finishes; using the latter reduces the cost of the building, and thus cheaper rents are secured.

Taking all the disadvantages and conveniences into consideration, we think that the system referred to is one that meets the approbation of a majority of those whose means are not sufficient to have a house all to themselves.

In putting up your screen doors and windows be very particular to have a little hole in one corner so that the flies can go outdoors when they get tired of being inside.

Balance of the numbers of this year given free to all new subscribers for 1885.



SIDE ELEVATION OF \$5,000 COUNTRY DWELLING.—3d PREMIUM DESIGN.

Various and Sundry Conundrums.

To the Editor of the Builder: One of our Chinese students, after visiting a young ladies' seminary in New England, expressed his opinion of the institution by the remark, "Too much plenty girls." My sister house-keepers may not believe it, but I have too much plenty of another good thing—to wit, closets. To tell the truth, I don't so much object to the closets themselves as to the doors. What can I do with all the doors? A. B.

Richfield, Conn.

A very good way to manage obtrusive closet doors is to take them off and send them to the auction room or give them to the poor, substituting portieres. These will not give so much protection against burglars, moths, dust, inquisitive servants, and other troublesome insects as a good, stout door, well padlocked; but if you have several closets, one or two can doubtless be treated in this way to hold those things which are least valuable or tempting. Another can be disposed of by fitting the lower part with drawers, the face of the drawers forming a neat finish, with open shelves above for books or bottles. When two closets for one room stand adjacent to each other, it is sometimes practicable to make a small lobby between the two, with a door opening to the closet at either side, thus keeping the two separate closets, but having but one direct opening into the chamber.

Sliding doors are usually convenient for closets, because, as few, it is greatly to be feared, make a practice of entering their closets and shutting the door, there is not the ordinary objection to them in closing after passing through, and they are not half so troublesome or dangerous as the ordinary swinging sort.

Dear Sir: How can we manage the outside blinds on our wide, very wide, windows? The blinds sag when they are open so they will

scarcely shut. The fastenings are so far around outside that I am in fear of breaking my neck when I try to reach them, and if a gust of wind happens to catch them, it would take a sailor to bring them into place. We must have outside blinds, and we can't give up the wide windows. MRS. E. K.

Manchester, N. H.

So far as crawling out the window to reach the fastenings is concerned, this is unnecessary, for there are fastenings that can be operated close by the hinge, and even inside the house, without opening the window at all. Of course they will sag, all things earthly sag unless well supported, and wide blinds should have something firm to rest upon, to keep them in a strong, upright position, both when open and shut.

The sail they carry is inevitable, and in a country of furious winds there is no protection against disaster from this cause but caution. There are outside rolling shutters, which would not be exposed to this peril, but they may have other serious defects, and are always expensive. We have seen outside blinds contrived to slide sidewise on a slender track, and this arrangement obviates the essential difficulties referred to. They can neither sag nor slam, and can be reached without leaning around the corner of the window sill to a dangerous extent. Of course, the tracks and guards will show, but that is not an unpardonable sin in a thing which is really useful.

WE are in a quandary about the front door. The houses in our village are "all in a row" along the one street that runs east and west. We live on the north side, consequently the house faces south; the lot is not very wide, and we hate to give up any part of the south side for a front door and hall. What can we do? H. M. G.

South Windham.

Whatever else you do, don't give up the sunny south side to the formal entrance hall—

always uncomfortable and rarely used. Either make the front entrance at one side, leaving the whole of the south front for rooms for daily use, or else make a hall in one corner large enough to be used as a sitting-room. There is no law requiring your main entrance to face the sidewalk squarely except the law of fashion, and the more frequently and courageously you break this law, the greater will be your reward. Whether the entrance shall be on the east or the west side, the sitting-room hall in the southwest or the southeast corner, will depend, of course, upon the approaches and surroundings.

OUR chamber has three large windows, which is all right, only they are so placed that if there happens to be a breeze and the windows are open, the bed is directly in a draft. Perhaps this doesn't concern building, but I think if the house had been properly planned in the first place, it might have been avoided. Can anything be done to remedy the evil and still leave us the open windows? A. R.

Lowell.

Doubtless it is a question of house-keeping rather than house-building; still, as the fault is ascribed to the house, it is not amiss to ask for suggestions. People have been known to turn their beds around during the summer months, so that the high head-boards would turn aside the currents of air; but we think the simplest, prettiest plan is to have one or two light folding screens, say five feet high and five or six wide when fully open, that can easily be placed where they will do the most good—that is, where they will intercept the

"Blasts of evening air
That take our health away."

And, what is more agreeable to some of us, ward off the too bright rays of the early morning sun when we desire a little more folding of the hands to sleep.

OUR dining-room would be quite satisfactory if it were not for a very ugly notch which is taken out of it by the back stairs. We want precisely the space they occupy for a sideboard. Without seeing the house, can you suggest any way of disposing of them? Lennox.

M. C. D.

No we can't, and should not attempt any reply whatever, but for the opportunity afforded of saying in a general way that housekeepers, as a class, suffer untold martyrdom by means of their back stairs. They (the stairs, not the housekeepers) are very apt to be, as evidently in the present case, just where they ought not to be, and just what they ought not to be—steep, dark, narrow, crooked, dangerous, and, withal, used continually, both by the servants and the mistress. In some cases it would be wise to destroy them, root and branch, compelling the household to use the revered front stairs, which are, presumably at least, safe. Another expedient, not often adopted but nearly always practicable, is to make an addition outside the main walls, in cold blood, boldly, in defiance of Mrs. Grundy and all the builders, that shall contain a good, strong, easy, and well lighted staircase—that, and nothing more. This will not only be found more convenient, but very likely more economical than the making over or readjusting a flight entirely within the house.—The Builder.

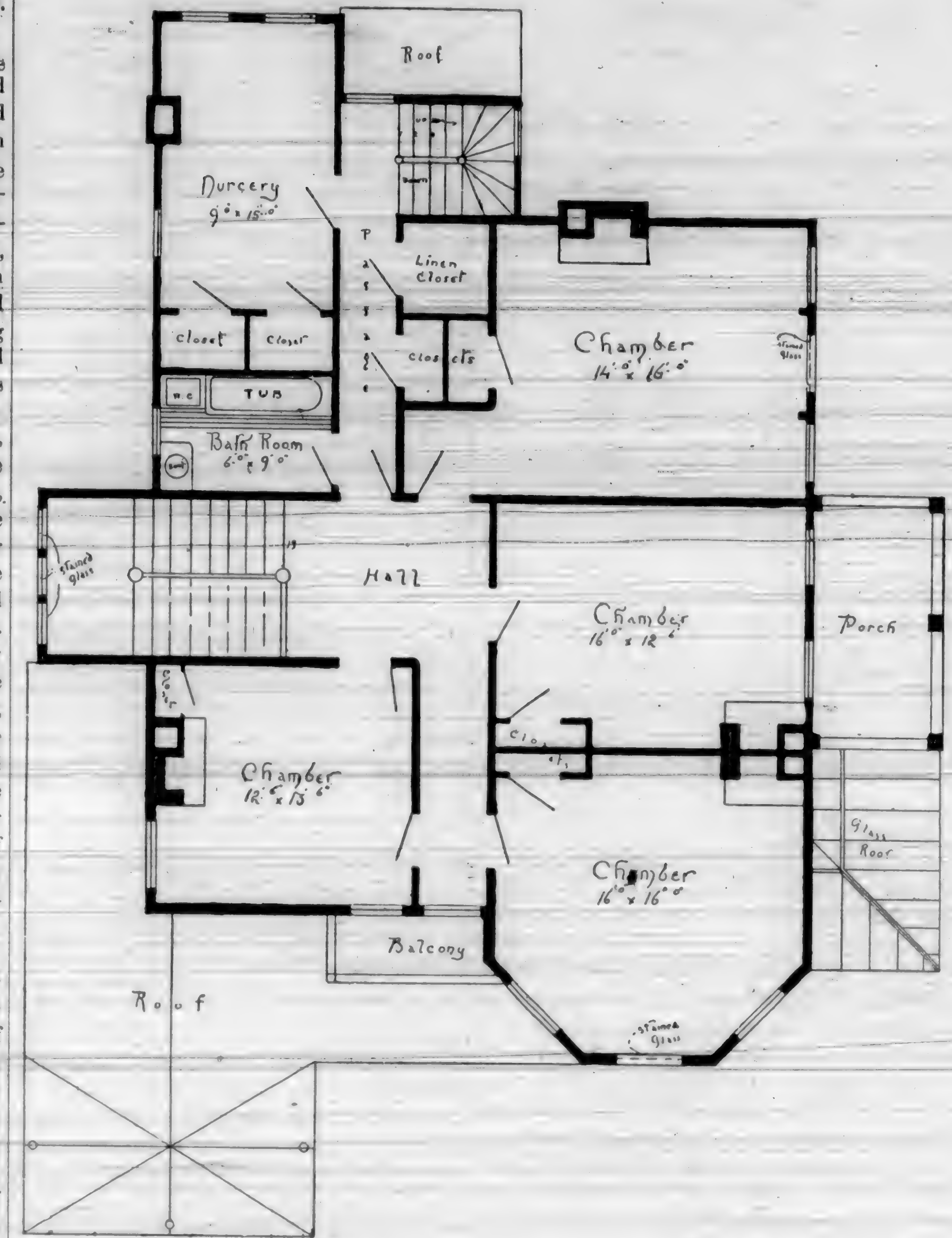
The Enriched Grained Varieties of Redwood.

It was not until many millions of feet of the more richly grained redwood of California had been recklessly and thoughtlessly consumed for general purposes, that special attention was attracted to the fact that a considerable percentage of redwood lumber possessed characteristics of great beauty and inherent qualities as to shrinkage and in other particulars, which entitle it to favorable consideration among the ornamental wood of the United States, for manufacturing and house finishing purposes. During the earlier periods, and until more recent years, the rich, curly "bird's eye," and other peculiarly marked species were cut for "rough lumber." The softer, straight grained kinds being so much more "easy to work," less liable to shrink endwise, and not so liable to split in nailing, became the favorite material for building and other purposes for which redwood was used, to the exclusion of the wavy and peculiarly grained varieties from the list of first-class redwood. Consequently, trees, or logs indicating the very features, which of late has given prominence to California redwood, were cut into plank, scantling, and dimension lumber, where size and strength were specially required; and millions of feet of choice grained wood have been split into railroad ties, and cut up for firewood, and otherwise destroyed, which, if to-day was available in board lumber, and on the market, would command a largely advanced price over and above present merchantable, first-class redwood.

The redwood forests of California have yielded some most beautiful specimens of tree growth, which, for richness and peculiarity of grain, is excelled only by the finest of costly hard wood. The peculiarity of shrinkage endwise is, perhaps, special to this wood, but does not extend beyond thorough seasoning, which perfects itself much more rapidly than in California sugar, or Eastern States pine. The value of the one discarded kind of redwood for manufacturing and finishing purposes has greatly increased during the past few years, and the present demand is greater than the supply of the "handsome variety," even for home consumption. Consequently, manufacturers of redwood lumber are paying attention to this fact, and will in the future regard with special interest such trees as will produce the rich grained article.

Something for Nothing.

THE desire to get something for nothing seems to be inborn in human nature. In general, people count themselves fortunate if they get an entirely satisfactory equivalent for an expenditure of time, labor, or money. Few, however, are averse to receiving benefits without rendering an equivalent. Newspaper publishers long since discovered this tendency of human nature, and are reminded of it often enough to keep it from passing out of memory. These gentle reminders seldom come in requests



SECOND STORY PLAN OF \$5,000 COUNTRY DWELLING.—3d PREMIUM DESIGN.

for gratuitous space in the regular advertising columns, although such instances are not unknown. The editorial columns are good enough for people who are willing to accept gratuitous advertising. This class of people always have something which they feel sure the public and ourselves must be interested in, and as a matter of news, you know, etc. Now, no persons in the world are so eager to get hold of news, something good, which they can appropriately use, as newspaper men. None have so keen an appreciation of what "the public" will be interested in as they. But there is a very wide margin between what would interest the party concerned and what would command the attention of the public, which has no personal interest in the matter. The obligation of the newspaper publisher is honestly discharged when he has given a certain amount of space in his advertising columns in return for a stipulated

consideration. But, as a matter of fact, publishers are exceedingly liberal in their notices, reports, news items, etc., which call the attention of readers to persons or products. These notices, while they are of value to the business of the persons or firms mentioned, are gratuitously published because they are of interest to the public, and are a part of the history or record of the progress of trade. No class of business men in the world render so much service to business interests without asking or expecting direct return as newspaper publishers. Such being the fact, it is not strange that they should sometimes feel that good nature is trespassed upon when people who rarely or never do legitimate advertising go too far in their efforts to secure something for nothing.—Amer. Artisan.

Steel Square and Its Uses. \$1.00.

Urban Architecture.

BY G. H. SANDERS.*

SAN FRANCISCO, whether viewed from a distance, or seen from within, cannot be called, by even its most ardent admirer, an attractive city. Covering the lower ground and creeping over the hill-tops like a lichenous growth, it presents to the eye of the observer no single feature of beauty or of grace; nothing to excite the imagination or please the taste. Surrounded on all sides by lovely stretches of flashing blue water, the undulating lines of still bluer mountains, and overspread by the canopy of our glorious blue sky—beauty everywhere, by night and by day—the city itself presents to the disappointed spectator the barren desolation of a dry, verdureless waste! A closer inspection only adds to the dissatisfaction of the beholder. The general condition of the roads and sidewalks and other necessary evidences of a prosperous community may be truly said to be indescribable! While the city is not wanting in many structures of real architectural merit, they are so handicapped and disgraced by their immediate surroundings as to leave upon the mind only a general impression of dilapidation and disrepair!

Not a single street in the city can be said to afford to the pedestrian a continuously agreeable walk. Scarcely a street in the city possesses a paving of one uniform material of approved quality. Stone blocks moldering, tarred brick, cobbles, rotten planks, ill-conditioned macadam, or the picturesquely varied surface of Mother Earth in her roughest aspect, succeed each other in bewildering succession, and dispute possession of the streets, even down into the very midst of our busiest business centers. One of the causes for this state of things is doubtless found in the fact that no block in the city can be improved without the consent of the majority of the property owners, accompanied with a deposit of the estimated cost—a necessary and useful arrangement in some respects, truly, and an admirable provision for the protection of unwary citizens against the wiles of the knavish contractors of a few years ago; but one, nevertheless, which seems to work a serious discredit to the appearance of our city.

But one of the principal reasons for the desolate aspect of our streets intimated above, is the conspicuous absence of trees. Wheresoever they are planted and *allowed to grow*, they lend a grace, even to dilapidation, while they never fail to afford a beautiful and necessary foil to the most perfect architecture.

And here I wish to interpose a vigorous protest against the *gardener* fiend, who goes about with shears and saw, leaving bald deformity and relentless destruction in his wake! The finest and most promising trees go down before him, and the small moticum of umbrageous beauty we possess is either converted into some form of unnatural monstros-

* Paper read before the San Francisco Chapter of Architects, October 5, 1884.

ity, or is subjected to such mutilation as, alas! too often results in total destruction to arboreal life. Times and seasons never come amiss to the gardener fiend, and the more trees he destroys the better chance for him to sell others to replace them; and to aid him in his nefarious schemes he raises the nearly always false alarm of *dampness*! Go to the beautiful because leafy towns of Oakland, Alameda, San Jose, Santa Rosa, or Sacramento, and ask the inhabitants thereof if the lovely and verdant sentinels, which, in double ranks, guard each shady street and wave high in air their graceful, leafy plumes—ask, I say, if they find *dampness* a consequence of which to complain? Give me tall trees, branching trees, with abundant foliage, and plenty of them, and hail, all hail! to the noble and beautiful blue gum, to whose fresh, verdant leaves no speck of dust ever adheres, and from whose fragrant foliage exhales the very breath of health and sanitation!

What would this world be without the blessings of vegetation? Neither better nor worse than the hideous barrenness of lunar desolation! And yet the average man, in his blindness and folly, never ceases to make havoc of the perennial bounty of prolific nature. But even while she showers her abundant gifts upon her ungrateful children, they fell her forests year by year to gratify their boundless rapacity and selfishness, never even planting a sapling to replace the centuries' monarchs, which they so ruthlessly destroy!

The average farmer only regards the trees on his land as something to burn, and, heedless of consequences, cuts down the finest of them all, to satisfy a passing need! The average townsman is also an enemy to trees, and avoids them whenever he can. The man of intelligence alone regards trees as they really are,—agents of mercy in the hand of God, and endeavors to renew, by planting, the verdure destroyed by his ignorant neighbor. The benefit of trees in the streets of a town, and especially of San Francisco, should not need to be explained. We are every summer swept by comparatively cold trade winds from the west. Every tree planted acts as a wind guard, and serves to modify the blast in its passage across the peninsula.

Rows of trees planted in our streets would greatly temper the harshness of our climate, and would render the town a much more agreeable place of residence, especially to people in delicate health, outside of any considerations of beauty.

But attention has been drawn to the general condition of San Francisco only to furnish a reason for the observations which follow. It seems wholly unnecessary to enlarge on the themes above briefly touched, which one would suppose must be so apparent to those who allow themselves to be interested in such matters, as to sound somewhat trite.

Not must it be supposed that the city possesses no natural beauty whatever, for even while I write, on the upper levels of California Street Hill, over-looking the city, the fog has swept

across the lower portions, revealing only the larger buildings, and the City Hall, the Synagogue, Trinity, St. Ignatius and other churches, and the great hotels lift their domes, towers, spires, and roofs, through its soft and swathing mantle, and the rising sun gilds them with a glory of soft, matutinal beauty which must be seen to be appreciated, while the Mission Hills beyond, with their lovely waving lines of delicately shaded gray, with the blue mountains of San Mateo County towering beyond, all together present to the admiring gaze as pleasing a picture of quiet beauty as any often seen.

And here I would add a word concerning towers. These appendages to buildings, ancient or modern, notwithstanding their often apparent inutilty, never fail to lend a grace and dignity to a structure, or group of structures, to which they may be attached, unattainable without their aid,—a lofty line leading upwards; a tapering spire reaching heavenward; a square, bold mass rising abruptly against the sky; a graceful pinnacle, whose delicate outline is a perpetual protest against the coarseness and ruggedness of every day life—all, all, are types, of things mental, intellectual, and even spiritual, which in their silent way may act upon the soul, and do their humble, patient, but, nevertheless, noble work of elevating, refining, and spiritualizing to some extent, more or less, the base materialism to which we are all inclined. And by purifying the perception, and educating the taste for the pure, the sublime, and the beautiful, may in some measure prepare the popular mind for the reception of some things that are not popular, namely, the *true*, the *noble*, and the *good*.

To return to our subject. All that San Francisco, that any city needs to become beautiful, not only as seen from the hill-tops, or at a distance, but even in every nook and corner of it, is *supervision*—and improvement. Supervision by people of taste, observation, and experience on the artistic side of practical, every-day life. Such men as *architects* are or ought to be. Who so well fitted as they (constantly engaged as they are in the construction, improvement, and adornment of buildings), to see and suggest the aesthetic needs, necessities, and possibilities of the various localities in which they reside.

Some years ago, in a New England village, it matters not which, there lived a man who saw—well, first of all he only *began* to see—certain disagreeable and desecratable things in the neighborhood in which he lived.

The village was an ordinary village,—white-painted clapboard houses, with green shutters, here and there a brick. In the principal street there was some sort of attempt at paving; in places, fragments of sidewalks stretching away into the borders of the town, and ending in foot-paths beside dusty roads in summer, and muddy roads in winter. Irregular dilapidated fences inclosed ill-kept front yards or gardens, lined by treeless, desolate streets, or perhaps having a chance tree here and there apparently by accident. Each householder

plodding on in his own fashion, altogether regardless of his own or his neighbors' surroundings.

These matters began to interest him, and he felt convinced that by some sort of concerted action a better state of things could be brought about. He gathered together some of the most intelligent of his neighbors, and after meeting with the usual amount of opposition, persuaded a few of them to join him in effecting a few improvements in their own immediate neighborhood. Their street was nicely paved; sidewalks were put in order; front yards improved; fences repaired, and houses painted some other color than white. Trees were planted, and gardens laid out; and they were surprised to find that their property had sensibly appreciated in value. That settled the question with the opposition. The dollar was eloquent, if the man was not, and improvement spread. Trees grew, roses blossomed, beauty began to be developed out of ugliness, and passing travelers began to say, "What a pretty village." Soon dwellers from the neighboring city began to look in, and one or two came to make a summer resort of the place; then others came; better houses began to be built; trade improved; and still improvement went on. The original "improvers" became a permanent society, called a "Village Improvement Society," which found an echo in other dilapidated villages. All sorts of expedients began to be adopted to make country towns and villages more attractive to city dwellers, so that at the present time there are few places in New England, in the neighborhood of large cities at least, which have not felt the impulse of improvement. But it may be asked, What has that to do with San Francisco? It may be answered that what is possible in a village, is equally possible in a large city, and with still greater possible results. The difficulties may also be greater, but one thing is certain, improvement pays, and that is an argument, appealing as it does to the innate selfish interests of the average American home, which seldom fails to attract his attention. The next question in order is, of course, What do you want us to do? I answer, in the first place, simply to convert the San Francisco Chapter of the American Institute of Architects into a Committee of the Whole on "Local Improvements," and to let each member of the Chapter consider himself appointed as a standing Committee of Investigation and Suggestion, whose duty it will be to report at any meeting of the Chapter on all the various and sundry needs, necessities and possibilities of his own particular neighborhood. In the second place, to endeavor on every available occasion, to interest his neighbors by every available means in joining in the "Improvement Mania." On fit occasions the whole Chapter might interest itself in drawing the attention of the citizens of some particular locality to the desirability of effecting some special object—such as the planting of a street for instance, the improvement of some one of the many unimproved squares in the city, the uniform pavement of some leading street, the plac-

ing of a fountain or a "toilet Kiosque" in some public place. It is a noticeable fact that San Francisco possesses as yet not one public latrine! Where is there a city of like size in which such a state of things can be found to prevail, in any really civilized country? As to fountains, there should be one in every park and in every prominent place in the city, especially in the neighborhood of the principal saloons. Local societies of property owners together with such members of the Chapter as happened to reside in the vicinity, would be very desirable and doubtless possible in certain quarters. Some adequate efforts might be made towards converting Van Ness Avenue into a "Boulevard" with park lots, and grass-margined sidewalks. It would soon become one of the most attractive features of the town, and would be a good beginning. It is said to have been the original intention in regard to that thoroughfare. All that is needed is to get the popular ear, capture the popular eye, and arouse popular attention in the interest of the popular pocket, and the thing is done! For I hold that any improvement in the appearance or convenience of a neighborhood will at once be found to affect the commercial pulse, the pulse which controls the golden current, which circulates like life-blood throughout the popular body, and is at once an indication and a test of the state of the public health not only in a sanitary point of view, but mentally and intellectually as well; for prosperity as surely follows, men-



REAR ELEVATION OF \$5,000 COUNTRY DWELLING.—3d PREMIUM DESIGN.

tal and moral advancement as does health follow sanitation; and both in their way form respectively a basis for the better life, which is the real strength, not only of individuals, but of communities and nations.

Painting Shingled Roofs.

MORE shingle roofs are painted now than ever before in the history of building in this country. It is mostly seen in cities and suburban towns, although in the country it is by no means rare. Considerable inquiry has led to the conclusion that many have their roofs painted to add to their appearance, which in many cases it certainly does, while others labor under the impression that the paint acts as a preservative to the shingles. The latter are probably right, provided the paint is renewed as often as it needs to be. If the roof is allowed to remain with the paint partly worn off, the shingles will retain more moisture, and consequently decay sooner than they would were they not painted at all. On the score of durability, little can be gained in cost by painting. A good shingle roof unpainted will last a great many years, and the expense of painting it a few times would replace it. One painter, who had painted the roof of his own house, when questioned by a representative of the *Lumberman*, used good logic from his stand-point. He thought that painting a roof would add somewhat to its length of life. "You see," he said, "that I have painted mine. I do for myself what I desire to do for others. If I did not, the influence would be bad."

American Architects.

THE American Institute of Architects will be convened in annual convention on the 24th inst., and continue in session three days.

The aims, objects, and purposes of the institute should enlist the earnest, thoughtful interest of every intelligent and worthy member of the profession in the United States. It should be recognized and treated as the great "camp-fire" of the profession, around which all should gather—if not in person—in fraternal thought and reflection, at least once a year. As the "parent organization," it has exerted a very beneficial influence in numerous cities and towns, in the organization of local chapters, and the bringing together in fraternal fellowship and intercourse, thousands with interests co-equal and alike, who otherwise might have remained estranged in sympathies for all time; and it is to be regretted that there are and always will be some—and some very excellent and competent men in the number—who prefer professional bachelorhood—a pre-eminent selfishness—rather than a liberal and generous, personal, and intellectual intercourse with others as worthy in all respects as themselves.

To such, there is a standing rebuke in the fact that the parent body has had and holds in its list of membership, many of the brightest lights of the profession—men to whom every intelligent architect in the United States is indebted to a greater or less extent, for the very information and knowledge which enables them to handle with greater perfection the numerous intricate principles and problems involved in the practice of correct architecture.

At the time when the institute was first founded—1852—almost co-existent with California as a State, the architecture of the country was still in the tight laces of ancient ideas, but very few attempting in their conceptions to depart from the teachings and examples of Angelo, Wren, and others of those whose names and memories will continue co-eternal with the grand architectural monuments upon which their names are inscribed. But with the coming together, in 1852, of men of common sympathies and interests, and the development of more enlarged views and fraternal sentiments, there was a nucleus formed, which has since opened out into a broader field of thought, and led to innumerable results—in conception and execution—differing widely from those of former ages, yet practical; serving all present purposes well; in harmony with the advancements of the period; suiting and serving existing conditions better, and more pleasing to the tastes and fancies of present generations, who construct and build, not to meet the views of their successors in life, but for their own present pleasure or profit.

The history of the institute from its inception until the present, is interesting and worthy the sincere attention of every well-wisher of the profession. As before stated, the date of its inception was 1852, but as the

result of our country's trying times, when bloody strife, instead of the peaceful pursuit of architecture, prevailed, its meetings were discontinued and its archives consigned to temporary obscurity, until in 1864, when the return of peace had so far removed the gloom of the past, that the members of the institute renewed active operations, and have since continued, each year enlarging and increasing its influence, and pointing to the time when interest in its welfare will be universal, with all good and true men of the profession.

From an address delivered before the institute (Mr. Gilman), we quote: "It is to the position taken by the institute, and to the wise, beneficent measures inaugurated and urged on the general community by our own body, that I look mainly for the future improved position of the profession; and for the gradual education of the public taste in all that relates to our complicated and fascinating art. I may say now, what I have never lost an opportunity of saying, both in private and public life, that I consider it a great privilege—the greatest privilege in fact that can belong to the professional architect—to become a member of this body, and thus be permitted to aid, individually, as well as collectively, in the great work that we have to do."

Although S. F. Chapter was first organized as the "Pacific Coast Association of Architects," as such its success and permanency was doubted, inasmuch as several attempts of similar character had not long survived their organization. With Mr. Augustus Laver as the first—and at that time the only "Fellow" of the institute in San Francisco—a knowledge of its high character, and of the great benefits likely to flow from union with the central head, led to an earnest desire by all the members, that the "Association" should resolve itself into a "Chapter," which was duly accomplished; since when its growth in interest and permanency has been steady and continuous, and is now well established. And if all the reputable brethren of the profession would, with unity of high purpose, and the earnestness of which they are capable, join heart and hand in setting in motion and perfecting all that a united body of well-meaning, honorable architects may and—if they will—can accomplish, S. F. Chapter would equal the best and most prosperous, as it is now in membership, one of the most numerous Chapters in the United States.

St. Peter's and Angelo.

"TO POPE JULIUS, the world is indebted for that wonder of architecture, St. Peter's Church, at Rome. The vanity of Julius had prompted him to order Michael Angelo to give him a design for his tomb, which the great artist made upon so grand a scale that the choir of old St. Peter's Church could not contain it. 'Well, then,' replied the pope, 'enlarge the choir.' 'Ay, holy father, but we must then build a new church, to keep up due proportions between the different parts of the edifice.' 'That we will do,' replied the pope; and im-

mediately gave orders for the sale of indulgences to carry on the erection of the noble fabric.

"Some of the figures intended for the pope's Mausoleum, the famous figure of Moses sitting in St. Pietro da Vincuti at Rome, and two or three of the slaves at the Hotel de Richelieu in Paris, are preserved. The original design of the tomb is engraved in Vasari; it has much of stately gothic grandeur in it, and was to have been decorated with thirty-two whole length figures of prophets and apostles."

"Eastern" Specifications.

WE have before us copies of printed specifications published in Chicago, intended by the author to meet all of the specification requirements for buildings costing from \$500 to \$10,000. However well adapted they may be for the purposes for which they are intended in Eastern cities, they are in many respects inapplicable to the architectural and constructive arts as practiced upon this coast. To fit them to the building customs of California, they would require considerable corrections. The materials named in numerous cases being altogether different from those known and used on this coast for like purposes, and the general idea of construction differing considerably. Reference is made, not to the intrinsic merits of the documents, but more especially to the fact that the architectural and constructive practices established upon this coast are largely in contrast with those of other cities,—to a great extent special and original, and the greater part of the lumber material particularly. Being Pacific Coast production, it is a very difficult matter for any one to arrange specifications suited to materials special to Eastern markets, and to professional and mechanical customs prevailing, and differing greatly from those in common practice in California.

Eastern Architecture.

WE present on page 135 a new phase of Dwelling Architecture now being introduced in Chicago. As shown, the front is intended to be of pressed brick, with brown stone trimmings, and large carved panel of terra cotta on second story. The porch is of wood with iron railings. The roof is of red slate, and the mansard of black slate, both thus making a strong contrast. The finish of the house throughout is first-class.

This design is well adapted to this coast, and is in striking contrast to the bay window system of this city.

We are indebted for the illustration to the kindness of the editors of the *Inland Architect and Builder*. The engraving presented so many new features that we desired the pleasure of placing the same before our readers. The editor of the journal mentioned forwarded the plate to this office, for which thanks are hereby tendered.

Balance of the numbers of this year given free to all new subscribers for 1885.

*Published at Chicago, Ill.—\$1.75 per year.

W. H. Williams.

THE father of Warner Haywood Williams, the late Stephen H. Williams, was well and favorably known in this city as an architect and gentleman of most scrupulous integrity and uprightness of character, both in and out of the profession. Commencing the practice of the profession in the early days of California, his experiences ran with the numerous changes and exciting scenes which characterized the City's history, up to the day of his death.

The son having the advantage of a thorough training under and with so excellent a father and thoroughly competent architect, entered upon his professional life's work well qualified by example and precept to attain an honorable reputation, and work out for himself a name and fame in the practice of his profession and in domestic spheres, which will bring respect and honor to him in life, and when time's work shall have ended, surround his memory with remembrances worthy of imitation by those now most dear to him, and those who may hereafter fill the place now so creditably occupied by him.

Mr. Williams was born in the city of New York, on the 9th day of February, 1844. Attracted by the glowing accounts of the new El Dorado, his father, leaving his family behind him, set sail for California, and arrived here in June, 1850. In July, 1852, the family rejoined the parent, arriving on the 13th of August. After a few years' study in our public schools, Mr. Williams entered his father's office, on January 2, 1860. He continued there first as an apprentice, and afterwards as a partner, until Sept. 6, 1872.

Salt Lake City at that time presented to young, energetic men an unusually favorable opening. Mr. Williams concluded to try his chances there, and in the middle of September, 1872, arrived in that city. He remained until January 16, 1873, when, finding business very slack, he concluded to leave Salt Lake, and try his fortunes in Oregon. He arrived in Portland, January 23, 1873, and immediately opened an office for the practice of his profession.

Mr. Williams has worthily won the esteem of the business men of Portland and vicinity. Some of the largest and finest buildings have been erected under his careful supervision. He is also an active worker in various secret orders, and was one of the delegates to the Conclave recently held in this city. He is

an active member of San Francisco Chapter of Architects.

Professional Perils and Perplexities.

It is a common superstition among those who contemplate building that the employment of an architect, though it may lead to a better appearance of the proposed building and possibly to some other aesthetic and practical advantages, will surely result in a much greater outlay than was originally intended,—that all following of professional advice will lead to an empty treasury or new assessments and appropriations.

With honest architects—and it is a waste of argument to discuss dishonest people of any

for an architect, honestly aiming to carry out as nearly as possible the instructions received both as to quality and cost, to find, when the contractors' estimates are brought in, that his ambitious client is enraged or discouraged because his five gallons of requirement cannot be put into his half-peck measure of appropriation. He, therefore, flatly refuses to pay for what has been done, on the ground that, through the fault of the architect, he cannot use the plans.

If building houses were an exact science, if it were easy or even possible to say how much it would cost to build any given thing, there would be some ground for this excuse; or if the instructions concerning the amount to be expended were as emphatically set forth and maintained as is the necessity for introducing certain points in the construction of the building,—an extra window or door, two feet more in width for the hall and three feet more in length for the dining-room, hardwood finish, a stained glass window on the stair landing, oak floors and open fires, a few finished rooms in the attic, a deep cellar and absolutely perfect plumbing,—all these and many more necessities arise during the discussion of plans, and the architect, unwisely, perhaps, but very naturally, infers that, as nothing more is said about keeping within the appropriation, it is preferred to exceed it if necessary rather than forego these advantages. In fact, in most cases, it would be wise if he did, for unless a man must cover the whole cost of his house with a mortgage—in which case he has no call to build at all—it is usually the best policy to carry out a satisfactory plan thoroughly rather than spoil it forever by too rigorous economy.

In the majority of cases, when contractors' estimates exceed the desired outlay, it is not primarily or chiefly the fault of the architect. And it should always be borne in mind that a contractor's estimate is not a safe guide as to the actual cost.

But in case it is plainly owing to the carelessness, the ignorance, or faulty judgment of the architect that the necessary cost of carrying out the plans exceeds what the owner is able or willing to spend, what should then be done? Clearly, as it appears to us, the architect should make such modifications in them as would make it possible to bring their execution within the appropriation. Having done this, or signified his willingness to do so, the man who refuses to pay him for his plans is unquestionably unjust.—*The Builder*.



W. H. WILLIAMS.

Another Competition Fraud.

THE Board of Directors of the Victoria (B. C.) Theater Company have placed before architects, through the medium of the press, a proposition to present plans in a public competition for a theater; also, additional brick buildings to cover a space of 36x120. Total area to be covered with buildings, 96x120.

The printed notice is plain in regard to the structure. The theater is to be of brick, and contain parquette and dress stalls, first gallery or dress circle, and second gallery. In addition to the theater, a three-story building, for hotel purposes, is to be erected. The cost of the whole work, complete, is put down at the moderate sum of \$35,000. This sum is to include everything, with seating, lighting, and ventilation for theater, and completion of brick buildings, stores, rooms, etc.

"The architect whose design may be adopted, will be paid the usual commission if the work is carried out under his supervision; otherwise the sum of \$250 will be paid as bonus without superintendence, as ordered by the Directors."

We have received from "Observer" a communication in regard to the above mentioned building. The gentleman with the *nom de plume* given stands high in a professional capacity, and his thoughts are entitled to consideration.

BAIT FOR ARCHITECTS.

VICTORIA, B. C., September 30, 1884.

TO THE EDITOR OF THE CALIFORNIA ARCHITECT—Dear Sir: Knowing your views, and that of the San Francisco Chapter with regard to architectural competitions, I inclose you a copy of the advertisement which, in their liberality (?) or ignorance, the Directors of the new theater here have issued. The amount offered as bonus and the terms proposed, among other things asking for specifications and estimates, are refreshing in their liberality—a little over a fourth of what (\$875) any architect could claim for preparing plans and specifications alone on an order. The Directors offer a little over the fourth for the chance of being paid, competing with perhaps twelve or fifteen others! It is evidently the object of the Directors to get plans and specifications to build from and save half the commission.

Several plans of some merit have already been received from local and foreign architects, who got private information before plans were advertised for. Therefore a choice was not wanting to the Directors, and makes their conduct the more strange. I think I may safely say that no local architect will now send in plans. Very truly yours, OBSERVER.

We notice the same objection in the notice alluded to above that appears in the statements contained in the advertisements or circulars giving particulars of various competitions that have taken place on this coast, viz.:—

The sum stated in the advertisement will be paid to the architect whose plans are accepted, but the directors claim the privilege of electing their own architect to superintend the building, even if the superintendent never presented a plan.

That this is unjust is apparent to all right-

minded people; \$250 will not pay the labor of the draughtsmen employed to work up the architect's plans; and then to be debarred from superintending his own plan—if it be accepted—is an outrage to all professional architects.

We are assured by competent authority that the amount named as the limit for cost of building is totally inadequate to the ideas entertained by the Directors.

A Word to Publishers of Architectural Works.

THERE seems to be a growing tendency among publishers to issue works containing Architectural Designs. Descriptions of buildings are given and an estimate for which they can be erected. This is all well, but care should be taken not to mislead people who buy the books, in regard to the cost of the buildings. A page should be devoted to a table containing the rate of wages, prices of lumber per M., bricks per thousand laid, plastering per yard, painting per square, and all the rest of the items necessary to complete the building. Great care should be exercised in this particular, and all the amounts given be such that absolute dependence may be placed upon them. Of course, this table would contain the amounts for which the building could be erected at the place of publication of the book. If this were done, it would be an easy matter for one in California to estimate the difference in cost it would require to erect and complete a building of any desired plan. We have heard of many complaints from parties to whom we have furnished books; they followed the plans, the cost of which was given at, say \$1,500; and, after spending \$2,000, found that their house was not fully equal to the plan they followed.

We think if publishers would follow the suggestion mentioned, it would remove one great objection to the purchase of books by parties residing in different localities to the place of publication.

New Styles of Hardware.

WE call particular attention of those interested to the new advertisement on back page of cover. Huntington, Hopkins & Co. is one of the most substantial firms on the coast, and carries a stock unsurpassed by none. They invite owners and builders to call and examine the new styles of bronze hardware. These they keep in great variety. Every variety of mechanics' tools known to the trade, from the smallest gimlet to the finest iron planes, will be found in this establishment. They are also agents for many of the prominent patented inventions which have gained such popularity on this coast. Carpenters in the country who desire a first-class "kit" of tools, should address a note first to this firm, as their immense stock will enable them to fill any order. Prices of everything in the hardware line in conformity with the quality of goods sold.

Smoky Chimneys.

FROM a paper read by Mr. J. P. Seddon before the health conference in London last month, the following abstract is made: Chimneys smoke from five causes: 1. Because air is not supplied to houses systematically, like water, but is, rather, excluded. 2. Because fire-places are illy-constructed, being drawn over from the openings of the fire-place to the flues in such a manner as to provide large vacant spaces above the grates, which contain cold, stagnant air, in contact with which the smoke becomes chilled and is prevented from being drawn into the flues. 3. Because flues are usually made too large. They should seldom be more than nine inches square. 4. Because no provision is made for down-draughts of air to expend themselves before reaching the fire-place. 5. Because architectural guards are not constructed at tops of chimneys against wind. Mr. Seddon depreciates the use of cowls.

Hanging a Grindstone.

TO HANG a grindstone on its axle to keep it from wobbling from side to side requires great skill. The hole should be at least three-eighths or one-half inch larger than the axle, and both axle and hole square; then make double wedges for each of the four sides of the square, all alike and thin enough, so that one wedge from each side will reach clear through the hole. Drive the wedges from each side. If the hole through the stone is true, the wedges will tighten the stone true; if the hole is not at right angles to the plane of the stone, it must be made so, or the wedge correspondingly must be altered in the taper to meet the irregularity in the hole.

Bancroft's Histories.

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

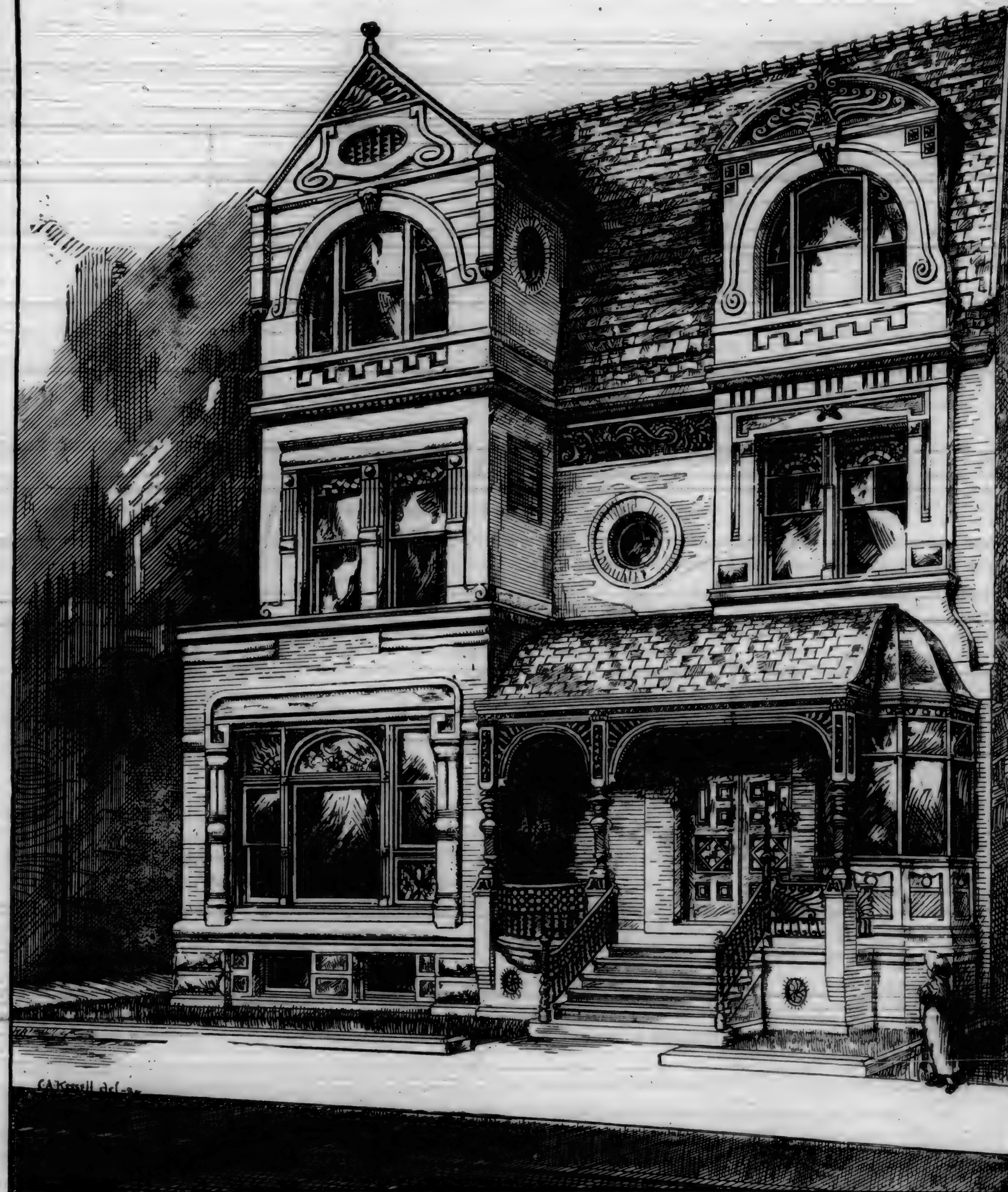
There are to be thirty-nine octavo volumes, with maps and illustrations, fifteen of which are now ready. They will be well printed on good paper, neatly and substantially bound, uniform in style, and will average over 700 pages each. Three or four new volumes per annum will appear until the entire series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

PER VOLUME.

Bound in Extra, English Cloth, neat and attractive style.....\$4 50
Bound in fine leather, Library Style.....5 50
Bound in half calf, half Russia, or half Morocco.....8 00
Bound in Russia Leather or Tree Calf.....10 00

Any information in regard to the above will be given by addressing the office of this Journal.

RESIDENCE FOR GAST MILLER ESQ. AM. F. Colton Architect CHICAGO ILL.



A NEW PHASE OF DWELLING ARCHITECTURE. (SEE PAGE 182.)



Sources of Ornamentation.

A. C. BOND.*

NATURE is to be considered merely the germ of ornamental art; art must develop nature's suggestions, combine her forms and, besides pleasing the eye, subserve a purpose. Forms and colors seen in nature excite admiration of a very different kind from that involved in the artistic rendering. This rendering must please the eye, gratify the taste, and exhibit fitness for its special intention. The art of the past, that aggregation of experiences derived from the application of the suggestive hints of nature, is simply a means of study to the ornamentist, an aid to the mastery of principles and rules. The range and variety of illustrations to be found in nature represent every principle on which beauty depends; its study supplies a fertility of resource, even as regards construction, as well as the harmonious arrangement of parts, the ornamentation of those parts, and as to the degree of prominence which decoration should assume. But it is in decoration setting forth the special qualities of the artistic mind, conforming what is material to a designed purpose, expressing the perception and feeling of beauty and truth in the designer, that its great interest lies.

In designing, the decorator has to take into account two kinds of expression, the one definite and certain, the other conventional and capricious, the former dependent on natural principles, the latter upon association. The force of association was illustrated when, in France, archaic severity in ornament, at a period when republicanism had triumphed, was regarded as "the thing," and decoration assumed a funeral aspect. In projecting ornamental designs, as in realizing their effect, mental impressions have to be taken into account in artistic rendering. Thus, in form, angular expresses strength and durability; the curvilinear, softness, delicacy, and fragility.

Definite forms may be classed as the rectilinear and rectangular, the rectilinear but oblique angled, curvilinear forms without contrary flexures, curvilinear forms with geometrical contrary flexure, and curvilinear forms with contrary natural flexure. The discovery of the means by which expression is given to them involves an extensive process of comparison. Often their conjunction has merely the significance that attaches to playfulness and delicacy.

The adoption of ornamental treatment suitable to a material, has a decisive influence on design, as in gold in sheet—beaten, raised in lobes, fluted to give strength and shadow; in wire—in coiled, spiral, and numberless curved forms. Stone has its natural expression in masses, chamfers, etc. This condition does not exclude one material taking designs proper to another. Foliage should perform no office other than ornamental, such as adding richness and variety, filling out forms, and cover-

* Written especially for this Journal.

ing junctions, as in metal work. Hence the impropriety of supporting a canopy on the innate stability of a floral boss.

The Persians, in seeking to produce masses of brilliant and variegated color without offensive gaudiness, betook themselves to mosaics for the adornment of their walls and the exterior of their mosques, showing magnificent incrustations glistening a vitreous glaze. The radiant hues being natural, the colors and tints of real stone could not offend the sight; there was a certain sobriety even in the splendor of surface. Beautifully veined and naturally tinted woods have a charm independent of the design into which they enter, whilst the design, taking them into account, is also enhanced in its effects.

The character of material used for decorative purposes necessarily affects the essential features of ornament. Lustrous or dead surfaces, hues, or intrinsic qualities are themselves constantly suggestive of new devices and effects. Mechanical operations and chemistry, brought to the preparation of materials, wonderfully augment the resources of the ornamentist. Both the art and science are illustrated in enamels, which, having for their base hard, resistive substances that are ground to an impalpable powder, and blended with cohesive elements, are rendered plastic and absorptive of color, finally being fired, so placing an essentially perishable colored design beyond the reach of change.

There are mysterious properties in colors that serve the purpose of the ornamentist, and suggest various departures in design that result in excellent effects without apparent rule. The eye, for instance, possesses the power to supply the complementary color of the hue on which it rests. A celebrated French painter remarked that every bed of violets was surrounded with a halo of purple. Again, whatever the laws that regulate color—and theories and deductions on this point differ—their aesthetic value or influence on the sentiments must be taken into account for satisfactory treatment.

A reed, a flower, a broken stem, what significance may not attach to them when elevated to decoration, as the reed in the flutings of Corinthian columns, the flower in moulded form or beaten metal as a symbol or emblem, like the lotus of Egypt, the broken stem setting off curvilinear lines in a capital or in the mouldings of a cornice, a band or frieze on a vase, or on a panel in simulated carelessness of rendering.

To what are we to ascribe the simply perfect use of color by the Orientals? Whether they use the brightest or most subdued tones, it makes no difference, the patterns are harmonious and gratifying. They value the color only as it assists the purpose of design. As all pleasing effects obtained in decorative art are referable to the conjoined or separate expression of the laws of harmony and contrast, it would seem as though by some latent principle of mind, or passive reception of the subtle teachings of nature, they had unconsciously

acquired their marvelous aptitude to treat color not only appropriately but so as to secure the best results. It is the same with their faience, their enamels, their silk stuffs, and their tapestry and embroideries, executed with surprising manual rapidity, and often without a formal pattern, and not merely in color. Whether by instinct or tradition, they have a marvelous appreciation of true form and proportion.

A man, aided by a child, constructs a gigantic jar as we build a house, and with no other instrument than the hands and a spatula, an amphora of extreme height, and presenting beautiful curves, is produced. On the borders of the Nile, females with their children make alkarazas so elegant in form as not to need the aid of color to command admiration. With Orientals, the sense of the beautiful shows itself in all things.

Flat ornament is the most natural and obvious means of decorating solid surfaces, and this in conventional form. The source of this appropriateness is to be found to resent, so to speak, the moulding or carving of natural forms as something simply imitative, and, therefore, with all the labor and ingenuity exercised, of no high order of art, and therefore not conforming to an imposing position.

In many branches of art the designs are drawn direct from nature. The designers of textile fabrics may be seen with a group of flowers, freshly gathered from a garden, in small vases before them, arranged so as to present some novel or pleasing effects, which are transferred, in modified form, to their patterns. The same colors or precisely the same forms, may not be reproduced, but the flowers and the portion of the pattern dealt with.

Sometimes the flowers that serve as models for decorative metal work are pressed between boards, so as to present an aspect, to some extent conventionalized, for treatment in bas relief. This method of securing the originals of patterns has for ages been adopted in the East, and serves to account for some of the really exquisite transformations that we witness.

Many forms of the ornamental class are not naturally supplied. Such is the Greek fret series of squares, one within another, interior lines being brought up at intervals, thus getting rid of the mere square. Arabic decoration, though very ornamental at first sight, was in reality based on extremely simple combinations.

It is a curious fact that some of the choicest patterns, apparently of Eastern origin, of the Eastern carpets, have been reproduced from the paintings of old Flemish masters—Van Eyck, Memling, and others, and the Florentine artists, such as Ghirlandajo and Montegna. So also with parterres and table covers. Some of these painters simply give divisions of color and main outline of the patterns, and in place of angles substitute curves; others, like Hans Holbein, delineate even the very stitches.

In a design of varied character the desirability of introducing a few points of resem-

blance between the forms, thus establishing certain affinities, provides a contribution to decoration. The securing appropriateness in the ornamentation is another requirement that has its influence in fashioning ornament. The ox heads and festooned garlands carved on the friezes of Roman temples, had a practical value as betokening sacrifice, whilst in other public buildings they would only have been stupid and vulgar.

Consonance or agreement with the general design is a prime element of good ornament, and it is just because this consonance is not found in ornamentation of a different purpose that the ornamentist finds so much in bygone art that cannot be utilized. The introduction of an opposing tone in colors to impart unity of effect, is a leading element in color design. The upholsterer who brings together two colors—say yellow curtains with green covered chairs—will wisely repeat the green in the curtain in a narrow strip the same as the chairs. Contrast usually involving alternation, some of the most beautiful effects of form are obtained through their connection. To the contrast of form and color decoration owes some of its happiest inspirations. A further source of beauty in ornament is derived from the prevalence of one quality in color, or of a given size of form over another.

It is noticeable that all that is lovely in landscape is produced by contrast of tone, not color—by the bright green of young shoots against the dark, somber green of the older wood; by the gay, light larch against the dark, green fir, and these against the deep, blue sky as a background. The present advance of decorative art is largely due to more attention to contrasts, and to their more skillful manipulation.

The circumstance that the mind never draws the line too close between use and ornament, has led in articles of vertu in the precious metals to the blending of both in structural forms, and with little conventionalism as regards ornament. An instance occurs to us in a silver standard consisting of a stalk with leaves of the aloe, plicatis regularly folded within the other in alternate directions. The richness of the material justifies the labor and ingenuity expended on elegance of forms. Similarly, on vases of precious metal nature, leaf, foliage, flowers, and stems may be imitated as closely as one pleases in relief, or as undercut work, if only care be taken that it shall fill up a defined and bordered space.

In the arabesque style of foliage and tracery there is a mild freedom which pleases the fancy, partly because no actual natural forms are portrayed, whilst yet they are suggested in the flowing outlines, in the lightness with which the ground is touched and yet transformed in effect, and the way in which the sight is lured to traverse over the whole surface. But as a means of decoration, arabesque is to be used charily; it has indeed the charm of repetition, but where uniformity is equal, the beauty of forms is in proportion to their variety. The harmony established is by

analogy of size, color, and form, but affinities may be carried too far. The true law of harmony is conformation and divergence.

The collected experience of artisans of the past constitutes a leading source of ornament. Carvings and mosaics, figured tissues, stained glass, metal work, even paintings and architectural treatment of decoration, supply a fund of artistic instruction, not for reproduction, but suggestive of new combinations.

The course of ornament, renewing at intervals of time features of previous periods, with new characteristics superadded, has its counterpart in seeds transplanted to new soils and climes, the change resulting in developments that in some respects are wholly new.

Saw Milling in the California Redwood Districts.

ALTHOUGH there may be minor differences, a brief description of the methods employed in logging here will apply to the business generally. The roughness of the ground and size of the timber necessitates an entirely different system from that pursued in the East. Jack-screws take the place of cant-hooks and peaveys, and, instead of a single team, eight or ten oxen with block and fall, or a steam engine is required to move the larger logs.

First come the choppers, or rather sawyers, as most of the timber is sawed down now, and it requires much skill and experience to fell these giants without breaking and destroying much valuable lumber. Following these are the barkers with axes and long steel bars to remove the bark. Then fires are set which burn most of the bark, limbs and brush, and if the tree has been broken or split in falling the devouring flames soon find every defect. In due time the sawyers, swamper, jack-screwers and road-builders put in an appearance and perform their respective parts of the work. One man handles a cross-cut saw eight to ten feet in length, and if the applicant for this position does not possess unlimited hope and the muscle of a Sullivan he never gets through the first 10-foot cut. If the logs are up on the side hill, or in some of the side gulches—nearly all redwood grows on rough ground—two men with jack-screws roll and slide them down to where they can be reached by the long, slow-moving 10-ox teams, which take them to the landing on stream or railroad. Where the ground is steep a number of logs are attached to each other by the use of dogs, or steel hooks, driven deep into the logs near the end and connected with chains, and in some places, bridle chains are necessary to retard their progress down the hills. If once the logs get to running their speed is increased by being bumped and pushed by the logs behind until there is danger of running over and ruining the whole team. Such cases require great skill on the part of the driver, but if he understands his business and has sufficient time in which to deliver himself of a volley of oaths, as only a "bull-puncher" can, the oxen are warned of the danger and are seldom caught.

On more level ground the roads are made by imbedding "skids"—logs from 12 to 15 inches in diameter—about half their depth in the ground at right angles with the road, about six feet apart, and the logs are hauled lengthwise across these skids. This would seem as hard work as hauling a cat by the tail, but not so. The friction is removed to quite an extent by the use of oil or grease on the skids and usually 1,000 feet is taken for each yoke of oxen in the team, and in some cases much more. Logs exceeding six feet in diameter are usually split into two, three, or four parts by the use of powder or wedges. This facilitates handling them both in the woods and at the mills, but often at a sacrifice of much fine lumber. As a means of getting the logs to the mills, railroads are taking the place of natural water ways. The size and weight of these logs, the rapidity of the mountain streams, and the uncertainty of floods sufficient for driving purposes, are strong arguments in favor of railroads, and there is no doubt of their superiority over the old way. At first sight an Eastern man accustomed to handling small, light logs, is impressed with the idea that everything moves too slowly here and that little is accomplished, but when we realize that many of these logs are from 50 to 100 inches in diameter, and that the green butts are so heavy that they will sink in the water like a stone, we conclude that these loggers understand their business, and have adopted the best methods.

In the mill there is a mulay, double and single rotary, edgers, butting saws, two planers, which give a capacity of about 50,000 feet per day. The clear lumber passes directly from the saws to the planers, and is dressed green. While it is probable that many of the modern inventions in mill machinery could not be successfully applied in this timber, there is no doubt but the mills here generally can and will be much improved. The few gangs which have been tried are thrown out as impracticable, and steam feed, improved set blocks, live rolls, gang edgers and butters, etc., are the exception rather than the rule. That active competition which has compelled the manufacturers in the Northwest to adopt all new labor-saving appliances would no doubt have a beneficial effect here in reducing the cost of manufacturing, and in due time they will come.—*Northwestern Lumberman.*

Garland Trap.

THIS excellent preventive against sewer gas entering houses, has achieved a reputation in California ahead of all competitors. Some of our largest hotels have lately substituted the Garland for those previously in use, and the result is more than satisfactory to the occupants. Full particulars in regard to the cost, etc., of these traps, can be ascertained by either writing or visiting the manufactory in Oakland.

Modern House Painting. \$ 5.00

ONE of the English papers points out that every gas-meter in a large building is a source of additional danger in case of a big fire. In large public buildings, apartment houses, and tenements, there is generally a separate meter for each suite of rooms. The lead pipes are melted by the fire, sometimes even by the heated air before the flames reach them, and then the inflammable gas does its share towards spreading the conflagration. Says the journal referred to: "The gas poured into burning buildings through such openings doubtless helps materially to account for the surprising suddenness with which many great buildings have been swept by the flames, and in all cases the outflow of gas must seriously counteract, if it does not altogether thwart, the efforts of the fireman."

Ventilation of Sewers.

THE ventilation of sewers by gratings over the manholes may not always be satisfactory. The commissioners of sewers of London have entertained the notion "that in all instances where new houses are being erected, the commissioners of sewers place themselves in communication with the building or other owner, and treat with him or them for the construction of proper ventilating-shafts in the chimney-breasts of party or other walls, for the purpose of ventilating the sewers, carrying the ventilating-shafts well above all adjoining roofs." The ventilation of sewers by uninterrupted communication from the sewers through the house-drain and soil-pipe of each house, has long been urged in America, but this suggestion may be a new one to our architects and builders.

An Ingenious Device for Taking Down a Chimney.

AN ingenious arrangement for facilitating taking down an old chimney was designed and put into use at the Middlesborough Iron Works.

The chimney had to be taken down from the top and the bricks lowered inside, as it was situated in a crowded locality and it was desired to lower them with as little damage as possible, as they were to be used again for building purposes, and would have been broken by throwing them down on the inside, and lowering by ordinary mechanical means was too tedious, and, in the present instance, impracticable. The following device was adopted, which would allow them to fall by their own gravity, and at the same time be cushioned sufficiently to break their fall and prevent damage. In order to do this an air-tight iron box was placed at the bottom of the chimney; this box was fitted with an air-tight door mounted on hinges and closing on an India rubber face, against which it was tightened by a wedge.

A wooden spout, the edges caulked with white lead, making it air-tight, was then fixed on to the top of the box and carried up the chimney. The inside measure of this spout was

slightly larger than a brick, so that the air would cushion it sufficiently to break the fall and prevent damage. The air-tight box was opened by an air-tight door, which, when full, was opened by a workman at the bottom, and the bricks removed. This device was simple, ingenious, and proved quite effective.—*The Building Trade Journal.*

NEW EDITION.

Ferguson's History of Architecture.

Two large volumes, beautifully printed, splendidly illustrated. Every Architect and Draughtsman should possess a copy of this work. Price, post-paid, \$15.00.

REMEMBER.

Balance of the numbers of this year given free to all new subscribers for 1885.

CARPENTRY.

By L. D. Gould, New Edition.....\$2 50
Album of Mantles..... 8 00
How to Build, Furnish, and Decorate.... 5 00
Building Superintendence..... 3 00
Eastlake's Hints on Household Tastes... 3 00
Manual for Furniture Men..... 1 00
Shavings and Sawdust..... 1 50
History of Architecture.....15 00

NEW BOOKS.

Lefell's House Plans.—Contains elevations, plans, and descriptions of houses costing from \$500 to \$3,000, at New York prices of labor and materials. The size of the book is 8x11 inches, printed on good paper, and neatly bound. Cost, \$2.50. Copies can be had at this office.

To those desiring to build, but whose means are somewhat limited, this book will be found of special interest. The plans are all of modern design, and embrace conveniences in keeping with the amount specified. One objection to the elevations is the low height of the stories. In California, much greater height is given to the ceilings than our friends of the East desire. Many of the plans would be found impracticable if stories were made 12 and 11 feet high, without the area was enlarged on account of stair room, etc. On the whole, however, it is one of the best works we have received at the price quoted.

History of Architecture.—By Ferguson. We have received a supply of this justly celebrated work. It should be in the possession of every architect. Draughtsmen especially will find it very entertaining and instructive reading. Two large volumes. Price, \$15.00.

What Dulls Varnish.

It may be said in general terms that all influences that tend to retard drying will also impair the lustre of the work, and that the large majority of flattening is caused by chilling the varnish while only partially dry. Hence, in all cases of flattening or deadening, the painter is forced to the conclusion that the trouble

is entirely the result of his own oversight or neglect, and not by any means due to the quality of the varnish.

The loss of lustre of the varnish soon after it is applied is almost invariably caused by the varnish being exposed to too severe action of the atmosphere before it is thoroughly hard. This may be caused by a badly protected shop, which allows cold air to pour in through every seam, and to thus retard the drying of freshly varnished jobs; or the painter thoughtlessly runs a fresh carriage out into a cold repository soon after the varnish has "set," and it undergoes thorough chilling while partially soft. Coal gas in the varnish room, coming often from the stove, and frequently from the smith shop under the varnishing department, is likely to cause varnish to deaden at any time.

Many painters do not realize how comprehensive the term "drying" is. Finishing varnish continues to harden and dry for many months after spreading, and it follows that when a finished job is judged to be able to take care of itself a few hours after the varnish is dust dry, any neglect of it, based on that conclusion, will usually be followed by disastrous results. The colder the season and the slower drying the finishing varnish used, the longer should be the time allowed a nice job to thoroughly dry before exposing to the elements (from three to five days, according to circumstances).—*The Painter.*

How to Make a Bed.

WE are inclined to think that few people really know how to make a bed properly, or they are too much in a hurry to put things to rights in a chamber to be thorough. A writer in a Philadelphia paper ventures the following practical remarks on the subject:—

"Let every bed-maker, as soon as all the covers are spread, turn down the upper sheet and all above it, leaving a generous margin below the bolster. Some people, you know, pull all the covers straight up to the top and lay the bolster upon them, so that when bed-time comes they must be arranged at the head. Boys don't like this way, and perhaps some other folks don't either. It is the custom to pile two big, square pillows on the top of the bolster, and then put on two pillow-shams, and then, sometimes, or perhaps before the pillow-shams, a sheet-sham. This is setting a trap for the unwary. Only a remarkably careful woman is equal to the task of getting off all the 'finery' properly. Why not almost, if not altogether, abolish shams of all kinds? Why not honestly take off the big, square pillows and supply every bed with a comfortable bolster to take the place of pillows? If you like adornment, embroider or decorate the slips and sheets themselves without any make-believe. Silk, lace, and the like seem out of place on a bed, which should suggest repose. Imagine a big boy with boots on flinging himself into the midst of a fairy creation of pink satin and tulle! Let beds be what they look like, and let them look like what they are—real resting-places."

Unoccupied Houses.

THERE are, always have been, and ever will be croakers,—wise (?) men who presume to grasp and comprehend more of the future than any of their neighbors, and who are ever ready to proclaim their extreme wisdom and foresight in all matters, interests, and affairs, from the most insignificant and local, to the grandest of national magnitude. Many such prophetically inspired individuals in San Francisco, have, from time to time, during the past two years—lifting the veil of the future—discovered that too many houses were being erected in this city; that the supply was far in advance of demand; that the continuation of building activities would result in a large array of "houses to rent," without people to occupy them. Every unoccupied building is urged as confirmatory evidence of the theory advanced, and two or three empty dwellings in an occasional block, is held as proof positive of the early tumbling of all tenement property in rentals. This sort of prognostication has been going on, and is prevalent at the present time; and the comparatively few houses labeled "to let," pointed at as ominous of pending disaster.

But what are the facts? The "To Let" sign business as practiced by real estate men and house renters, is ludicrous and extravagant. If but a single house is empty in a whole block, the "To RENT" show bills, printed in large black letters, on cloth or paper, from 8x12, to 14x20 inches, are pasted on every available part, so that on the front of a two-story house with bay windows, it is common to see a poster on each of the three or four window openings at main story, as many more at the second story, others on any single window opening that there may be, and at the front entrance—more generally on both sides of a sign board so placed as to protrude beyond the line of the street fence, to catch the eye of any one, up or down the street, a thousand feet away. It is a common thing to see from eight to twelve of these "to let" signs on an ordinary two-story house, and the number is increased when there is a basement or other stories additional. Consequently, upon approaching a block where but one house is labeled to rent, the array of "to let" signs in sight is sufficient for the renting of a half dozen, and where two or more occur in the same block—particularly if adjoining each other—the appearances are decidedly demoralizing, and well calculated to mislead the judgment of those who form conclusions from general appearances, without examining minutely into the true state of the case.

Should a person spend half an hour riding over one of our street-car routes, along which, within the twenty or thirty blocks passed, there should be ten houses to rent, he will have seen from seventy-five to one hundred of those showy signs; and the impression created becomes fixed that there are a great many unrented houses, while, as a fact, the number is comparatively small, notwithstanding the large addition of new buildings erected during

the past two years, with no present indications that the near future, if years to come, will witness any material abatement in building activities.

The more important inquiry, however, is not so much the number, as the class and description of buildings which fail to find ready occupants. Those who have given any special attention to the matter, will have noticed that the idle houses are generally those built several or many years ago—less convenient than the more modern planned, and far less complete in their appointments and finishes. And of the number, basement houses are by far the more numerous, thus demonstrating the fact that people prefer to live above, rather than one or more feet below the surface of the ground, and that the day has passed in which tenants find pleasure in running up and down the extra flights of stairs necessary in basement story tenements. It is and will be so, that those who are compelled to pay rent, will seek the best they can find for their money, and owners of houses unsuited to the neighborhood, inconvenient in arrangements, well worn, and in need of repairs, painting, whitening, etc., need not wonder that rent-payers vacate, when, for the same or less rental, nicer and more convenient homes can be had.

Terra Cotta vs. Stone Trimmings.

THE manufacturers of terra cotta are putting forth commendable effort to induce the use of these productions, for trimmings and ornamentalations in the fronts of brick buildings. In some of the Eastern cities, the new idea of clay manipulated into various forms and shapes, as a substitute for cut stone, has been adopted in very many cases. There are several illustrations of the work in this city, notably, Gladding & McBean's building, No. 1358 Market Street; also DeYoung's building on Farrell Street. The same has been adopted for the front of the Pioneer Hall, on Fourth Street, and in other cases. Its more general use will depend upon the judicious and harmonious use of it in its introduction by architects, and the degree of favor accorded by owners. Architects and producers may kill off the possible success of new things possessing merit, by forcing them, and making them particularly conspicuous in advance of an appreciating sentiment among owners of property. By the use of terra cotta, elaborate ornamentalations may be had at moderate cost, where numerous new patterns or moulds are not required in the same job, or patterns already made will answer the purpose, the patterns and moulds being the more expensive part of the work. Several very handsome specimens may be seen in the office of this journal.

PATENT CHIMNEY BUILDERS. NOTICE.

I have a new, light weight, fireplace and chimney complete, which I wish to dispose of in part or in whole, to responsible parties. For further particulars inquire of T. C. Nativel, East Oakland Pottery, Brooklyn, Cal.

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

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

ROBERT MITCHELL, President, 807 Turk St., Box 26.	
J. WAGNER, Potrero Ave. bet. 22d & 23d Sts.	3
R. K. CAIN.	61
D. JORDAN.	59
J. GLYNN.	57
GEO. SPENCER.	48
CRAWFORD FERRIS, 9 Bourbon St.	20
JOS. SMITH, 2933 Mission St.	36
JOHN MCCARTHY, 2509 Folsom St.	7
WM. DUNBAR, 27 11th St.	14
GEO. RICHARDSON, 518 Ellis St.	39
C. R. WORRELL, 888 17th St.	5
J. G. LIEBERT, Treasurer, 330 Oak St.	32
JOHN HUGHES, 318 Fremont St.	21
J. J. O'CONNOR, 648 Minna St.	19
M. B. RICHARDSON, 624 Shotwell St.	1
MATT. MCGOWAN, 614 Linden Ave.	17
JOHN CALVERT, 812 Hyde St.	40
THOMAS BUTLER, 593 Ash Ave.	28
ROBERT HIGGINS, 1724 Jessie St.	13
JOHN DOWNS, 269 Minna St.	18
J. HAFF, 516 Kearny St.	6
G. D. NAGLE, 427 Montgomery St.	24
N. R. TUCKER, 1411 California St.	14
S. L. PLEACE, 634 Stevenson St.	11
O. E. BRADY, 822 Valencia St.	22
JOHN COX, 608 Jones St.	16
J. F. RILEY, Secretary, 813 Howard St.	38
P. O. SULLIVAN, 543 Stevenson St.	35
BYRON BROS., 11 26th St.	34
JOHN BYRON, 19 Shotwell St.	27
M. FARRELL, 139 1/2 11th.	52
W. E. STEVENS.	46
CON. HOLMES, 726 Hayes St.	10
JOHN H. HANAVAN, 1711 Jessie St.	15
G. W. KNEEDLER, 1013 Vallejo St.	51
B. A. THOMPSON, Oakland.	25
JOHN McDERMOTT, 124 10th St.	33
D. J. O'BRIEN, 323 Dup at St.	31
S. N. ROBERTS, 54 3d St.	56
G. T. WATSON, 638 Market St.	64
C. SCHOENMAKER, 323 1/2 Chestnut St.	62
CHAS. CATE & SON.	58
R. RINGROSE, 261 1/2 Sacramento St.	75
J. BENDER.	73
PATTISON & OAKLEY.	54
DAVID PIERCE.	66
J. B. SANFORD.	60
JOHN MAGUIRE.	74
T. HOCK, 422 Golden Gate Ave.	
JAS. MULCHAY, 612 Larkin Street.	
PARTIES RENTING BOXES IN THE BUILDERS' EXCHANGE.	
WARDEN & McCURE, Teamsters.	Box 39
H. PETERSONSAND & GRAVAL.	65
W. S. SOMERVILLE.	56
C. A. MOLLER.	53
BOWERS & YOUNG.	43
J. E. KINCAID.	45
W. E. STEVENS.	43
L. B. SIBLEY.	48
McVICKER & ROACH, Stone-cutters.	9
REMILLARD BRICK CO.	20
PAT. BRICK CO.	20
CHAS. WARREN, Grader.	37
A. E. BUCKMAN, Grader.	42
JAS. E. WHITTIER, Asphaltum.	41
DAVIS & COWELL, Lime and Cement.	43
H. & J. RALSTON, Oakland Iron-men.	78
JOHN KELSEY, Grader.	76
R. LLEWELLYN, Columbia Foundry.	77
T. W. PETERSON & Co., Brickmen.	68
WESTERN IRON WORKS, 123 and 125 Beale St.	67
J. BROWELL, Patent Chimneys.	71
R. TIERNAN, Lime and Cement.	65
O'CONNELL & LEWIS.	72

BUILDING INTELLIGENCE.

SAN FRANCISCO.

Twenty-first, nr. Valencia. Alterations; one-story and addition.

O. M. Plover.
A. H. Warren.
C. Buckley & Bergman.
\$2,450.

Sutter, nr. Scott. Two-story frame.

O. P. A. Cook.
A. W. H. Wharf.
C. Cummings & Reiman.
\$8,500.

Bush, bet. Steiner and Fillmore. Two-story frame.

O. Jacob Walcom.
A. R. Warren.
C. R. Parker.
\$4,800.

Broderick, nr. Turk. Two-story frame.

O. O. E. Von Rhein & Co.
A. G. A. Bordwell.
C. R. H. Mosbray.
\$3,300.

Mission, nr. Seventeenth. Addition.

O. G. S. Ball.
A. Percy & Hamilton.
C. J. B. Gonyeau.
\$4,840.

Twenty-first, near Fair Oaks. Two-story frame.

O. E. G. Denniston.
A. Percy & Hamilton.
C. J. B. Gonyeau.
\$7,500.

Pacific Avenue, corner Pierce. Two-story and basement frame.

O. R. H. Pease, Jr.
A. C. Day.
C. R. P. Hurlbut.
\$14,000.

Post, nr. Laguna. Two-story frame.

O. H. H. Herzfelder.
A. Newsom & Gash.
C. L. Wagner.
\$4,750.

Mission, nr. Tenth. Four two-story frames.

O. S. M. McElroy.
A. H. D. Mitchell.
C. J. Blake.
\$16,000.

Oak, nr. Laguna. Two-story frame.

O. P. Swift.
C. D. F. McGraw.
\$6,000.

Howard, near Fifteenth. One-story frame.

O. W. C. Thompson.
C. A. Zilm.
\$1,700.

Ninth, nr. Mission. Alterations.

O. Miss Kavanagh.
C. L. W. Russell.
\$800.

Clay, nr. Hyde. Two-story frame.

O. M. Moffatt.
A. Schmidt & Havens.
C. Commery & Beards.
\$8,300.

Seventh, cor. Jessie. Alterations.

O. J. Nunan.
A. R. Warren.
C. T. Sullivan.
\$4,200.

Market corner Valencia. Two-story frame (in rear).

O. Market Street Cable R. R. Co.
Day's work.
\$6,000.

Howard, nr. Seventeenth. Two-story frame.

O. W. C. Graves.
A. G. A. Bordwell.
C. R. P. Sanches.
\$5,000.

Howard, nr. Twentieth. Addition.

O. S. Crim.
C. R. P. Sanches.
\$1,200.

San Jose Avenue, nr. Twenty-fourth. Two two-story frames and stable.

O. O. F. Von Rhein.
A. G. A. Bordwell.
C. R. P. Sanches.
\$8,200.

Twenty-first, near Harrison. One-story frame.

O. P. McKeon.
\$900.

Hayes, nr. Laguna. Two-story frame.

O. M. Wigan.
C. P. Laherty.
\$4,500.

Fillmore, near McAllister. One-story and basement frame.

O. Mrs. Albrecht.
A. J. C. Pelton.
C. A. Klahn.
\$7,500.

Harrison, nr. Twenty-first. Addition.

O. H. E. Smith.
A. M. J. Welsh.
C. P. Loughlin.
\$1,200.

Bryant Avenue, corner Butte. Two-story brick.

O. T. Hopkins.
C. P. Fitzsimmons.
\$15,000.

Howard, near Twenty-fourth. Addition.

O. W. Bloomer.
Day's work.
\$3,000.

Mission, nr. Army. One-story frame.

O. H. McDermott.
A. J. T. Kidd.
C. I. L. Foss.
\$3,000.

Mission, nr. Twenty-ninth. Four two-story frames.

O. R. Tiffany.
C. R. Bamber & Webb.
\$3,000.

Third, nr. Bryant. Two-story frame.

O. Wickersham.
C. Bassett Bros. & Co.
\$4,000.

Essex, nr. Folsom. Two-story frame.

O. H. H. Lusa.
Day's work.
\$6,000.

Greenwich, nr. Kearny. Addition.

O. Mrs. P. R. Smith.
Day's work.
\$1,000.

Larkin, nr. Geary. Alterations.

O. J. Green.
A. F. Leuders.
C. F. Weinohl.
\$12,000.

Sixth, cor. Bluxome. One-story frame.

O. W. Noack.
Day's work.
\$1,000.

King, nr. Fifth. One-story brick.

O. P. Donahue.
A. W. Patton.
C. J. Hughes.
\$2,700.

Howard, nr. Tenth. Two-story frame.

O. W. Deeney.
Day's work.
\$2,500.

Twelfth, nr. Harrison. One-story frame.

O. J. Schmidt.
A. Townsend & Wyneken.
C. C. A. Anderson.
\$1,500.

Twelfth, near Harrison. Two-story frame.

O. C. Kern.
C. F. Weinohl.
\$3,000.

Twelfth, near Harrison. One-story frame.

O. J. Owen.
A. Townsend & Wyneken.
C. C. A. Anderson.
\$1,500.

Howard, nr. Tenth. Two-story frame.

O. J. S. Dyer.
A. G. A. Miller.
C. J. Dyer.
\$4,000.

Eddy, cor. Mason. Alterations.

O. J. K. Prior.
Day's work.
\$18,000.

Birch, nr. Larkin. Three-story frame.

O. T. J. Crowley.
A. B. E. Henriksen.
C. A. G. Fitzpatrick.
\$4,500.

Bush, cor. Broderick. Addition.

O. and B. H. Petit.
\$1,500.

Union, near Leavenworth. Two two-story frames.

O. F. Katz.
A. B. E. Henriksen.
C. W. Simon.
\$5,400.

Sacramento, nr. Steiner. Two-story frame.

A. Huene & Everett.
C. W. B. Kroger.
\$4,400.

Green, cor. Webster. Two-story frame.

O. W. A. Barkley.
A. J. Marquis.
C. J. Owens.
\$4,500.

Devisadero, nr. Fell. Two two-story frames.

O. J. Rosenthal.
A. S. & J. C. Newsom.
C. D. B. Spangler.
\$9,500.

California, nr. Franklin. Two-story frame.

O. Mr. Talbot.
A. Wright & Sanders.
C. Colter.
\$20,000.

Geary, nr. Jones. Two-story frame.

O. Mrs. E. Woodhead.
A. Townsend & Wyneken.
C. P. Flaherty.
\$4,500.

Washington, nr. Fillmore. Two-story frame.

O. P. A. Alderson.
A. J. C. Pelton.
C. A. Klahn.
\$3,000.

California, cor. Franklin. Three-story frame.

O. M. Heller.
A. Kemitzer & Raun.
C. E. Farrell.
\$23,000.

Geary, near Leavenworth. Three-story frame.

O. J. Hammond.
Day's work.
\$10,000.

Powell, nr. Union. Addition.

O. C. Boum.
A. Townsend & Wyneken.
C. Treadwell & Townsend.
\$1,000.

Howard, nr. Fourteenth. Alterations.

O. L. Krouse.
A. Townsend & Wyneken.
\$1,000.

Fourteenth, nr. Guerrero. One-story frame.

O. Mr. Columbat.
A. Townsend & Wyneken.
\$2,000.

Valencia, near Quinn. Three-story frame.

O. L. E. Wyneken.
A. Townsend & Wyneken.
C. J. Geary.
\$4,000.

Eddy, nr. Larkin. Three two-story frames.

O. L. Kutner.
A. Curlett & Cuthbertson.
C. P. Crichton.
\$12,000.

Geary, cor. Polk. Three-story frame.

O. Dr. H. Gibbons, Jr.
A. J. Gosling.
C. Moore Bros.
\$12,000.

Post, nr. Leavenworth. Two-story frame.

O. Mrs. B. Schoenwasser.
A. H. C. Mayo.
C. Anderson Bros.
\$7,500.

Twenty-first, nr. Valencia. Addition.

O. Miss Plover.
A. R. Warren.
C. F. Bergman.
\$2,500.

Church, nr. Twenty-eighth. One-story frame.

O. J. McGrath.
Day's work.
\$1,000.

Ferry Landing. Slips.

O. City of S. F.
C. T. H. Day.
\$1,340.

Duncan, nr. Sanchez. One-story frame.

O. and B. W. Fannill.
\$1,500.

Sanchez, corner Twenty-ninth. Addition.

O. Anderson & Co.
Day's work.
\$1,500.

Twenty-second, corner Chattanooga. Alterations.

O. Mrs. Fogarty.
Day's work.
\$3,000.

Fifteenth, near Guerrero. One-story frame.

O. and B. A. McDonald.
\$1,000.

Geary, near Leavenworth. Addition.

O. J. Donnelly.
C. G. Bales.
\$1,500.

Scott, near Sutter. Two-story frame.

O. and B. Mr. Wear.
\$5,000.

Pine, nr. Broderick. Addition.

O. P. Cray.
C. F. Koettiger.
\$1,500.

Sacramento, nr. Devisadero. Addition.

O. J. Kelley.
C. S. T. Green.
\$1,500.

Franklin, corner Austin. Two-story frame.

O. Mrs. E. Newman.
A. J. J. Clark.
C. J. M. Owens.
\$4,100.

Larkin, nr. O'Farrell. One-story frame.

O. N. P. Wyne.
A. J. J. Clark.
C. S. Mills.
\$1,700.

Magdalen Asylum. Alterations.

O. Sisters of Mercy.
A. J. J. Clark.
\$1,900.

St. Mary's Hospital. Remodeling school house.

O. Sisters of Mercy.
A. J. J. Clark.
\$1,100.

Webster, cor. Fillmore. Alterations.

O. National Brewery.
A. H. Geilfuss.
C. W. Huwe.
\$6,000.

Mission, nr. Eleventh. Improvements.

O. Jackson Brewery.
A. H. Geilfuss.
C. J. W. Newbert.
\$12,000.

Laguna, cor. Linden ave. Three-story frame.

O. C. Seipel.
A. H. Geilfuss.
C. H. thom Wohrden.
\$7,000.

Golden Gate Avenue, nr. Baker. Two-story frame.

O. R. Neubert.
A. H. Geilfuss.
C. H. thom Wohrden.
\$4,000.

Ridley, nr. Valencia. Two-story frame.

O. W. Becker.
A. H. Geilfuss.
C. Conrad & Miller.
\$4,500.

Bush, cor. Scott. Two-story frame, brick basement.

O. J. G. Maas.
A. H. Geilfuss.
C. Conrad & Miller.
\$7,000.

San Bruno Road, nr. Twenty-eighth. Addition.

O. H. Melde.
A. H. Geilfuss.
C. Conrad & Miller.
\$650.

Clay, No. 1411. Alterations.

O. S. Moffatt.
A. Schmidt & Havens.
C. Commery & Beards.
\$2,000.

California, nr. Laguna. Two-story and basement frame.

O. A. Michalitzsch.
A. Schmidt & Havens.
C. Commery & Beards.
\$8,500.

Oak, nr. Baker. One-story frame.

O. J. T. Carroll.
A. T. J. Welsh.
Day's work.
\$3,000.

Tenth, cor. Howard. Re-pairs.

O. Scanlon.
A. T. J. Welsh.
C. J. Blake.
\$2,000.

Bryant, nr. Second. Three-story frame.

O. C. Hauchmeister.
A. T. J. Welsh.
C. M. Lynch.
\$7,000.

Eighth, cor. Clementina. One-story frame.

O. P. Ryrie.
A. T. J. Welsh.
C. J. M. Owens.
\$1,800.

MISCELLANEOUS.

Napa—Alterations. O. Mrs. Heron; A. W. H. Wharf; day's work; \$2,500.

Sacramento—Northwest cor. Eighth and J. Addition and second story to building. O. John Q. Brown; A. N. D. Goodell; C. White & Hostrawer; \$6,500. G. bet. Eighth and Ninth. One-story and basement frame. O. Bernard Shick; A. N. D. Goodell; C. B. H. Coyell; \$1,450. J. bet. Eighth and Ninth and Ninth bet. J and K. Reconstructing of brick building. O. Martin Kestler; A. N. D. Goodell; C. Carle & Croly; \$2,800. Three miles east of Elk Grove, Sacramento Co., Cal. Two-story frame dwelling with brick basement. O. Dr. James Caples; A. N. D. Goodell; C. B. F. Bell; \$4,350. O. bet. Twelfth and Thirteenth. Rebuilding. One-story frame and basement. O. Thomas Kenney; A. N. D. Goodell; C. B. F. Bell; \$1,350. J. nr. Sixth. Two-story brick. O. C. P. Nathan; A. J. Seidler; C. Carle & Croly; \$3,000.

Woodland—One-story frame. O. Mrs. A. M. Jackson; C. W. H. Winnie; \$1,500. Second. One-story frame. O. T. M. Prior; A. W. H. Carson; \$3,100. Two-story frame. O. S. Childs; A. W. H. Carson; C. Glenn & White; \$3,100. Westcott. One-story frame. O. H. T. Barnes; day's work; \$1,200. First. One-story frame. O. O. Troop; C. Stamp & Myrick; \$1,500. Main. Woodland Winery; Improvements and machinery. O. Clark & Culver; C. Gilbert & Son; \$1,100. Main. Convent. Addition to first contract. C. brick work, C. C. Scott; C. wood work, S. Caldwell; \$5,050. East Oak Avenue. Extension and improvements. O. M. A. Lee; day's work; \$1,000. Improvements and extensions. O. Thomas Langenour; C. Glenn & White; \$1,340.

Davisville—One-story frame; O. Hex Bros.; C. W. H. Winnie; \$1,310. One-story frame. O. J. E. Hardy; day's work; \$2,150.

San Jose—Second, cor. Reed. Two-story frame and brick basement. O. M. P. O'Connor; A. Theo. Lenzen; C. carpenter, Thos. Livingstone; mason, L. C. W. Otto; \$30,000. Los Gatos Road nr. town. Two-story frame and brick basement. O. T. Burgess; A. Theo. Lenzen; day's work; \$8,000.

Vacaville—Two-story brick. O. Ulatis School District; A. A. A. Cook; C. J. B. McKenzie; \$11,800.

San Mateo—Two-story brick. O. San Mateo Library Association; A. Percy & Hamilton; C. J. Cox; \$10,500.

Oakland—Webster, nr. Twentieth. Two-story frame. O. Convent Sacred Heart; A. B. J. Clinch; C. J. Binet; \$3,100. Broadway cor. Prospect Ave. School house. O. City of Oakland; A. S. and J. C. Newsom; C. O. R. Lord; \$7,000. One-story frame. O. J. J. Meehan; A. T. J. Welsh; C. J. Glenn; \$1,500.

Alameda—Central Ave., nr. Willow. Three one-story frames. O. Mr. Wilson; A. S. and J. C. Newsom; C. W. Clark; \$6,500.

Petaluma—Four one-story bricks. O. I. G. Wickersham; A. T. J. Welsh; \$3,000.

San Rafael—Two-story frame. O. J. Sheehy; A. T. J. Welsh; C. Robertson; \$10,000.

MARKET REPORTS.

Lumber.

PINE lumber may be quoted at almost any price from \$14.00 to \$20.00 for rough, and \$22.00 to \$35.00 for surfaced.

The price of redwood is better maintained, although large concessions may be had on schedule prices ruling a few months ago.

Nails

Are selling at \$2.90 rate for 10s.

Parquet FLOORS
WOOD CARPET

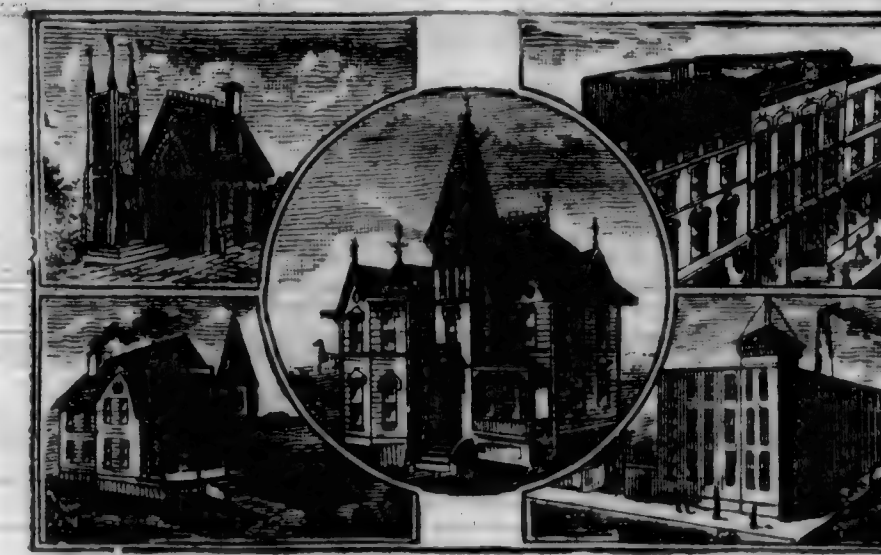
Wood Floors in the European styles. Also for Ornamental Wood Floors, 2 1/2 inch thick for rooms of all kinds, in new and old houses. We make a specialty of these goods for Floors, Wainscoting, Walls and Ceilings. Plain and Ornamental. We have the largest variety, largest stock on hand, and the largest factory in the U. S., as well as a large saw mill and factory in a first-class timber country, devoted exclusively to this business, and defy competition in price or quality of goods. Send stamp for book of designs and prices, and the size of your rooms for diagram and estimates. JOHN W. BOUGHTON, 1118 Market St. Phila. Pa.

The California Architect and Building News.

VOLUME V.
NUMBER 11.

SAN FRANCISCO, NOVEMBER, 1884.

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

THE
California ArchitectAND
BUILDING NEWS

Published on the 15th of each month

BY THE
San Francisco Architectural Publishing Co.

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

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

TERMS:
PER ANNUM \$2.00 IN ADVANCE

ENTERED AT POST-OFFICE AS SECOND CLASS MATTER.

ADVERTISING RATES.

Master Mason's Association.

THE aversion to combinations regulating special interests, and presumably fixing and regulating prices to the disadvantage of purchasers of materials, or the employment of labor, is universal with all classes of owners; consequently, whenever any one class of mechanics or building operatives organize as a body, it matters not how reasonable, right, and proper their action may be—how well sustained by honorable and just principles of self-protection—the suspicion of monopoly and extortion attaches; and those seeking to embark in building ventures, as a rule, scan the condition of the material and labor market, before entering into any definite, progressive arrangements. This is all natural, as no human being, not even the individual participants in the most reckless and soulless extortion ring, is willing to be extorted.

With this as a common rule of practice, among the first inquiries instituted by owners is, "Are there no 'corners' in material or labor?" "Is demand and supply in all directions easy and equal?" And among others the master mason's organization is quoted as suggestive of a "corner" in connection with the mason's work of both brick and frame buildings. This speculative inquiry has been answered in former numbers of this Journal, but as the question continues to be repeated daily, and some people seem anxious to have it believed that the brick masons of this city have combined in society organization for the special cause of advancing the cost of the mason's work, we again repeat, as a fact, that the prime motive, aim, and purpose of the personals of the society, was and is, safety and protection from the uncertainties of the sub-contract system, by which, through the ignorance of values of work and material, or the dishonesty on the part of many original contractors, large amounts have, from time to time, been lost by sub-contractors in all the various branches, and largely so by master brick layers. And while the frequency of failures by original contractors is much less than in former years, there is still a certain degree of risk in sub-contracting, which is sought to be obviated by the master masons demanding their rights as original contractors for all specialties in their line. There is no rule among them regulating prices—that being left with each member of the association to determine according to his own judgment. Nor does the existence of the society preclude those who have not become members from participating in all offered competitions; consequently, owners have the option to confine figuring to society limits, or they may go outside of these, and seek the advantages to be found in those who prefer to take all chances, and catch jobs as best they can.

WHAT has become of the straw lumber which, three or four years ago, we were told would revolutionize the lumber business?

Dwindling Away of Old Customs.

AMERICANS are noted the world over for their ingenious methods and contrivances in adopting machinery sufficient to perform much of the heavy work required in and about buildings; and it is in ill accord with the present plentitude of building novelties for builders and contractors to increase their risks by pertinaciously clinging to a clumsy and inferior kind of scaffolding, and to bungling means for raising materials, instead of adopting contrivances of a scientific and safer character.

Crowds of hodmen continue to excite the pity of the multitude who chance to witness their toilsome climbing, encumbered with the shouldered hod. Apart from the waste of strength involved by a man lifting his own weight with a load of fully one-fourth of that amount in addition thereto, there is no little danger in a fagged, drowsy, or partly tipsy laborer ascending a lofty, upright ladder with a hod seemingly well devised to shoot out a brick or two from its open end. Passers by and workmen on the job are further imperiled when the hodman steps off the ladder on to an already overloaded, slender scaffold, especially when he happens to be quickly followed by a mate making strenuous efforts to poise on his head a badly balanced mortar board.

It is only in country jobs that one sees the almost primeval method of hodmen carrying brick and mortar to the different parts of the building. In the large cities various contrivances have taken the place of manual labor. At first, a block and fall rigged to an overhanging pole were used, by which the various materials were raised to the required place. This innovation, however, at once displeased the hodmen, for with quick perception they saw that the idea, if improved upon, would be the means of displacing a large number of men. In this city, decided steps were taken by them to discountenance the use of any device that would tend to substitute manual labor on buildings.

Some of the objections at that time used by the laborers to the new system seem rather amusing to mechanics in the later days. It was claimed that contractors would use the rope until it was completely worn out and thus the men below would always be at the risk of receiving damages from a rope breaking and the consequent fall of the board. The dust from the brick and mortar would continually be deposited in the strands of the rope and the friction caused by its rapid transit through the block would soon wear the rope out, and aside from the danger mentioned, be a continual expense to the contractor. That the assumption was a false one is shown by subsequent events.

The change from the old way to the new has been a gradual one. It is rarely now that a hodman is seen on our city jobs. The wheelbarrow has taken the place of the hod, and the inclined plane instead of the ladder. Steam power has superseded manual labor, and has to a large extent minimized the danger of accidents.

An inventor called at our office not long since, and showed us working plans of a design through which much of the labor on a building could be dispensed with. It consisted of a long pole firmly secured at the bottom to a carriage, the latter having small wheels to enable one to easily move the pole in any direction. Peculiar sliding extension arms were rigged to the pole, by which it was intended that the load of brick or mortar could be raised to any desired height, and be delivered to any part of a staging within a radius of twenty-five feet, or even if necessary to a much greater distance. We keep our promise to the inventor by simply stating his proposition without giving the details of construction of his "labor revolutionizer."

Put away the old and take on the new is now the motto of mechanics and contractors. Especial study is given to new ways of performing work quickly, and he commands the greatest respect amongst his fellows, who, by dint of hard study and application, can do, with but apparently a slight effort, the most work in the least time, through the methods employed by the knowledge gained in applying the principles gained by such study.

Kitchen Sinks.

AN erroneous idea prevails in the minds of many, that kitchen sinks in daily use requires oft repeated painting in order to prevent them from rusting. It is not necessary to paint them at all. The grease in the dishwasher will keep the iron from rusting. All that is necessary is to keep the sink clean. No paint that we know of will stick to a kitchen sink for any length of time.

WOOD may acquire an oak, walnut or cherry tree color by staining it with ordinary tincture of iodine diluted with spirit until the exact shade is obtained. White shellac must be added to the iodine solution if the stain is to be made permanent, or the wood after the stain is applied may be French polished. The iodine may be laid on with a rag or a brush.

If stove polish is mixed with very strong soap suds, the lustre appears immediately; consequently there is less dust to breathe and blacken.

SPECIAL OFFER.**BOUND VOLUMES OF THIS JOURNAL TO NEW SUBSCRIBERS FOR 1885.**

Upon receipt of \$3.25 we will send a bound volume of this Journal of either 1880, 1881, or 1882 and the full year's numbers of 1885.

We have had an extra number bound of the years mentioned, and make this offer to increase our subscription list. We are bound to increase our list, so that the end of the year 1885 will witness not less than

TEN THOUSAND

Paying subscribers on our books.



FRONT ELEVATION OF \$5,000 COUNTRY DWELLING.—4th PREMIUM DESIGN.

Our Fourth Premium Plan.

ON this and succeeding pages, will be found the full plans and elevations of the design to which was awarded the fourth premium in the competition held under the auspices of the editors of this Journal. Under the *nom de plume* of "Hoosier," credit for the design belongs to J. W. Hammond, Frankfort, Indiana.

The general character of the elevation is more in keeping with architecture as exemplified on this coast, than any of its predecessors. The arrangements of the rooms are shown very specifically by our engravings.

COST OF THE DESIGN SHOWN.

We want our readers to particularly bear in mind that the estimates given for the various competition designs are those for which the houses can be erected at the place where the designs were prepared. None of the premium designs thus far shown, can be built in this city or State for anything like the sum mentioned for each. In the present case the total amount would have to be nearly doubled in order to erect the building as per plans shown.

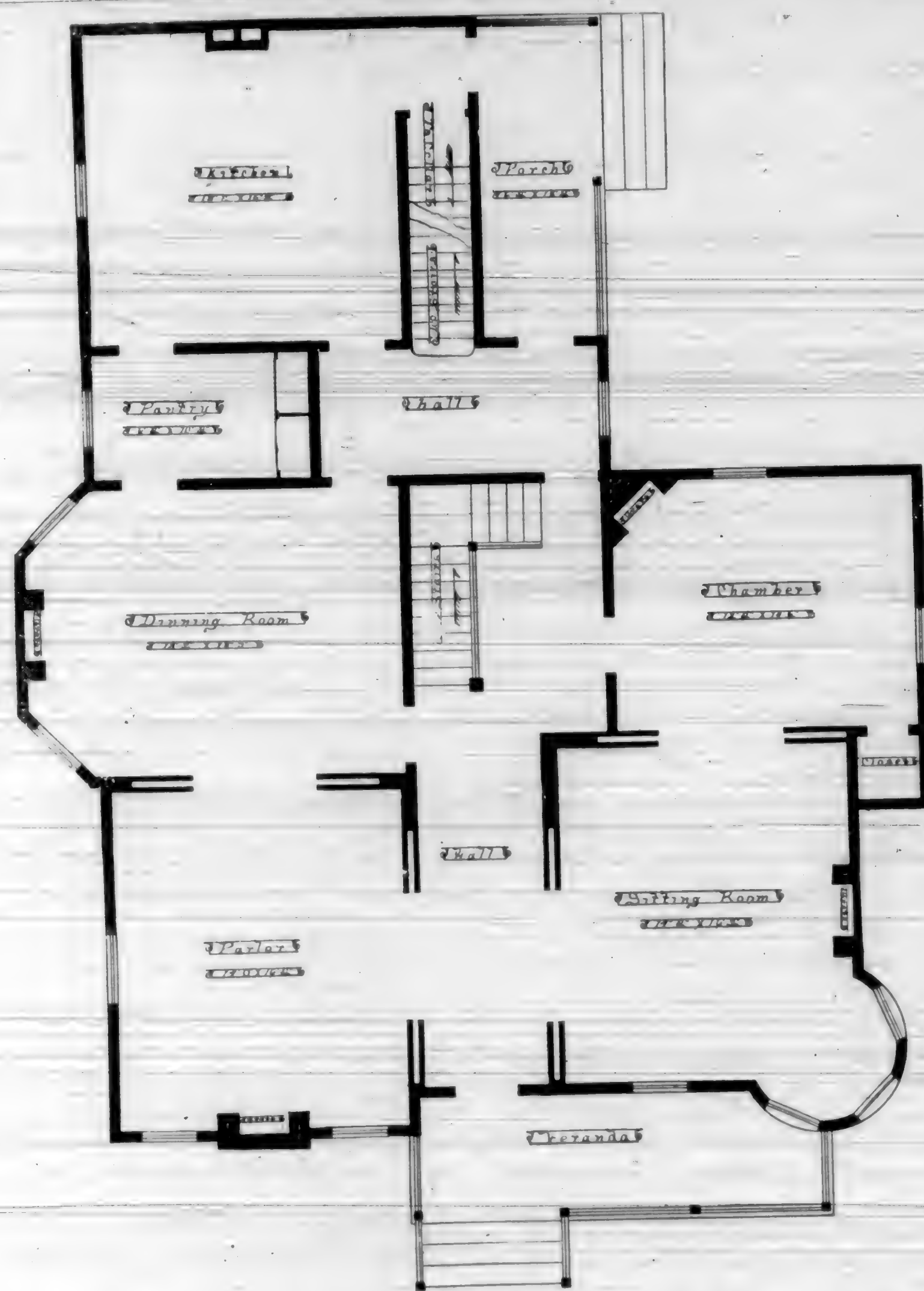
We give below a full estimate as furnished us by the architect. He assures us that it has

been carefully scrutinized by one of the principal contractors of Frankfort, and that reliance can be placed upon the figures given as being correct.

ARCHITECT'S ESTIMATE.

Estimate of material and labor required in the erection and completion of the plan submitted by "Hoosier" (J. W. Hammond).

155 yds. excavating @ 25 cents per yard.	\$ 38 75
2,800 ft. stone foundation @ 15 cents per ft.	420 00
140 ft. cut stone @ 40 cents per ft.	59 00
35,340 brick @ \$9.00 per M.	318 00
1,940 yds. plastering @ 25 cents per yd.	485 00
166 yds. concrete and cementing @ 25 cents per yd.	41 50



FIRST FLOOR PLAN OF \$5,000 COUNTRY DWELLING.—4th PREMIUM DESIGN.

15,188 ft. timber @ \$17.00 per M.	\$258 19
4, 448 ft. sheathing boards @ 20.00 per M.	88 96
5,550 ft. clapboarding @ 22.50	111 00
20,000 shingles @ \$4.00 per M.	80 00
2,500 ft. sheeting @ \$17.50	43 75
220 ft. belt, etc. @ 10 cents	22 00
Cornice	120 00
Tin work	100 00
4,171 ft. flooring (inside) @ \$30.00 per M.	125 13
586 " " (outside) @ \$35 " "	20 51
Stairs complete	150 00
Veranda	125 00
33 windows (box) @ \$12.00 each	396 00
12 " (attic) \$5.00 each	60 00
10 " (cellar) \$5.00 each	50 00
42 doors complete \$12 each	504 00
4 grates and mantles	160 00
Hardware	100 00
Plumbing	200 00
Gas piping	40 00
Painting	400 00
Carpenter work (not included in above)	500 00
	\$4,893 79
Architect fees (complete) 5 per cent.	244 68
Total cost	\$5,138 47

In making an estimate for California, there are several items in the above that must be materially changed. The price given for brick work should be doubled. Add twenty per cent. to the amount set down for plastering. Cornice and stair work are very low. Grates and mantles for the price given, would be too common to suit our ideas. Hardware is much too low. Price for plumbing would have to be multiplied by at least 3, in order to secure a job satisfactory to our "plumbing inspector." Other items are low in comparison with those for which the same work could be performed in this city.

We find the same fault in this plan that we mentioned in our remarks in those already presented in the competition series, viz., a total lack of wash-basins in the bed rooms, one only being shown in the bath-room. No water closet is shown, a fact totally inconsistent with the general character and size of the house.

We make the above remarks simply to call the attention of our readers on this coast to the lack of those things that we regard as

"essentials," the cost given being so much lower than the building will cost here, that no one will be led astray by adopting a plan for a \$5,000 house, when we know that \$8,000 will be required to finish the same satisfactorily to residents of the Pacific slope.

Night Work in Lumber Mills.

ONE of the principal causes of the glut in our lumber market is the greed for gain by our manufacturers; not content with running the mills under their control from 6 A. M. to 6 P. M. they seek to further enlarge their bank account by keeping them running the balance of the twenty-four hours. This is especially noticeable when large contracts have been secured, to carry out which, an extra number of men have been engaged. When the latter have been placed at their respective stations, it is policy in the company hiring them, to keep the men at least a month in their position. And just here is where the trouble commences. One mill running the full day, causes other mills to be run the same time, and, as a natural consequence, in a short time, a vast amount of lumber is manufactured, for which no present use can be found. A slight decline in the building line is met by a similar result in the price of lumber, and thus, those intending to build cannot, with certainty, lay their plans for any length of time ahead, owing to their inability to determine the price of the material most required for their purposes.

Our Exchanges.

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

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

CALIFORNIA ARCHITECT AND BUILDING NEWS

Terms, \$2.00 per annum.

With *American Architect* (\$6.00),

\$7.00 per annum.

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

\$2.50 per annum.

With *Inland Architect and Builder* (\$1.75),

\$3.25 per annum.

With *American Artisan* (\$1.00),

\$2.50 per annum.

With *Building* (\$1.00),

\$2.50 per annum.

With *North Western Lumberman* (\$4.00),

\$5.00 per annum.

With *Scientific American* (\$3.20),

\$4.50 per annum.

With *Leffels' Mechanical News* (\$1.00),

\$2.50 per annum.

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

\$5.00 per annum.

With *American Machinist* (\$2.50),

\$4.00 per annum.

With *The Wood Worker* (\$1.00),

\$2.50 per annum.

With *The Builder* (\$2.00),

\$3.50 per annum.

With *Hall's Journal of Health* (\$1.00),

\$2.50 per annum.

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

\$2.50 per annum.

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



SIDE ELEVATION \$5,000 COUNTRY DWELLING.—4th PREMIUM DESIGN.

"ALL carpenters know how soon the butt ends of chisel handles split, when daily exposed to the blow of a mallet or hammer. A remedy suggested by a Brooklyn man, consists of simply sawing or cutting off of the round end of the handle so as to make it flat, and attaching, by a few small nails on the top of it, two round disks of sole leather, so that the end becomes similar to a boot heel. The two thicknesses of leather will prevent all further splitting, and if, in the course of time, they expand and overlap the wood of the handle, they are simply trimmed off all round."

The foregoing item has been going the rounds of the press for nearly a year, yet no one seems to have noticed its absurdity. Chisels used by carpenters are of three kinds: Firmer chisels, paring chisels and mortising chisels. Firmer chisels are the ones most generally in use and are employed for trimming off stuff, removing superfluous wood and sometimes making mortises in thin and soft wood, though this latter purpose is not what they are made for. The handles on firmer chisels should always be slightly rounded on the butt end, and in all cases the handle should be turned and have a ferrule on the end next the chisel. These handles are not to be pounded by a mallet; they may be tapped *lightly*, and the rounded end of the handle is sufficient protection to prevent splitting if this rule is kept in

view. To use this class of chisels as mortising chisels, argues one of two things: Either that the user does not know his business, or that he does not possess the proper tools to perform the work he is at. Paring chisels should have flattened handles with the corners worked off, which would make a section of them like an elongated octagon, with four long and four short sides. A paring chisel is much larger than a firmer and is made thin and of a superior quality of steel. The handle should be something larger than the handle of a firmer, and on no account whatever should a mallet be used on it. The paring chisel is used for the finest kind of work and is guided in its movements altogether by the hand. The mortising chisel is a heavier-made chisel, and is generally, though not always, a socket on one end to receive the handle.

Mortising chisels are the only ones on which a mallet is intended to be used, and the butt end of the handle is protected with a heavy iron ferrule. These handles are turned in a lathe and the point entering the socket and the end receiving the ferrule, are fitted nicely to the places they are to occupy.

The idea of a carpenter or joiner using a hammer on the wooden handles of his chisels is something absurd; only a botch would be caught at so unworkmanlike a trick. Putting leather on the tops of handles to prevent them from splitting has been used by carpenters,

cabinet makers and shoemakers for several centuries; by the two former on their brad-awls, and the latter on their "pegging" and "sprig" awls. The cushioning quality of the leather requires a heavier blow for a given effect than when the awls are used without the leather.—*The Builder and Wood-Worker*.

TO MAKE plaster set quickly mix it with water into which a little sulphate of potash has been dissolved. To make plaster set slowly mix it with fine slacked lime. The time of setting may be regulated after a few trials by changing the relative proportions.

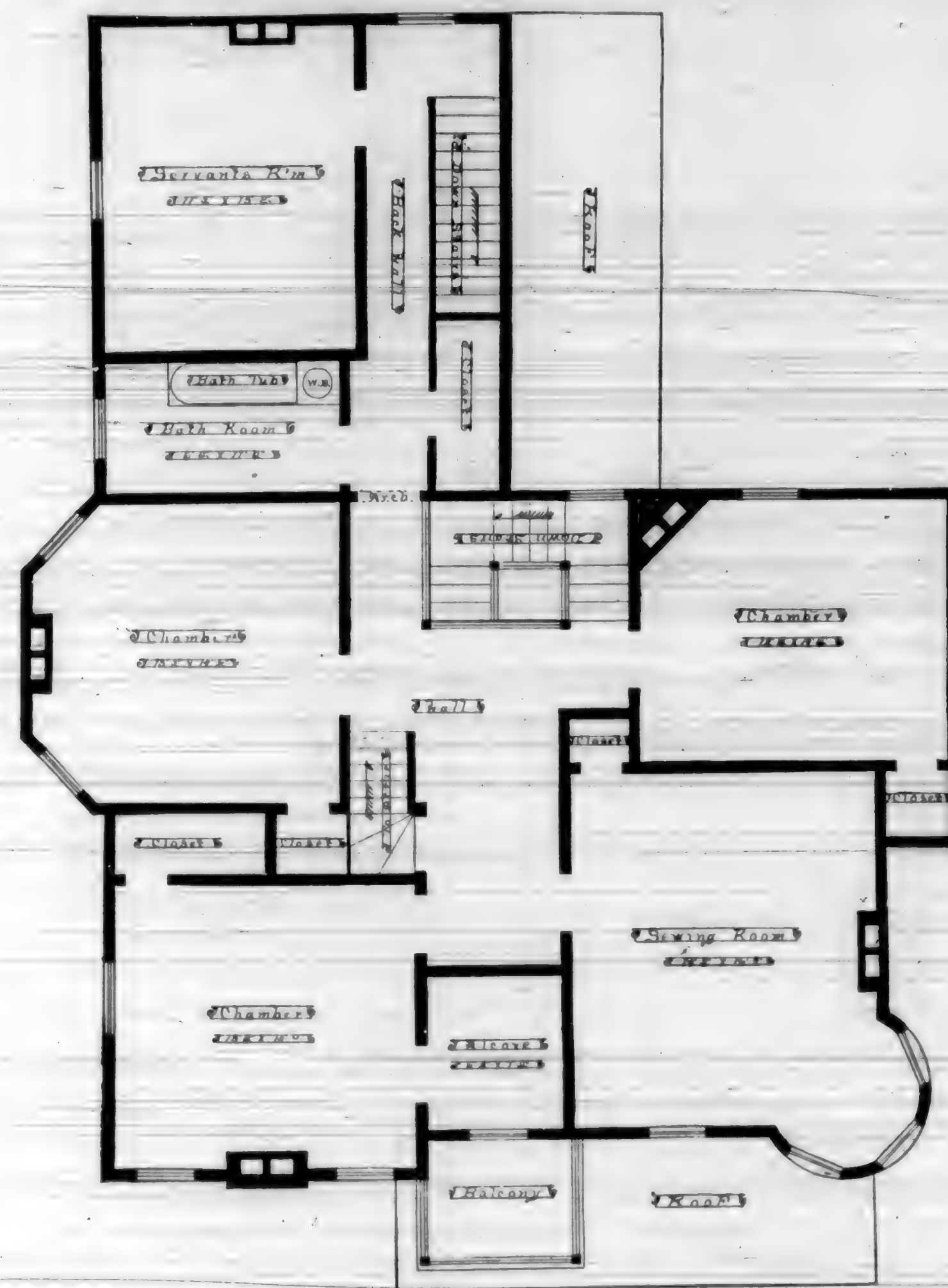
SPECIAL OFFER. BOUND VOLUMES OF THIS JOURNAL TO NEW SUBSCRIBERS FOR 1885.

Upon receipt of \$3.25 we will send a bound volume of this Journal of either 1880, 1881, or 1882 and the full year's numbers of 1885.

We have had an extra number bound of the years mentioned, and make this offer to increase our subscription list. We are bound to increase our list, so that the end of the year 1885 will witness not less than

TEN THOUSAND

Paying subscribers on our books.



SECOND FLOOR PLAN OF \$5,000 COUNTRY DWELLING.—4TH PREMIUM DESIGN.

The Locomotive of To-Day.

THE locomotive of to-day is a giant by the side of the production of 1851. The New York Central express engine is a very Anak. Its weight is 84,000 pounds, or nearly two and a half times heavier than its above mentioned prototype. The cylinders are eighteen inches by twenty-four. The average man's head is far below the top of the driving wheels, which are seventy-five inches in diameter. In 1854 a New York express passenger locomotive traveled 25,000 miles in a year; last year the average mileage per engine stood between 70,000 and 80,000 miles. A locomotive for express passenger service costs, taking the experience of the past few years, from \$3,500 to \$10,000 to build. In comparing the locomotives of to-day and a quarter of a century ago, you will notice that while the weight of the whole machine has increased greatly, certain of the dimensions have not altered much. This is because we are limited in various ways in constructing a locomotive. We cannot make the body of the engine over a certain width, because of the gauge of the track; not over a

certain height, because we must keep the center of gravity at about the same position; not over a certain length, because of the wheel centers. So the locomotive must always remain nearly the same in form. It is to increased capacity of boilers that we must look for increase of power. At present an express locomotive boiler is of eighty-horse power, that is, if it were a stationary engine that would be its capacity. But when the locomotive is drawing a train of cars at five miles an hour the boiler supplies the strength of 375 horses, and at forty-five miles an hour the power expended is equal to that of from 700 to 800 horses. That's a curious fact, isn't it? Exchange.

WHEN filing hand-saws there are two objects to be kept in view, namely, cutting off the fiber of the wood, and removing it as fast as it is severed. If the teeth be filed too fleaming, they will cut faster than they will remove the saw-dust. On the contrary, if the faces near the points be not dressed fleaming enough, the saw will tear out the kerf in a rough manner, rather than cut its way through the timber.

The Window of the Ark.

WE were much impressed, at a meeting held a few weeks ago, at various suggestions made in regard to the description of the ark as given in Genesis. The size of that immense structure was settled as being 450 feet long, 75 feet wide and 45 feet high, and was divided into three stories. (Does it not seem strange that our best vessels to-day are modeled in the same proportions as the first great vessel made under the direction of the Almighty?)

In this great leviathan, two of a kind of every living creature were gathered together. The discussion was rather warm on the subject of *how many kinds* there were at that time, and the point was not settled satisfactorily.

The main point, however, was in regard to the *window* of the ark. It was shown that the ark was built on the ground, and as the waters gradually rose, it was lifted from its foundation in a perfect natural way. Of course with the immense weight inside at least one-half of the structure was submerged. Necessarily the animals in the hold or bottom story, lived in absolute darkness. Now how did they get the fresh air which was absolutely necessary for their preservation?

There was but one window in the ark, in size, "in a cubit." A cubit is eighteen inches, so the window was eighteen inches square. We are aware that there is a dispute in regard to the size of the cubit; the size given, however, is that in use by the Hebrews. No matter whether it was smaller or larger than the size given, the other measurements would increase or diminish according to the size given to the cubit.

"Think of one window about eighteen inches square in the roof or near the top of this huge ship, and that remaining closed for 100 days after the flood began. The door was also closed. Moreover the vessel was pitched within and without. It follows that the entire ark was without ventilation. How, according to natural laws, could this multitude of living creatures endure such confinement without ventilation for a day, let alone 100 days, as mentioned?"

Some contended that the eaves of the roof projected over the vessel quite a distance and that under the eaves was an open space that extended around the vessel, giving room for ventilation. Evidently a false assumption, for the space would have afforded egress for numerous small birds, etc.

The window of the ark, and the means by which the latter was ventilated, we will leave to the tender mercies of the scientist, and the cool reasoning of theologians.

SLATE is simply a clay deposit under water, but it is a great resistant of water, and is almost fire-proof—much more so than marble or granite.

"Builders' Guide and Estimators' Price Book." A new edition just received. Will send a copy to any address upon receipt of \$2.00.



SIDE ELEVATION OF \$5,000 COUNTRY DWELLING.—4TH PREMIUM DESIGN.

Separating the Branches.

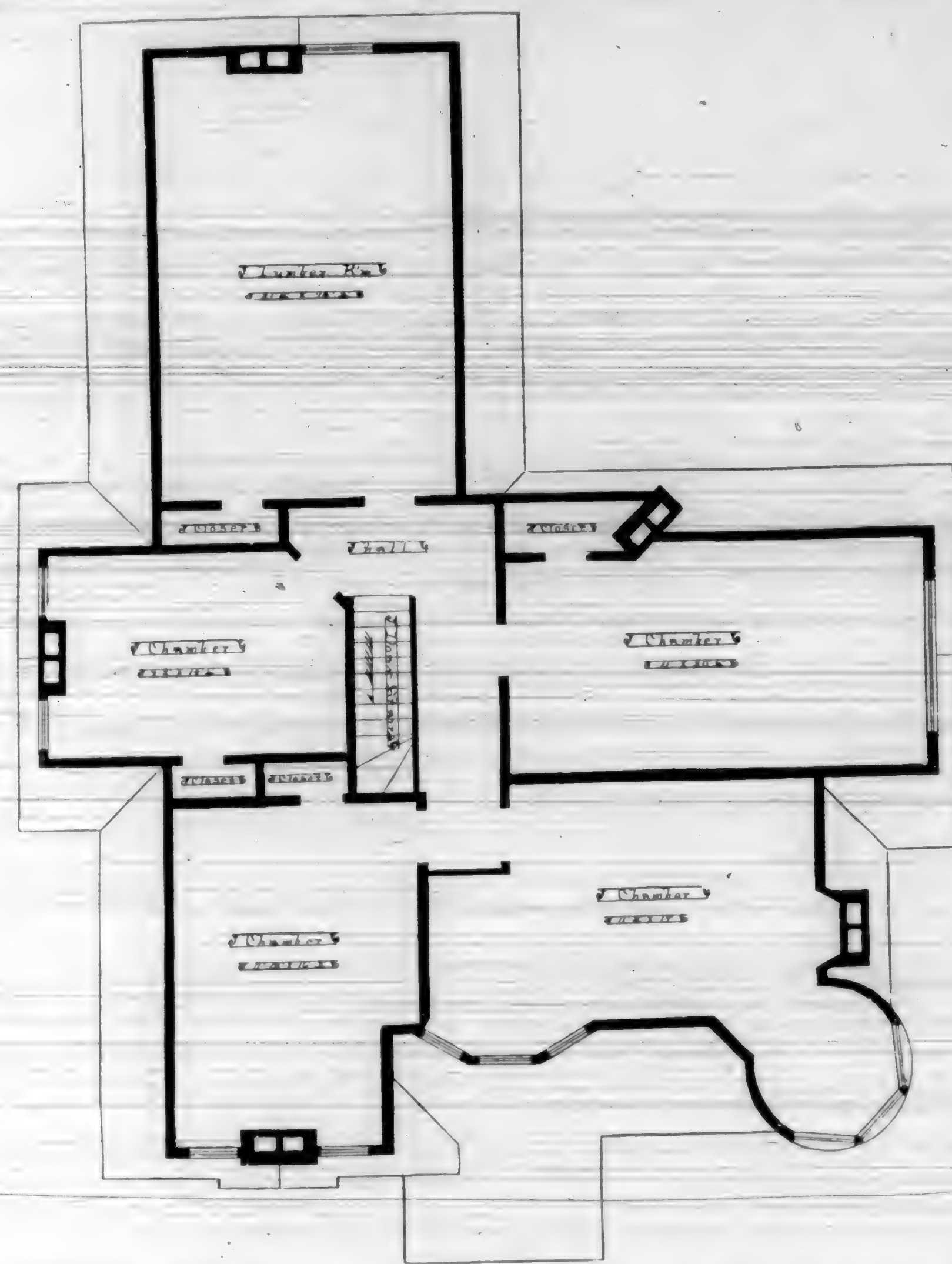
THE rule prevails to a certain extent (and is sought to be made general), in San Francisco, in the erection of buildings, other than the shoddily built, inexpensive class, to separate the various branches of mechanism. There are very many "good and sufficient reasons" why this should be done, and fair and honorable considerations why but few, if any, segregations should be made. There are, and for many years have been, but few instances in which some few of the architects have not practiced the separation of the plumbing, plastering, painting and decorating work, in all ordinary, good, and better buildings. This has been considered a necessity, to avoid the sub-contracting of the branches to incompetent parties, who come not, even if they desired to execute faithful and good work.

But for the purposes of protection against the risks and financial uncertainties attending sub-contracting, and as a matter of right as master mechanics, all the more prominent branches have sought and are seeking to secure to themselves recognition as original contractors. Without, at the present time, presenting any argument *pro* or *con*, we suggest a few thoughts for the reflection of those who are striving to secure a concession from architects and owners, in the separation as asked for. To encourage and justify such a course on the part of architects, the spirit of kindly

co-operation, good will and harmonious intercourse should be made the first principle of action. It is one of the most reasonable and natural things imaginable for men in positions enabling them to control matters to guard against every cause of unpleasantness and annoyance; and if by the segregation of the branches, disagreements, contentions and disputes arise between parties operating, about trivial matters, each pulling his own way, drawing lines over which he will not pass, nor allow others to pass; claiming points, and clamoring for rights, easements, and privileges not consistent with a liberal and unselfish disposition, thereby rendering it necessary for the architect to exercise his persuasive or authoritative prerogative or authority,—a request to make general a rule of action liable to the results suggested would be extremely unreasonable. Consequently, the possession and practice of the right spirit, the spirit of mutual interest, integrity and co-operation, promptness of action, ready acceptance of all legitimate responsibilities, is a first necessity in those seeking to make general a rule by which every man shall be considered and recognized as a *master* in his special line of mechanism; and when this principle of action prevails, and architects become assured that the letting of the branches separately will not impose upon them additional trouble and annoyances, requiring of them patience equal to that of him who refused to "Curse God and

die," then the realization of the result sought will be more likely of accomplishment in its universality.

PAINTING TIN ROOFS.—Tin on a house-top should be well painted once in four years. For roofs light, cool colors are preferable because they reflect the warm rays of light, and thereby lessen the expansion and contraction of the metal and the shrinking of the boards underneath, and so lessen the liability of the tin to crack in the seams. The temperature of attic rooms in summer will be materially lower if the roof be painted with a light rather than with a dark color. The writer has learned from long experience that the finest French ochre is the most economical pigment that can be used for that purpose. If, as is sometimes the case in country houses, where the roof is a conspicuous object in the architecture of the building, a dark color be indispensable, the use of pure Venetian red darkened with lamp-black, is recommended as the most durable and economical. If, by some process the oil used in roof-painting could be prevented from becoming hard and brittle, it would be a great gain. The poorest oil-paint, however, is better than neglect; and the best economy consists in keeping tin entirely and thoroughly protected from the corroding influence of dampness. Old paint, which has become "fatty" from exposure to the atmosphere, is better than new for roof painting. Not a drop of turpentine should be used for such work.



ATTIC PLAN OF \$5,000 COUNTRY DWELLING.—4TH PREMIUM DESIGN.

Restoration! vs. Ruins of Carmel Mission Church.

At the regular meeting of San Francisco Chapter, the 7th inst., the "Restoration!" of Carmel Mission Church, Monterey County, furnished a theme of discussion, during which statements were made by members of the Chapter present, who had visited the once universally revered, sacred relic of California antiquity, in the completeness of its ruins, and its solemnly grand desolation under the wear and waste of time; bowing with awe within its once consecrated, but for many years unroofed and broken walls, with reverential feelings akin to that of standing in the spirit presence of the revered and self-sacrificing Padre, who founded the mission, laid the foundations of the church, and dedicated the structure to the service of Almighty God; and whose dust of mortality lies buried beneath where worshipers once knelt in solemn acts of devotion; and, also, since then—since its *transmogrification* into what it is at

present—as much unlike the original as possible—*desecrated*—NOT restored. Its high, steep, Gothic, redwood shingled roof, and its modernized inside finish, wiping out and obliterating all semblance to the original, stone-arched, tiled roof, placed on it by the pioneer Padres of a century ago; the covering up and concealment from view, by plasterers' mortar or cement, the interior stone-work of the walls, which pleasingly illustrated the great care, regularity, and mechanical exactness with which the work was at first done; and many other departures from originality, simply reverses the order of things—the "restoration" being no less than the almost complete ruin of the once venerated ruins, thus exemplifying the entire unfitness of Father Casanova as the managing man, which position he seems to have occupied in the *modernizing* of the ancient edifice. If the reverend superintendent of the work understood the correct meaning of the term restoration, his practical demonstration of that knowledge has certainly produced a something as little like the

original as can well be conceived, short of entire destruction, so far as his judgment and ideas of things have been reduced to practical execution.

The original *façade* of the edifice remains but little altered, as far as bell and stair towers, main entrance, and its peculiar Gothic gable window is concerned, but not so with the front wall itself; the sharp-pointed, Gothic gable rising many feet—perhaps near *y* ten—above its original terminal, so mars and changes general effect that all preconceived ideas of the structure, whether derived from photographs or personal observation, are at fault.

A Lesson in Shop Management.

THE costly results of putting off till to-morrow that which not only can but ought to be done to-day are nowhere more surely felt than in a workshop. The number of failures in business which could be traced to this single cause no statistician will ever be able to compute. How in one instance the evil was pointed out and its consequences checked, is related by the *Cabinetmaker* as follows: We once worked in a shop where a specialty was made of builders' finish, brackets, mouldings, fancy finish, etc. About eight hands were employed in the room we worked in. The machinery consisted of railroad combinations, band and jig saws, panel and buzz planer, a boring machine, and a two-spindle moulder. The two planers and the jig saw had loose pulleys which were so badly worn as to necessitate throwing off the belts from the main shaft to the counter every time each machine was used. In that shop each man took an order from the order book, got out his stock, and finished the job, using whichever machines were needed. When it was necessary to use the panel planer, we had to climb up on the jig saw table and throw on the belt; when the buzz was needed, the planer must be used to stand on, in order to get at the requisite belt. If the planer was running, it must be stopped, thus delaying the man who was running it. One day after getting thoroughly disgusted, we "went for" the boss and asked him if he was going to have those pulleys bushed this year. He said he was going to "just as soon as he got time," but he let them run in this way for two whole months. One day we noted the number of times we had to throw on and off those belts. We used the planer fifteen times, the buzz ten, and the jig saw sixteen times, making forty-one times. It took about a minute to put on, and another one to throw off a belt, thus taking in all eighty-two minutes in one day. There were eight of us who had to do the same thing, so it took 656 minutes, or about eleven hours, to handle those belts—more than one man's time every day. Running this way for nine weeks would amount, at the rate of forty cents per hour, to \$212, and our boss could not find time to have the pulleys fixed. We showed the figures to him one day. He scratched his head, took them into the office, and ten minutes afterwards came out, shut down the shop instantly, and sent those counters and pulleys to the machine shop. A loose pulley that rattles has not been seen or heard in that shop since. You may go into every shop in the land and six out of ten will have one or more of these "hand shippers" in operation. How is it in your shop? If the coat fits, put it on.

The Prompt Return of Plans.

AMONG the many office annoyances to which architects are subjected, that of bidders neglecting to return plans and specifications promptly at the time appointed for their return, is one of the most provoking,—alike to the architect, and the party who by appointment is the next in order to receive and use them. Each party figuring is entitled to the full period of his allotment of time and no more; and the one who by arrangement precedes the other, is in all fairness toward his fellow competitor, and the office which permits him to figure, in duty bound to observe his time privilege, and avoid encroachment upon the time and rights of the "next man," by the prompt return of plans and specifications at the understood or specially appointed hour. In all well regulated offices where business is conducted by rule and system, each bidder is allowed one or more days, according to the magnitude of the work to be figured upon, in which to complete his use of the papers; and when more time is taken by any one of those figuring, than the days or hours appointed to him, he takes—by encroachment upon his successor's time and rights—that which he is not entitled to, and does an unfair thing; for the time of the next bidder in the order of appointment is his own; and his predecessor in figuring is in honor and duty bound to so act his part that the other shall not be subjected to loss of time, nor to any other inconvenience through failure of the first to exercise due diligence in carrying out the understanding which usually in such cases exists. There can be no consistent excuse or palliation in such cases, short of *absolute impossibilities*; and the bidder who is careless and thoughtless in this respect, justifies suspicion on the part of the architect, that the same spirit of carelessness, and lack of promptness may develop, should the not particular one be the successful bidder.

Sometimes plans are delayed and held back for the purpose of shutting out multiplicity of bidders, and lessening competition. This may work in some cases, when circumstances preclude extension of time, but ordinarily such acts simply provoke, and result in the number of parties invited to figure being largely increased, or, as has been the case in some instances, an entire change in procedure, excluding entirely those so manipulating matters.

To the architect it is unfair; involving him in disappointments, and rendering explanations necessary to explain to his client the reason why the number of bids at the hour set for opening is less than had been requested, arranged, and fixed upon; thus rendering it possible for the owner to suspicion complicity somewhere, a result not beyond the bounds of reason when irregularities of the slightest character appear, particularly in cases of "first transactions," and with owners of quick discernment and perceptive minds, qualified by business experiences to take in and apply seeming, if not actual departures from strictly correct and business-like procedures.



REAR ELEVATION OF \$5,000 COUNTRY DWELLING.—4TH PREMIUM DESIGN.

For these and many other reasons, architects have good cause of complaint against such contractors as are negligent in the matter under notice, and all such will do well by correcting their business error in this regard. Promptness in all things, it matters not how trivial, is a good rule to observe, and is one that has characterized the lives of successful men generally.

High Buildings on a New Plan.

A NEW YORK architect has devised a new plan for erecting the high buildings which are coming so much into vogue in large cities. The design is quite novel. The plan is to first erect an iron frame and cover it with a roof as soon as practicable. The walls, of whatever material, may be built at the same time the structure of iron is being built. As the erection of the iron structure will proceed faster than the enclosure, there will be no cause of delay to steady progression while the structure is being built; the interior arrangements, as fire-places, vaults, archings for ceilings and lining for exterior walls, may be put in and ready for plastering by the time the exterior parts are finished. As the iron structure would soon be roofed the work could be carried on independently of the weather. Derricks could be placed on the roof for finishing the

enclosure, and thus do away with unwieldy ones against the sides. The unusually broad piers now seen in buildings could be done away with, thus giving more space for windows on the lower floors, a thing greatly desired. The walls are to be supported by brackets, so that, if desired, any part of the exterior can be removed and repaired. The iron floor girders with the iron floor beams fastened to their sides, are attached to the outer posts at both ends, which will increase the bearing strength nearly one-half. A building built on this principle will combine elegance with security. A building of this description would be fire-proof as far as practicable for the best building constructed. Although they may be proof against catching fire from neighboring buildings, yet, when they are so filled with furniture and other combustibles liable to get on fire, would furnish smoke enough which might prove as fatal to many as flames have been in other cases.—*The Builder*.

Every property owner should subscribe for the "CALIFORNIA ARCHITECT AND BUILDING NEWS." It is the only Journal on the Pacific Coast published strictly to advance your interests. Only \$2.00 per annum. OCTOBER, NOVEMBER, and DECEMBER numbers of this year will be given free to all new subscribers for 1885.