

ASKED, ANSWERED, AND COMMUNICATED.



Free to All.

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

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

The Right Ring in a Letter.

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

To the Publishers of the CALIFORNIA ARCHITECT—

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

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

T. D. BALL.

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

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

Table for the Use of Nails.

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

- For 1,000 shingles allow $3\frac{1}{2}$ to 5 pounds fourpenny nails, or 3 to $3\frac{1}{2}$ pounds threepenny nails.
- For 1,000 laths allow about 6 pounds threepenny fine nails.
- For 1,000 feet clapboards, about 18 pounds sixpenny box.
- For 1,000 feet boarding boards, 20 pounds eightpenny common.
- For 1,000 feet boarding boards, 25 pounds tenpenny common.
- For 1,000 feet top floors, square edge, 38 pounds tenpenny floor.
- For 1,000 feet top floors, square edge, 41 pounds twelvepenny floor.
- For 1,000 feet top floors, matched, blind nailed, 35 pounds tenpenny fl or.
- For 1,000 feet top floors, matched, blind nailed, 42 twelvepenny floor.
- For 1,000 feet furring, 1x3-45 pounds tenpenny common.
- For 1,000 feet furring, 1x2, 65 pounds tenpenny common.
- For 1,000 feet pine finish, about 30 pounds eightpenny finish.

CONTRACTORS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.

Lumber Measure. Save This Table.

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

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

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

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

TABLE OF LUMBER MEASURE.

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

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

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

STEEL SQUARE, ITS USES, PRICE \$1.00.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

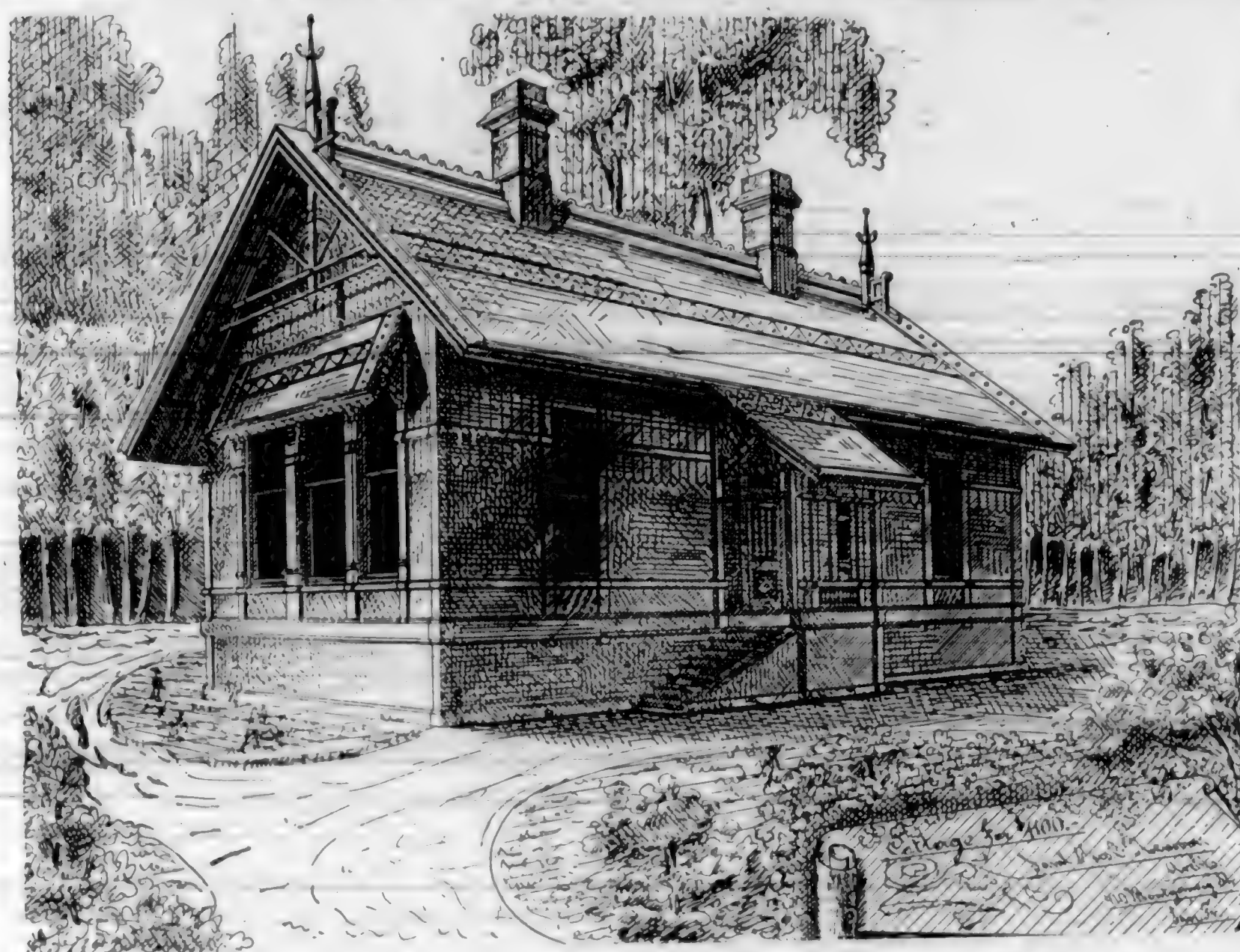
Nor was the city of London any better. A writer of the period says that the streets around St. Paul's were covered with horse manure a yard deep. Floors were of clay, covered with rushes which grew in the fens, and which were so slightly removed now and then that the lower part remained for many years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

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

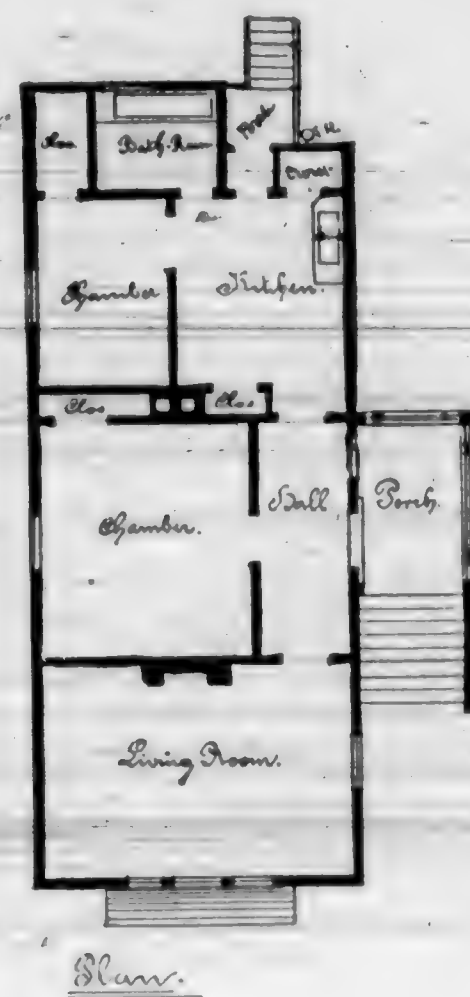
Comparing this account with the advance the present generation has made in cleanliness, we bring as if ourselves to that age in which Rome could so boastfully speak, amongst other things, of her aqueducts for water supply, her public baths, giving facilities to her citizens to take at the rate of 70,000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

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

OUR MARCH ISSUE WILL BE REPLETE WITH INTERESTING INFORMATION.



A PICTURESQUE COTTAGE.



A Picturesque Cottage.

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

Warner's Hangers.

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

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

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

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

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

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

Thermometers.

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

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

Useful Hints in Building.

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

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

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

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

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

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

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

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

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

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

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

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

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

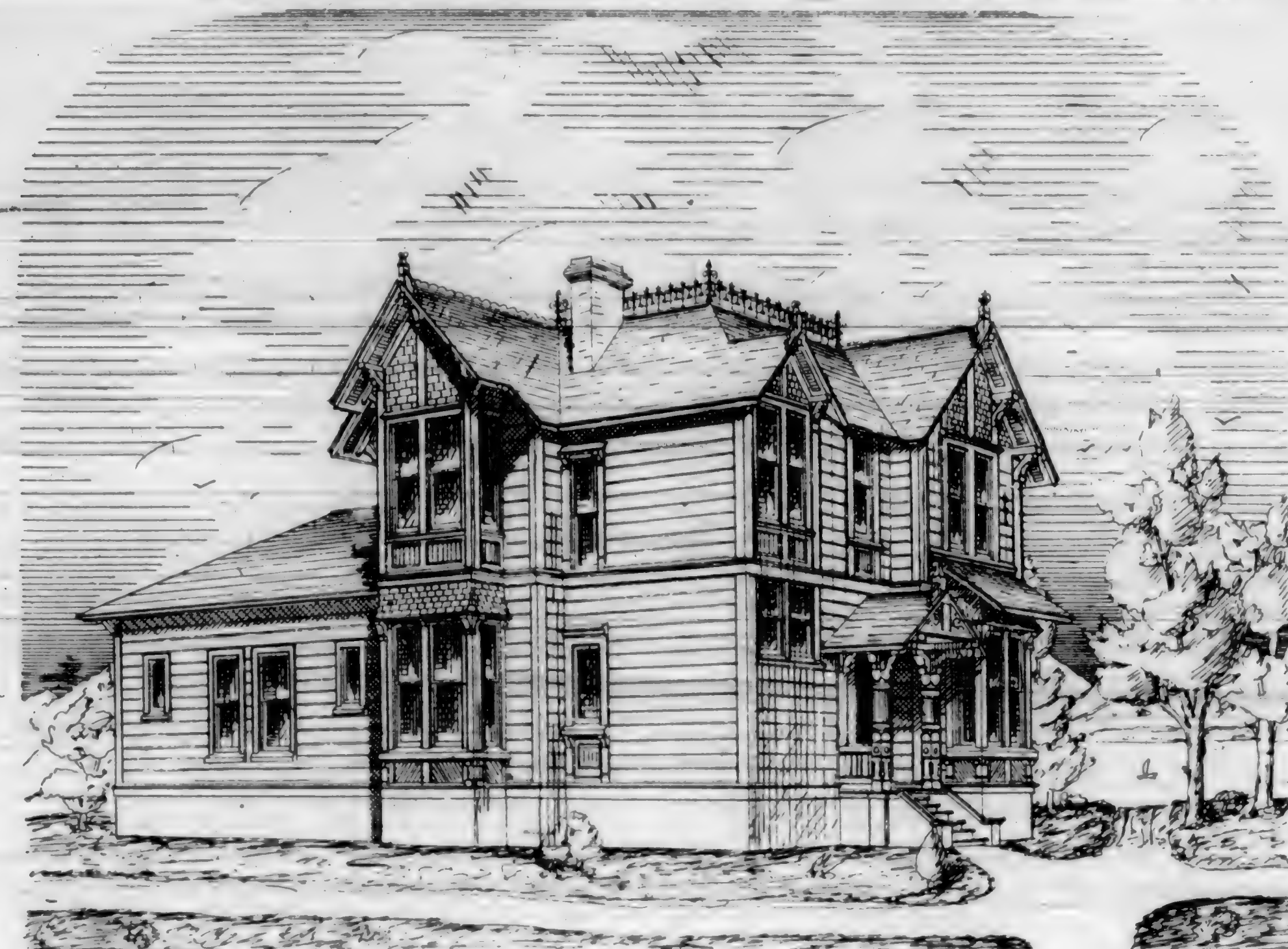
Plaster cornices and center-pieces are relegated to the past. Paper and fresco work is the proper thing.

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

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

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

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



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

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

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

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

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

Architects, Attention!

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

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

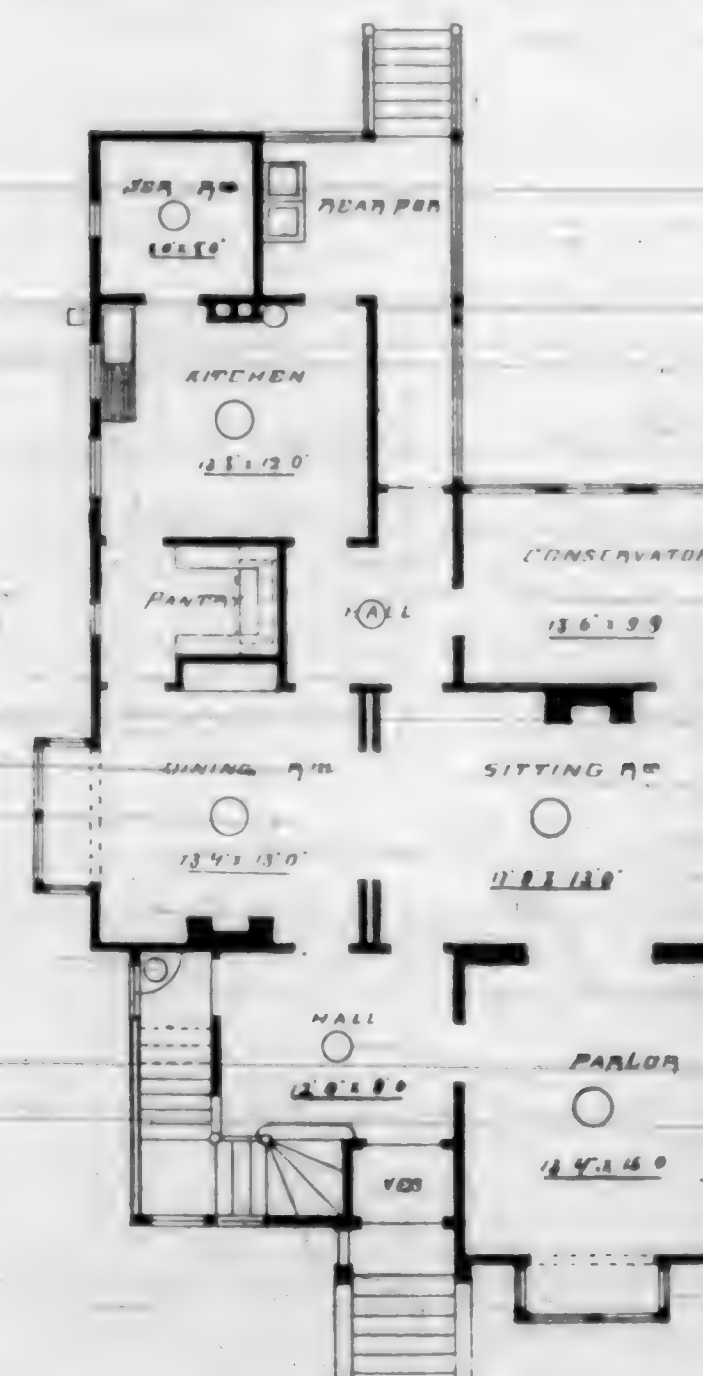
To Contractors.

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

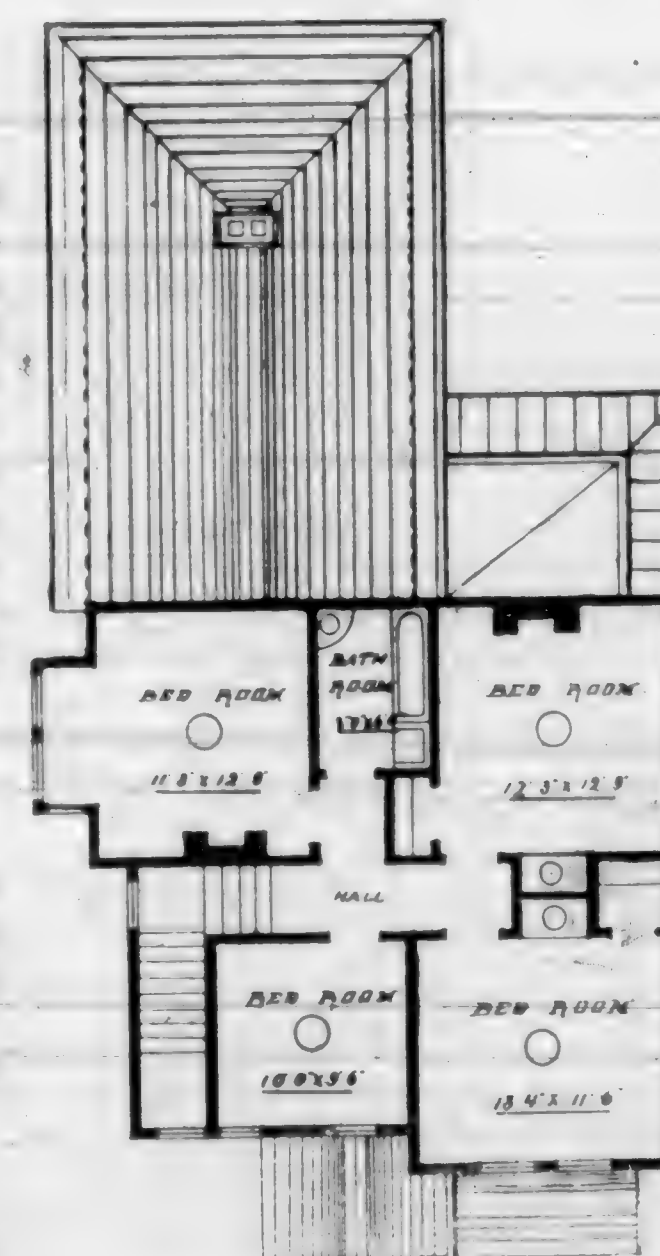
Apprentices.

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

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



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

ARCHITECTS SHOULD REGULARLY CONTRIBUTE ARTICLES TO THIS JOURNAL.

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



COUNTRY BUILDING INTELLIGENCE

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

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

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

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

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

Alameda.

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

Hand Railing and Stair Casing, for \$1.50.

Drawing for Carpenters, for \$1.75.

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

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

Architects' Companion, for \$2.50.

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

Manual for Furniture Men, for \$1.00.

Common-Sense Church Architecture, for \$1.00.

Fresno.

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

Woodward's Farm Homes, for \$1.00.

Woodward's Graperies, for \$1.00.

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

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

Haywards.

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

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

Practical Geometry, for \$1.00.

Los Angeles.

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

* Artistic Homes, for \$3.50.

Modern House Painting, for \$5.00.

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

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

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

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

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

Shavings and Sawdust, for \$1.50.

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

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Modena.

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

Building Superintendence, for \$3.00.

American Cottage Homes, for \$3.00.

Monrovia.

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

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

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

Every Man His Own Mechanic, for \$3.50.

Tredgold's Carpentry, for \$7.50.

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

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

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

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

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

Monrovia is in Los Angeles County.

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

Practical Geometry, for \$1.00.

Piedmont.

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

Cutting Tools, for \$1.50.

Cummings' Details, for \$5.00.

Pasadena.

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

Album of Mantels, for \$8.00.

History of Architecture, for \$15.00.

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

Drawing for Stone Masons, for \$1.50.

Building Construction, for \$1.25.

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

Grimshaw on Saws, for \$4.00.

Mechanics' Geometry, for \$4.00.

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

Artisan, for \$5.00.

Builders' Guide, for \$2.00.

Pacific Grove.

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

Drawing for Bricklayers, for \$1.50.

Drawing for Cabinet Makers, for \$1.50.

Petaluma.

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

Artisan, for \$5.00.

Builders' Guide, for \$2.00.

San Diego.

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

Artistic Homes, for \$3.50.

Modern House Painting, for \$5.00.

Suisun.

Extensive repairs are being made to the Catholic Church.

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

San Bernardino.

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

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

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

Wonders of Art, for \$1.25.

Stockton.

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

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

Industrial Drawing for Carpenters, for \$2.00.

San Jose.

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

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

Shavings and Sawdust, for \$1.50.

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

Architecture and Building, for \$3.50.

American Cottage Building, for \$3.50.

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

Mural Painting (new), for \$3.00.

Home Hand-Book, for \$10.00.

Selma.

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

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

Tulare City.

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

Hand Railing and Stair Casing, for \$1.50.

Drawing for Carpenters, for \$1.75.

SAN FRANCISCO BUILDING NEWS.

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

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

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

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

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

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

Cliff House. Repairs. \$3,000.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

EACH SUCCESSIVE NUMBER WILL BE COMPLETE IN ITS BUILDING REPORTS.

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

Ninth , bet. Market and Mission. Three-story frame. O.—P. Degan. A.—T. J. Welch. Carpenter—Bateman Bros. Mason—O. E. Brady. \$10,000.	Seventeenth , nr. Noe. One-story and basement frame. O.—P. H. Maas. A.—L. Feiling. C.—J. Kerrigan. \$2,400.
O	Scott , cor. Broadway. Two-story frame. O.—F. Williams. C.—Gray & Stover. \$1,500.
O'Farrell , bet. Stockton and Powell. Carpenter work on new brick building. \$5,000.	Sanchez , nr. Seventeenth. One-story frame. O.—John Guinaw. C.—O. E. White. \$1,200.
P	San Jose Avenue , cor. Twenty-sixth. Four two-story frames. O. and B.—Norris. \$5,000.
Pine , bet. Devisadero and Broderick. Two two-story frames. O.—Mrs. Celia Hagan. A.—Copeland & Banks. C.—E. O. White. \$9,000.	Steiner , nr. Oak. One-story frame and basement. O. and B.—C. Holm. A.—W. Schrof. \$3,000.
Pine , bet. Baker and Lyon. Two-story frame. O.—Maria Roethe. C.—W. Plums. \$4,000.	T
S	Twenty-fifth , nr. Bartlett. Additions. \$500.
Sutter , bet. Van Ness and Franklin. Two-story and basement frame. O.—I. Kohn. A.—P. R. Schmidt. Mason—O. E. Brady. Carpenter—S. H. Kent. \$15,000.	Twentieth , bet. Valencia and Guerrero. Two-story frame. O.—R. S. Moore. A.—C. I. Havens. C.—Doyle & Son. \$6,700.
Sutter , cor. Mason. Brick additions. O.—Jennie W. Cushing. A.—Pattiani & Co. C.—Pattiani. \$2,700.	V
Stewart , bet. Mission and Howard. One-story frame. O.—Pacific Pine Mfg. Co. C.—J. T. Grant. \$1,000.	Valencia , bet. Twenty-fourth and Twenty-fifth. Additions. \$500.
	Valencia , cor. Sixteenth. Additions. \$800.

MEXICAN WINDOWS.—Mexicans seem to entertain the idea that windows were made to look in at as well as to look out of, and it is a matter of daily occurrence for men, women, and children of the *gamin* order, including peddlers and professional beggars, to congregate outside the bars and stand calmly staring in at us by the hour. The first sight of these barred windows strikes the stranger in Mexico rather unpleasantly, and he is apt to fancy himself in prison behind them, with his iron bedstead and brick floor for suitable accessories. In time, however, he realizes not only the conveniences, but the necessity of them, and by and by feels an uneasy sense of insecurity if by some rare chance he finds himself not thus protected. The greater portion of Mexico is a land of perpetual summer, where windows must be open both night and day, and these gratings cannot be "picked" like locks, or noiselessly cut like panes of glass. But though one may sleep here in perfect security without closing a shutter, it is well to move one's effects from proximity to the windows, for the *ladrones* have a habit of throwing in ropes with hooks attached and dexterously drawing out even your garments—from which practice, perhaps, originated the Texan slang word "hooking," for stealing. It is only justice to add that there is far less thieving going on in Mexico, in proportion to population, than in our own country, for the influence of Roman Catholicism is paramount, especially among the poorer classes. I venture to assert that with all your spring-bolts and careful precautions to bring in even the door-mats at nightfall there is more stealing done in any Northern city in a single day than in all Mexico in a year's time.—*Quo*.

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

WALNUT oil gives new oak the effect of old. Common brick absorb a pint of water each, and make a very damp house. The lowest priced builder is not always the cheapest, as poor work will testify. In arranging the openings of a room, do not forget the wall space. It is sometimes advisable to build a house to suit the furniture. Terra cotta flue linings are a great improvement over the old roughly plastered chimney. To properly select the colors applicable to the proper place, consult an educated painter.

ITEMS IN REGARD TO BUILDINGS IN THE COUNTRY THANKFULLY RECEIVED.

RETAIL PRICE LIST OF LUMBER.

PINE, FIR, AND SPRUCE.		Per M ft.
Rough Pine, merchantable to 40 ft. inclusive.	41 to 50 "	\$20 00
" " " 51 to 60 "	61 to 70 "	21 00
" " " 61 to 70 "	71 to 80 "	22 00
" " " 71 to 80 "	81 to 90 "	23 00
" " " 81 to 90 "	91 to 100 "	24 00
" " " 91 to 100 "	101 to 110 "	25 00
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Pressing Need of Competent Draughtsmen.

THE article in our last issue entitled "Scarcity of Architectural Draughtsmen," has attracted much attention, and many inquiries have been sent to this office in regard to chances of employment.

CARPENTER SKETCHMEN NOT NEEDED.

A large proportion of the letters received are from carpenters who consider that their experience as practical mechanics, aided by a faint smattering of the knowledge of draughtsmen, will enable them at once to enter an architect's office as first-class men. Such men are not the kind that are needed.

ARCHITECTS NOT WANTED.

Neither do we care to receive letters from those who call themselves architects, and who are continually writing for the formation of desirable partnerships. There are enough architects here now, and many to spare.

COMPETENT DRAUGHTSMEN NEEDED.

Young men who have made a study of the profession, and who know themselves that they possess a fair amount of ability as designers, and who are willing to allow that they do not know it all, are the kind of help that is very much needed, not only in this city, but in several of the principal towns on this coast.

CONTRACT DRAUGHTSMEN NOT NEEDED.

This city is the abiding-place of a few architectural rovers—a good name for them—who will not enter an architect's office unless a contract is made between the architect and rover, by which the former is bound to employ the latter a certain length of time at specified wages. No chance is given to employ the said rover for a week to test his ability, but upon the strength of his saying he can do this and that he must be, perforce, installed, at once as leading draughtsman in the office. Such men are not wanted.

A TRUE TEST.

Men are desired who, upon applying for a situation, can be conducted to the draughting table, furnished with the proper subject, paper, and instruments, and at once comprehend the architect's ideas, and proceed to exemplify the same in a practical manner. Such men are wanted.

NUMBER WHO CAN FIND EMPLOYMENT.

From present appearances we know of places that will absorb about twenty applicants. Everything looks favorable for steady employment for some time to come. Many of the country architects will engage men for a specified time, provided they possess the requisite ability.

REMUNERATION

Varies considerably, depending altogether upon the ability of the applicant. Four dollars per day, may be given as the average price of good men. Some men are cheap at \$6.00, or even \$8.00 per day. Some are dear at \$1.00. Young men who have been but a few years at the study, should be content with \$2.00 and \$2.50 per day. Monthly rates run from \$50 to \$125, according to talent.

INQUIRIES ANSWERED.

We will answer all inquiries addressed to us in relation to the subject under consideration. No charge is made for any information, but we consider that the least anyone can do, is to inclose stamps for return postage. A half dozen stamps amount to but little, but when we are called upon to furnish them by the hundreds, it becomes another matter. We can only answer those to which our attention is particularly interested, if stamps be not inclosed for return postage.

WRITE FIRST

Before starting. At least ten can be put immediately to work. We do not wish to be the means of having scores of men come here and be disappointed upon their arrival. Write first to us for particulars, and then you will have a positive guarantee that you will be employed if we bid you come.

CONTRACTORS, ATTENTION!

For \$5.00 we will insert your business card for one year, and send you this Journal, free.

Our Quarterly Report.

ALTHOUGH buildings, in neither value nor number, equal the corresponding time of last year, still we are free to admit that the prospects are more encouraging for a large amount of work to go ahead than was evidenced last March, one year ago.

In 1886, for the first quarter of the year, we reported in this journal 252 engagements, valued at \$1,359,532. For the same time this year we report 191 buildings, valued at \$1,209,100.

REPORT FOR MARCH.

65 frame buildings, value	\$221,500
9 brick " "	105,500
10 improvements " "	26,900
\$4	\$353,900

Several large buildings will soon be started, and we are confident that our next quarterly report will show a much better comparison with those of former years.

Meeting of the San Francisco Chapter of Architects.

THE regular session was held on the evening of the 4th inst., A. Pissis, President, presiding. In the absence of B. G. Henriksen, Secretary, a member was appointed Secretary *pro tem*.

Roll call, reading and amendment of minutes followed.

Mr. Saunders reported progress in the class work, stating that there was a far too great lack of interest on the part of students from the several architects' offices, in availing themselves of this valuable auxiliary to their advancement in the study of architectural science.

The fire ordinances of San Francisco, relating to the construction of buildings, was taken up and freely discussed and reviewed, and the unanimous opinion of every member present was, that the ordinances relating to the erection of buildings, in numerous particulars, required remodeling and reconstruction.

The discussion was free and spirited, and the defects reviewed without any reflection upon those who, years ago, suggested and framed the ordinances as they now are, which were then suited to the occasion, but which time and experiences have proven defective and insufficient for the regulation of the building science at the present day.

In view of these facts, a committee, consisting of John Wright, James E. Wolfe, J. Clark, H. S. Bestor, and W. P. Moore, was appointed to take the matter of the fire ordinances as far as the construction of buildings is concerned, into consideration, and to report thereon at as early a day as possible. The proposition extended no farther than the simple matter of building construction, in connection with which the laws, as they now stand, are inadequate and impractical in numerous respects.

The Law as to Party Walls.

A PARTY wall is the wall dividing lands of different proprietors, used in common for the support of structures on both sides. At common law an owner who erects a wall for his own buildings which is capable of being used by an adjoining proprietor, cannot compel such proprietor, when he shall build next to it, to pay for any portion of the cost of such wall. On the other hand the adjoining proprietor has no right to make any use of such wall without consent of the owner, and the consequence may be the erection of two walls side by side, when one would answer all purposes. This convenience is often secured by an agreement to erect a wall for common use, one-half on each other's land, the parties to divide the expense; if only one is to build at the time, he gets a return from the other party of half what it costs him. Under such an agreement each has an easement in the land of the other while the wall stands, and this accompanies the title in sales and descent. But if the wall is destroyed by decay or accident, the easement is gone, unless by a deed such a contingency is provided for. Repairs to party walls are to be borne equally; but if one has occasion to strengthen or improve them for a more extensive building than was at first contemplated, he cannot compel the other to divide the expense with him. In some States there are statutes regulating the rights in party walls, and one may, undoubtedly, acquire rights by prescription on a wall built by another, which he has long been allowed to use for the support of his own structure.—*Building.*

REMOVING PAINT.—An excellent medium for removing paint-spots from garments and like fabrics, may be had by mixing four tablespoonfuls of alcohol with a tablespoonful of salt. Shake the whole well together and apply with a sponge or a brush, then wash out in clean, tepid water.

An Eastlake Cottage.

IN presenting this design, attention is called to the compactness and beauty of arrangement of plans, well-proportioned rooms, no unnecessary waste of space occupied by long, gloomy halls, and each door and window having its distinct purpose or cause.

The design, as illustrated, is a model of compactness and arrangement. On entering the hall from the vestibule, the parlor and dining-room are situated on the right, separated by a neatly designed, paneled sliding-door, and each room having a large bay-window, with an ornamental arch. On the left of the hall are entrances to two bedrooms, with a bath-room between them, and each room provided with a large closet with shelves, drawers, hooks, etc., usually found in closets.

The bath-room contains a wash-stand with nickel-plated bibbs, and a Golden Gate plug water-closet, finished in black walnut and nickel-plated trimmings. The bath-tub is provided with hot and cold water, through nickel-plated bibbs, with attached soap-cups; the room is wainscoted five feet high and finished with moulded cap and paste-board.

The floor should be covered with linoleum, giving the room a neat appearance, and making it easy to clean. The kitchen is provided with a sink, boiler, and a large paste-pantry; and a commodious rear porch, inclosed by posts and railings, affords a good place to do washing, cleaning, etc.

The dining-room is finished with paneled wainscoting, and all the wood-work finished in oak and highly polished. The dining-room should be papered with some neat floral design, and the floor covered with a carpet harmonizing with the rest of the furniture.

The windows are furnished with sliding blinds, which slide in the casing, thus preventing the tearing of curtains and lambrequins. One chimney suffices for a fire-place for the dining-room, and a separate flue for the kitchen. The elevation is of Eastlake style, and needs very little description, as a glance will show that it is neat in design, and solidly constructed. The roof is covered with the best quality of redwood shingles, laid four and a half inches to the weather, and well nailed.

DAVID S. FIELDFIELD, Architect.

NEW ADVERTISEMENTS.

Sure Sign of an Unqualified Success.

THAT this Journal is an assured success, is proven by the large number of advertisers that have kept their wares before the public by means of notices in these columns. We call special attention to the following NEW ADVERTISEMENTS in this issue:—

Wooden Mantels—

The West Coast Furniture Company, under the supervision of L. and E. Emanuel, stand at the head of any firm in the State, in the preparation of artistic designs for Wooden Mantels. SEE NEW ADVERTISEMENT.

Ransome's Pavements, etc.—

This industrious inventor in cement and concrete work will fully explain in next issue why the space occupied by him will contain information of interest to all who contemplate building. SEE NEW ADVERTISEMENT.

Wire Lathing—

J. H. Roebling's Sons Company, 14 Drumm Street, are prepared to furnish in quantities to suit, their Patent Stiffened Fire-proof Wire Lathing. They also keep Sash Cord, Wire Rope, etc. SEE NEW ADVERTISEMENT.

Plumbers' Slabs—

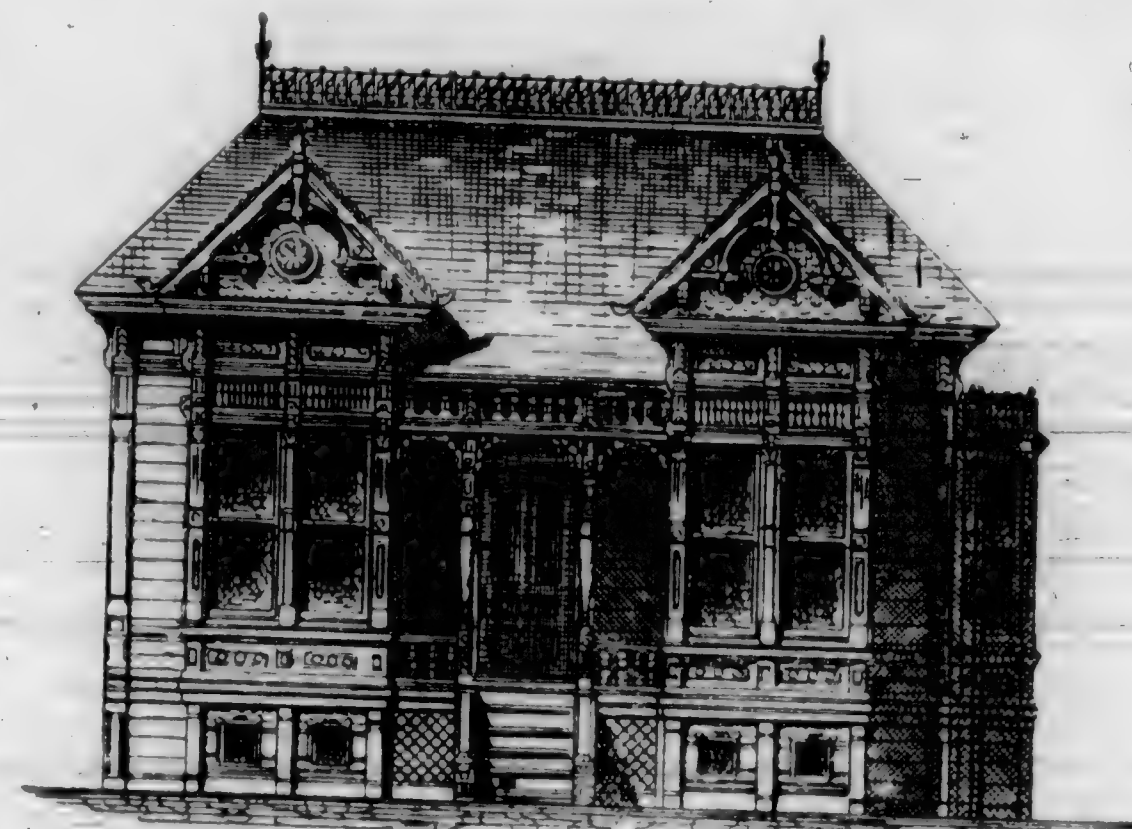
Plumbers and others will do well to call on E. Dumontelle Steam Marble Works, 523 Fifth Street. Slabs, Marble Mantels, Furniture Marble, and everything in that line on hand or worked to order. SEE NEW ADVERTISEMENT.

Plumbers' Supplies and Gas Fixtures—

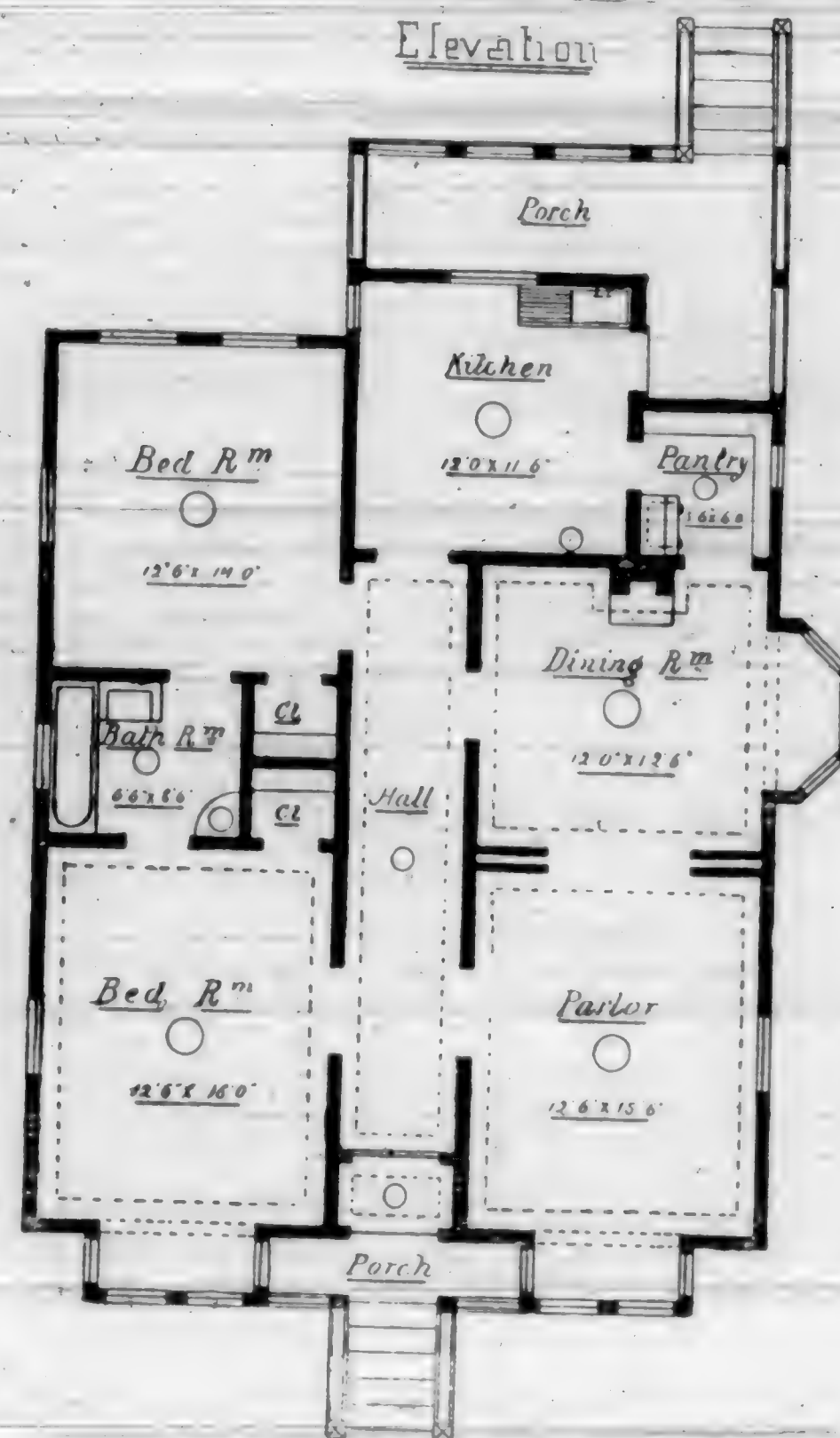
Nye & Co., carry the largest stock of any firm on the Coast. In fact but few firms in the United States can show the profusion of artistic designs in Gas Fixtures, that are displayed in the warerooms of Nye & Co., in the Grand Hotel Building, Market Street. SEE NEW ADVERTISEMENT.

Cement—

The Dyckerhoff-Portland Cement has long stood at the head of strong cements. Chas. Duisenberg & Co. are the agents on the Pacific Coast. SEE NEW ADVERTISEMENT.



Elevation



AN EASTLAKE COTTAGE.

Electric Gas Lighting—California Electrical Works—

Are prepared to furnish all work in their line. Burglar Alarms and Hotel Annunciators are among their specialties. SEE NEW ADVERTISEMENT.

Wire Work, Crestings, etc.—

The California Wire Works have extra facilities for the preparation of railings of wrought iron or wire, window guards, crestings, finials, etc. SEE NEW ADVERTISEMENT.

Window Shades—

W. McPhun, 1075 Market Street, furnishes houses or stores with the best of Window Shades. SEE NEW ADVERTISEMENT.

American Contractor

Is published by B. Edwards at Chicago, Ill. A careful perusal of the advertisement will explain why every contractor should subscribe. SEE NEW ADVERTISEMENT.

Builders' Hardware—

The Pioneers—D. N. & C. A. Hawley—carry a full assortment of Builders' Hardware. SEE NEW ADVERTISEMENT.

Redwood Logging in California.

THE whole world concedes to America pre-eminence in the size of her trees available for timber. In no part of the world are trees to be found equaling in size the forest monarchs of California, save in certain parts of Australia and Tasmania, where the *Eucalyptus* trees grow perhaps to equal dimensions, but the wood of the *Eucalyptus* is gnarled and worthless, twisting and warping if used. California's big trees are of two varieties, the *Sequoia gigantea*, the most celebrated examples of which are found in the vicinity of the Yo Semite, and the *Sequoia sempervirens*, or redwood, which, though extending from the vicinity of Santa Barbara on the south, to Oregon on the north, are found in greatest size in Humboldt County. In the early English works on phytography, it was sought to link the name of their great Wellington to the trees of the Yo Semite, but now it is agreed that to the father of the American nation this honor appropriately belongs, and the name of *Washingtonia gigantea* is now coming into favor in popular and in scientific usage.

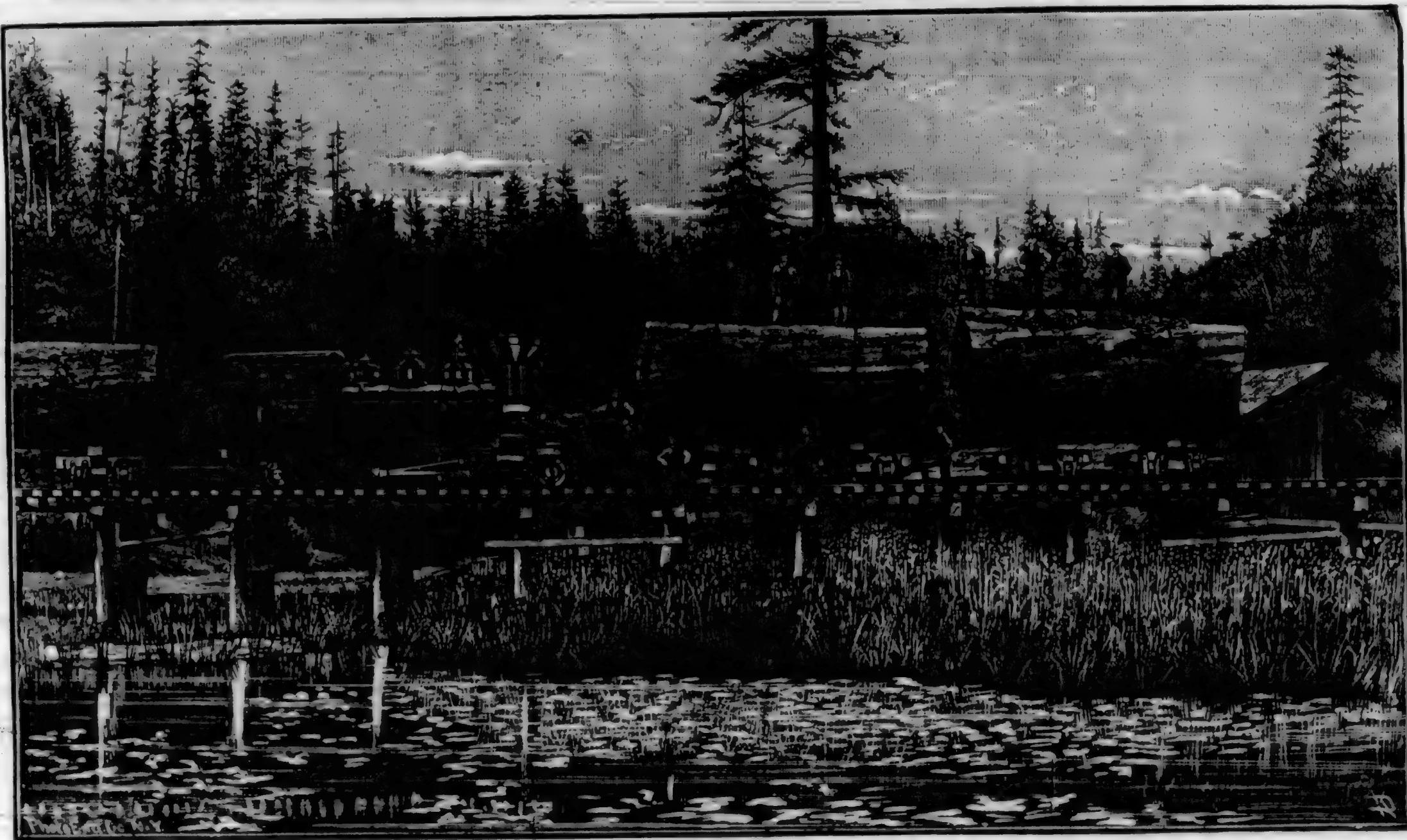
In the forests of Norway, Sweden, and Finland, the great timber-producing countries of Northern Europe, the standard width of boards is six inches, and trees larger than eight to ten inches diameter are unusual. Several years ago a large Ameri-

can of the late George Whitney, of Philadelphia, who, on seeing the same photograph, exclaimed, "Why, it is a photograph, but it really looks like a wood-cut!"

A peculiarity of the redwood forests is the absence of undergrowth. It is, therefore, difficult to realize their magnitude without a familiar object near by with which to compare them. Until one begins to make such a comparison the trees do not appear of extraordinary size. Like the cataract of Niagara, the first view is frequently disappointing, and familiarity, far from breeding contempt, serves to increase the feeling of awe inspired by overpowering magnitude.

In consequence of the great size of the redwood the process of getting the logs to the mills has been a slow and expensive one. Floating has been impracticable, owing both to the size and the weight of the logs, even where there are streams; hence logging railroads are in California a necessity instead of an economic convenience, as in the pine forests east of the mountains. In some cases long lines of oxen laboriously drag the logs through the woods, and in other cases, tackling, operated by cattle or mule power, or sometimes by donkey engines is employed to load the logs. But those methods are too slow, and are being superseded by steam power conveniently applied.

The necessity for some special means of handling these great logs led Mr. John Dolbeer, a large lumber operator of San Fran-



TRANSPORTING REDWOOD LOGS BY RAIL.

can locomotive establishment shipped a cargo of locomotives to Helsinki, the terminus of one of the Finnish railways. They were packed in boxes of Michigan two-inch pine plank, many of them fifteen to eighteen or more inches in width. Boards of this extraordinary width attracted much attention, and an employee of the railway obtained sufficient of the empty boxes and fashioned them into a house—the best in the place—and people came in considerable numbers to marvel at trees which could produce boards like those. The thrifty house-wives greatly prized pieces of the same boards for making moulding boards, and many were distributed for this purpose. If our ordinary lumber of commerce could excite such surprise, how much greater the astonishment and admiration of the same people at California's wonders! An American gentleman was once waiting at a Russian custom house to have his effects examined and passed. As he opened his trunk a photograph of one of the great trees was lying on top, exposed to view. The inspector examined it eagerly. "Ah," said he, "that is from California. I have a brother there who has written us at home much about them, but we could not credit it. I have never seen a photograph of them."

The picture was presented to him, whereupon work was suspended until it had been handed about and discussed by all, up to the chief of the custom house. The photograph showed a great tree partially cut for felling, with twelve persons sitting uncrowded in the V-shaped cutting. This calls to mind a *bon mot*

cisco, to think of attaching a steam windlass to an ordinary locomotive. A patent was granted him for a device by which the steam windlass could be thrown into gear with the driving wheels of the locomotive for the purpose of propelling it, or could be used separately for its legitimate work of lifting and handling logs. Since then the Baldwin Locomotive Works, of Philadelphia, have built, for logging railroads on the Pacific Coast and elsewhere, a special type of double end logging locomotives, equally adapted for running in either direction, and equipped with a powerful steam windlass at the forward end. Unlike Dolbeer's locomotive, however, the windlass is entirely disconnected from the driving gear of the locomotive, and the locomotive can be built either with or without it. The locomotives referred to have two pairs of driving-wheels coupled and a two-wheeled or pony truck at each end. A saddle tank carries the water and the rear truck carries a large wood-box. The forward truck is center bearing, the rear truck side bearing. The wheel base is extended sufficiently to distribute the weight of the engine over a good length of track, while at the same time it is perfectly flexible, allowing the locomotive to run on the roughest track and pass the shortest curves with ease and without injury to itself or the track. A powerful steam-break acting on both pairs of driving-wheels controls the motion of the engine on steep grades and serves to lock it firmly while the windlass is in operation. The windlass is a Copeland & Bacon six-inch double cylin-

der, with single or double gearing as the weight of the logs to be handled requires.

The two accompanying engravings show the method of handling the great redwood logs of Humboldt County, California, by the Albion Mill Company. The first engraving shown herewith is from a photograph of a logging train, only part of which, however, is shown. The locomotive is of the type referred to above. The largest log shown is twelve feet in diameter. The second engraving shows the operation of unloading one of the large logs with the steam windlass, the log shown being so large as to require splitting before going to the saw-mill. Some of this green redwood timber is very heavy and will sink when put into water. The logs handled frequently weigh twenty to thirty tons.

Redwood is the common lumber of the Pacific Coast, taking the place of the pine and hemlock of the Eastern States and the deals of England. It is used for clapboards, siding, shingles, in fact for every purpose where it is not subject to wear. When dried it is quite soft and wears rapidly by attrition; it is, therefore, unsuitable for flooring or stair purposes. It is used to some extent for railroad ties, though not so well adapted to this service as harder woods. Particularly on curves the spikes become loosened by the lateral pressure against the rails. Redwood is remarkable in that its shrinkage is mainly in the direction of its

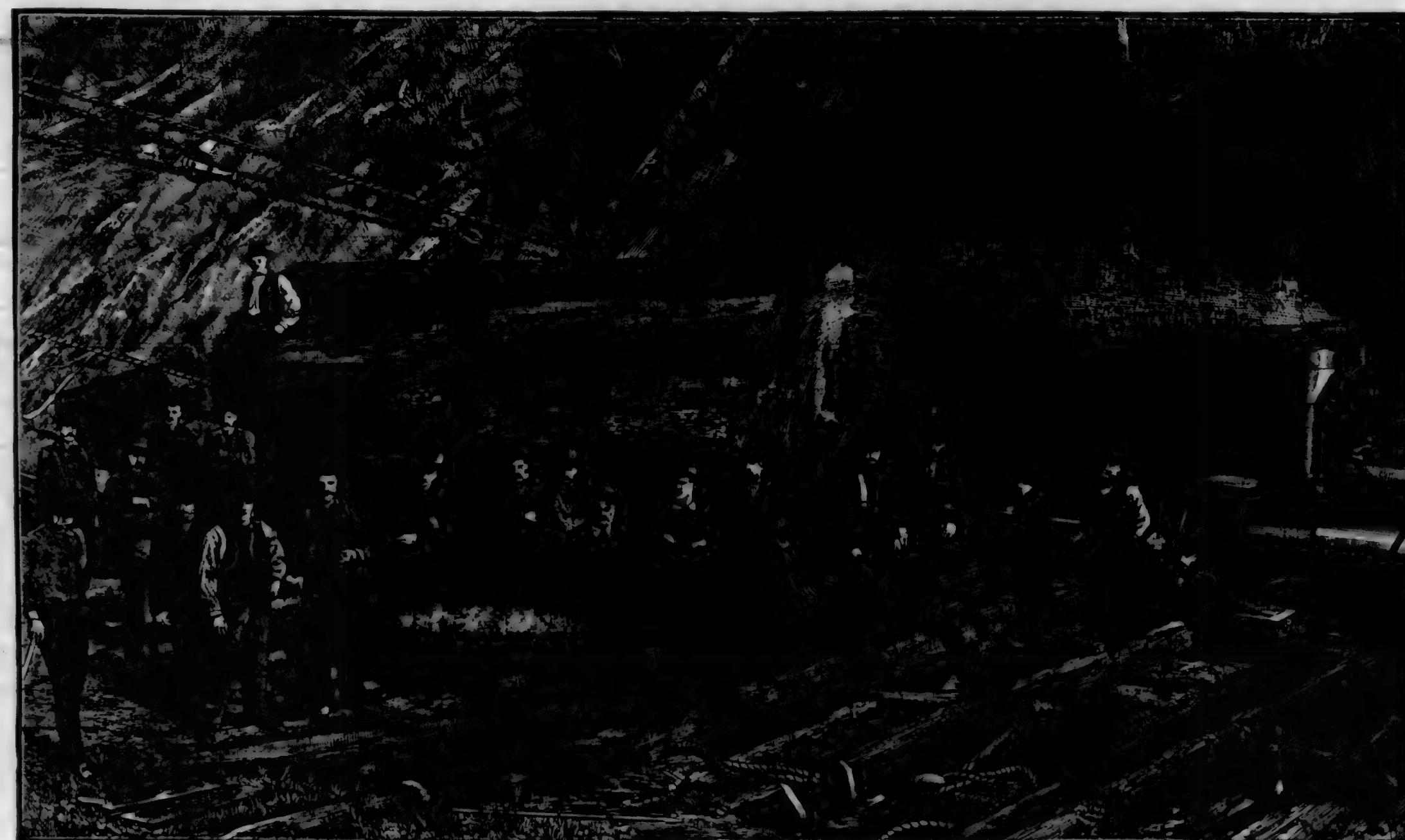
length. Though its grain is usually straight, it can be found with grain curled, bird's-eye, and other fantastic shapes, rivaling in this respect the most beautiful bird's-eye and curly maple. Its rich color, much resembling red cedar, its beautiful grain when carefully selected, and its great durability when not subject to wear, make it most desirable for interior decoration. With the low transcontinental freight now ruling, and likely to continue, it must become recognized in the Eastern States as a wood rich in economic and ornamental possibilities.—N. W. Lumberman.

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UNLOADING REDWOOD LOGS BY WINDLASS.

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Kitchen Scrubbing.

OLD flannel of all kinds should be kept for scrubbing and cleaning paint—undervests, drawers, skirts, all come in for it. In England where scrubbing is still the glory of the poorer people, cottagers vying with each other on the color of their boards, there is a coarse, gray flannel made, called "house-flannel," expressly for the purpose. Next to flannel, is old, coarse, soft linen, old kitchen towels, crash, etc. So necessary to good cleaning is soft, absorbent material that I would almost rather my maids destroy articles of far more value than the scrub cloths, because the supply is so limited, especially if we give away our disused underclothing. For this reason keep the supply under your own care; see that after each using the cloth is dried and not thrown away until it is really used as long as possible. Many girls will be conscientious about towels and dusters because they

as an egg, at least, over the sink hole and pour a kettle of boiling water over every part of it, using your sink brush to send it into all greasy parts.

Wash, the last thing before the floor, all finger marks from the paint; also the chairs, if painted; the backs of them, if caned; the top of the flour barrel, and the windows. Be especially careful to clean kitchen window sills; so many things are put on them, they are more apt to be soiled than any others. Needless to say that floors must always be swept before they are washed.

To clean oil-cloth, do not scrub it unless it has been badly cleaned many times, when, with the fine corrugated surface now usual, dirt, or rather the dirty water allowed to remain in it, will have grimed it so that you will need to use a soft brush and scrub the way of the lines; but usually warm water, one wet and one dry cloth are all that are needed. Oil-cloth and paint need the wiping with a coarse, dry cloth as much as boards, and well repay the extra trouble. Skim milk used in place of water to clean oil-cloth gives it brightness and luster. Painted floors must be treated just as oil-cloth is.

I have one thing more to say about the kitchen sink. If you put in it a lump of soda weighing a half pound or more every day or two, you will have no trouble with the drain-pipe becoming clogged with grease. So large a piece will dissolve very slowly, but all the water that goes down will help to cleanse instead of soil the pipe. Whenever you have a kettle of boiling water that you do not need at once, pour it into the sink.

Graining.

OAK.

THERE are few graining colors that look better than oak as applied to wainscoting and to the doors of halls, as well as the woodwork of landings. We have seen oak graining on pine that was hardly distinguishable from the finest natural wood, with its medullary rays, curly knots and veinings. Dark oak is well adapted for the wainscots of staircases having abundant light, while the light descriptions suit darker and smaller staircases. Oak graining looks particularly well where common wood is employed, and care in reproducing natural markings and veinings will be well employed. Good specimens of natural wood should always be alongside of the painter.

For light oak graining the following may be recommended as a ground: White lead in equal quantities of raw linseed oil and turpentine, with a half pound of dryers to each seven pounds of lead, and with sufficient Oxford ochre to make a light tint. For darker wainscot an additional amount of ochre must be intermixed. The color should be well strained and finished off with fine sand-paper.

A quarter of a pound of burnt umber, ground in linseed oil and well thinned with an extremely limited quantity of dryers, and a small quantity of raw sienna, ground in linseed oil, and which is added for purposes of enrichment, constitutes a good graining color for doors, as well as wainscots and other woodwork in halls, staircases, and landings. It is to be laid on evenly and thinly.

The over-graining color for general use in oak is made up of Vandyke brown, ground in water. The exposed streaks and curves caused by the comb and veining born on the dark graining color are the lights, and the graining color the shades. The ground is to be shown up so as to match the medullary rays of the natural wood. All harsh, hard lines are to be avoided. When they appear at once soften them down. Mottled appearances, so charming when well done, come in on over-graining, for which Vandyke brown, ground in water, is usually employed. The over-graining need not follow closely the natural markings of the wood, room being afforded for the fancy of the painter. To give the appearance of the panels and rails of a door being framed with oak of a darker hue fewer lights should appear on the styles. The lights across the grain in the work of oak graining are well set off by an occasional wavy or zigzag light across the grain. Panels serve well to display curly knots skillfully distributed.

Pollard oak graining requires considerable skill. The ground is to be prepared with color in oils, as for wainscot oak, using yellow ochre, or Venetian red and yellow ochre, or orange chrome as the coloring matter, according to the depth of tone required in the graining, which is so largely influenced by the tone of the ground. When dry, this is to be sponged over with whiting and water. The surface of the graining color may be made up of Vandyke brown and water for indoor work, laid evenly with a brush and worked level with a hog mottler. The brush having been dipped in the deepest and darkest of the graining color, dabs of this are made where the panels are to be located. These are dabbed over with a coarse sponge, and next the dabs are drawn into groups by sundry curls of dark tints. Smaller curls and fine lines are put in with a sable pencil. The over-graining color, put on when the former coat is dry, is made up of the same pigment ground in beer, but thinner. It is applied with an over-grainer. The tints are then softened with a badger softener, the colors being drawn toward the group of knots, lights being taken out where needed and harsh lines softened by drawing the softener across them in every direction. When the over-graining is dry it should receive two coats of oak varnish.

SATINWOOD.

The ground to be used for satinwood graining is made up of a white lead, oil color, just tinted with chrome yellow, raw sienna, or yellow ochre. The work is to be cissed in with whiting and beer. The graining colors may be either middle chrome and deep black, or Vandyke brown or York brown mixed with beer and rubbed in smooth and even with a tool and hog's-hair mottler. Next a coarse sponge is moistened in beer and drawn down over the work so as to leave the liquid to run in rather broad streaks in a slightly wavy or oblique direction. The whole is softened with badger softener. With a clean, moist camel's-hair mottler the grainer proceeds to work down the edges of the streaks with a jerking movement, so as to impart that varied and fanciful appearance so much admired on the natural wood. The over-graining color is composed of Vandyke, York brown and black mixed with beer, but in different quantities than those used in the graining color, for the purpose of making different tints and shades.

First put in the heart with a small sable pencil, brush this lightly with the badger softener and finish the rest of the over-graining with a sable tube over-grainer, the hairs of which have been separated with a comb. The work, when dry, is to be varnished with two coats of the best pale oak varnish.

MAHOGANY.

The ground lead for mahogany is white lead, oil color, tinted with Venetian red and yellow ochre, or chrome ochre may be substituted for yellow ochre where a deeper tone is desired. The various tones of color are obtained by using more or less of the pigments. When the ground color is dry it is to be cissed with whiting and beer. The ground color is made up of Vandyke brown, or this color and black or burnt sienna and black, or burnt sienna and Vandyke brown to suit the ground and desired effect. The pigments mixed with black are to be rubbed in dark, then the work is gone over with a moist camel's-hair mottler, producing the peculiar curly and feathery grain of mahogany, and shading off as it goes from mid-feather to paler points and sides. The mid-feather is produced by gathering in the grain from the sides and working it along toward the point. The over-ground color is made up of Vandyke brown, with a little crimson lake when a brighter hue is desired. This color is to be mixed with beer and applied with a hog's-hair or sable grainer. The over-grainer must be made to follow the direction of the feathers and curls. Rising from their center and becoming gradually more prominent, the forms are gradually lost in the general matter of the surface. If the wood is too light in color, or not sufficiently rich in hue, it may be varnished or treated to a megilp of boiled oil and turpentine, and when this is dry, the surface may be again treated to an over-graining, with a mixture of brown lake and black or burnt sienna, or Vandyke brown and crimson lake. This may be continued until the real tint is obtained, then the whole must be nicely stippled with a softener and allowed to dry a whole day. The surface may then be varnished.—*Painters' Magazine.*

Hints on the Care of Tools.

THE following hints on the best means of keeping tools in good condition cannot fail to be useful:—

WOODEN PARTS.—The wooden parts of tools, such as the stocks of planes and handles of chisels, are often made to have a fine appearance by French polishing; but this adds nothing to their durability. A much better plan is to let them soak in linseed oil for a week, and rub them with a cloth for a few minutes every day for a week or two. This produces a beautiful surface, and at the same time exerts a solidifying and preservative action on the wood.

IRON PARTS.—Rust preventives.—The following recipes are recommended for preventing rust on iron and steel surfaces:—

1. All steel articles can be perfectly preserved from rust by putting a lump of freshly-burnt lime in the drawer or case in which they are kept. If the things are to be moved (as a gun in its case, for instance), put the lime in a muslin bag. This is especially valuable for specimens of iron when fractured, for in a moderately dry place the lime will not want renewing for many years, as it is capable of absorbing a large quantity of moisture. Articles in use should be placed in a box nearly filled with thoroughly pulverized slaked-lime. Before using them rub well with a woolen cloth.

2. To keep tools from rusting, take one-half ounce camphor, dissolve in one pound melted lard; take off the skum, and mix in as much fine black-lead (graphite) as will give it an iron color. Clean the tools and smear with the mixture. After twenty-four hours, rub clean with a soft linen cloth. The tools will keep clean for months under ordinary circumstances.

STRENGTH OF BRICK WALLS.—For first-class buildings with good workmanship, the general average should not exceed a greater number of feet in height than three times its thickness of wall in inches, and the length not to exceed double the height, without lateral supports of walls, buttresses, etc., as follows for safety:—

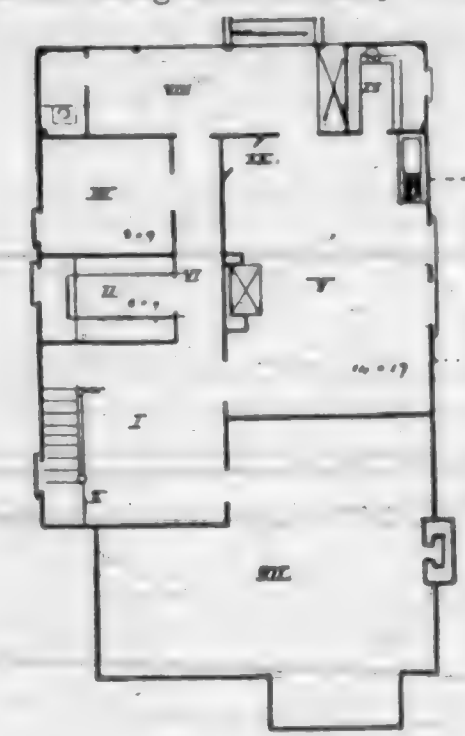
Thickness.	Safe Height.	Length.
8 1/2 inch walls.	22 feet.	50 feet.
13 "	40 "	80 "
17 "	55 "	110 "
22 "	66 "	130 "
26 "	78 "	150 "

Where the lengths must exceed these proportions, as in depots, warehouses, etc., the thickness should be increased or lateral braces instituted as frequently as practicable.

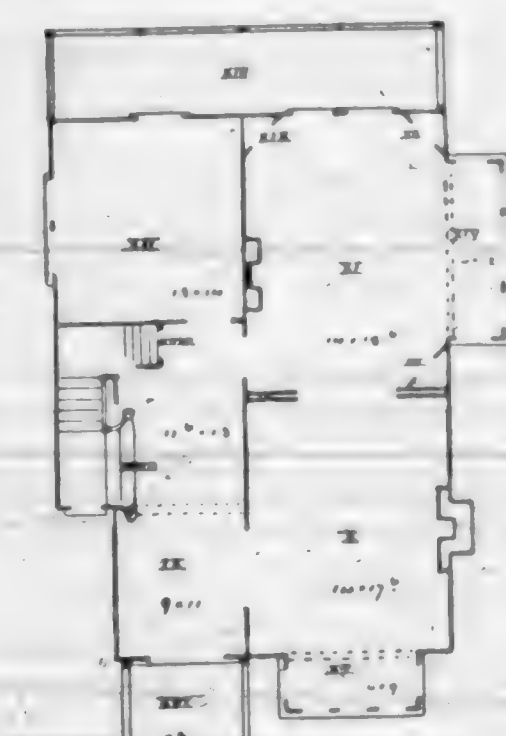


The above is a plan for a country home, especially designed for a farmer, the total cost of which will not exceed \$5,000. It is suitable for a lot on a hill-side, and makes a convenient and handsome dwelling. The foundation is of brick, stepping off to suit the grade of lot. The basement contains the kitchen, servants' rooms and store rooms, and also a large veranda off the rear. The first story contains parlor, dining-room, library, and large main hall. After entering the front door, you find yourself in a large hall, on one side the commodious stairs and colored glass windows, on the other side, double doors connecting the parlor with the main hall, also single doors to the basement and library. The parlor is lighted by a large square bay window, with large panes of twenty-six ounce glass below, with smaller lights above, as shown. Off the parlor is the dining-room, connected with sliding doors. The dining-room is also connected with the rear porch by a large twenty-six ounce glass boxhead window. In one corner of the dining-room there is a dumb waiter.

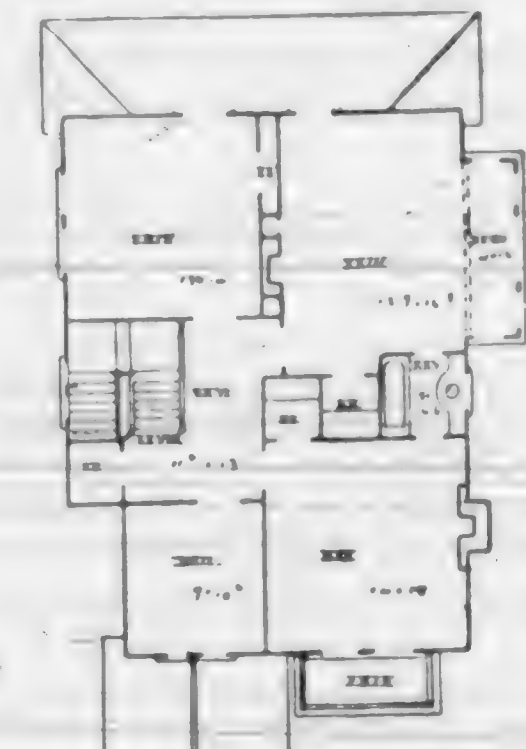
The second story, which is reached by an easy and commodious staircase, with three landings, and placed near the center of the building, so as to afford ready communication to the several chambers and also a good-sized bath-room. Off the front chamber, over the bay window, is a balcony, from which a view of the surrounding country may be had. The roof is of redwood shingles, painted two coats and the side walls are shingled with fancy octagon shingles where shown.



BASEMENT PLAN.



FIRST FLOOR PLAN.



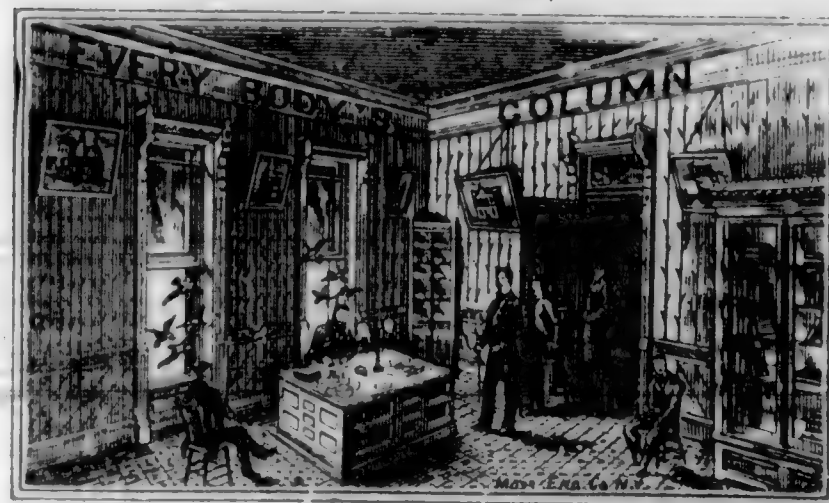
SECOND FLOOR PLAN.

I	Hall
II	Dairy
III	Servants' room
IV	Parlor
V	Kitchen
VI	Passage
VII	Unfinished
VIII	Veranda
IX	Dumbwaiter
X	Stairs

IX	Entrance Hall
X	Stairs going up
XI	Stairs going down
XII	Parlor
XIII	Sitting room
XIV	Dining room
XV	Bay Windows
XVI	Closets
XVII	Dumbwaiter
XVIII	Porch
XIX	Veranda

XXI	Hall
XXII	Stairs going down
XXIII	Chamber
XXIV	Chamber
XXV	Chamber
XXVI	Bath room
XXVII	Bay Window
XXVIII	Closets
XXIX	Balcony

ASKED, ANSWERED, AND COMMUNICATED



Free to All.

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

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

WORKING DRAWINGS.—Will you inform me what is the exact meaning of the term, "working drawings." I notice that architects often add to their specifications that working drawings will be supplied where required. Are not plans, elevations, and sections, enough for working purposes? **BOSS CARPENTER.**
Yonkers, N. Y.

Answer.—The term "working drawings" is generally understood to mean detail and other drawings worked out to a sufficiently large scale to show every detail of the construction, often being full size. Ordinary plans and elevations are not drawn to a scale large enough to work from, excepting to set out the main dimensions, so that where any peculiar or unusual construction is to be used, detail or working drawings are supplied by the architect, and the contractor has therefore no excuse for bad construction.

A new method of securing veneer to its base consists in spreading glue or other adhesive matter between the veneer and the base, passing the two secured parts under a heated roller to melt the glue and cause it to enter the pores of the wood, then finally passing the connected base and the veneer under chilled rollers to harden and set the glue, and prevent the warping or shrinking of the veneer consequent upon the gradual cooling or drying of the glue.

The word "striping," as formerly used in England, referred solely to a style of painting in which the panels of bodies were painted in alternate stripes of light and dark color, as light and dark brown, blue, green, etc. The stripes were three-quarters or an-inch wide.

How foolish it is for a man who has labored all his life at some mechanical trade, and attained wealth and all the comforts that money can purchase to surround himself with, to suddenly conceive the idea that it is not genteel to be a mechanic, abandon his trade or sell it out, thinking to elevate himself in the estimation of his fellow-men by wearing fine clothes and putting on aristocratic airs that are unnatural to him. Such men may be flattered to their face, but behind their backs they are invariably spoken of with contempt. I admire the old English style. If a man there is a successful manufacturer or mechanic, no matter how wealthy he becomes, his sons and grandsons are not ashamed to be known as mechanics themselves, but write themselves with pride as successors to the old firm. For honesty, integrity, and genuine respectability, commend me to the intelligent, hard-working mechanic!

Natural Position of Wood.

THE problem, says a scientific writer, has interested many, why two pieces of wood, sawn from the same section of tree, should possess very varied characteristics when used in different positions, as, for example, a gate post being found to decay much faster if the butt end of the tree is uppermost than would be the case if the top were placed in this position, the reason being that the moisture of the atmosphere will permeate the pores of the wood much more rapidly the way the tree grew than it would in the opposite direction. Microscopical examination proves that the pores invite the ascent of the moisture, while they repel its descent. The familiar case of a wooden bucket is in point—that is, some of the staves appear to be entirely saturated, while others are apparently quite dry. This also arises from the same cause, viz., the dry staves are in the position in which the tree grew, while the saturated ones are reversed.

Redwood Logging in California.

This article and the cuts illustrating the same were kindly furnished us by the *Northwestern Lumberman*, of Chicago, one of the leading papers of its class in the world.

Advertisements that Have Appeared in Every Issue of This Journal since Its Inception in Jan., 1879.

F. H. ROSENBAUM & Co. Window Glass, etc.
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DUNHAM, CARRIGAN & Co. Builders' Hardware.
JESSE & DREW. Stair Work.

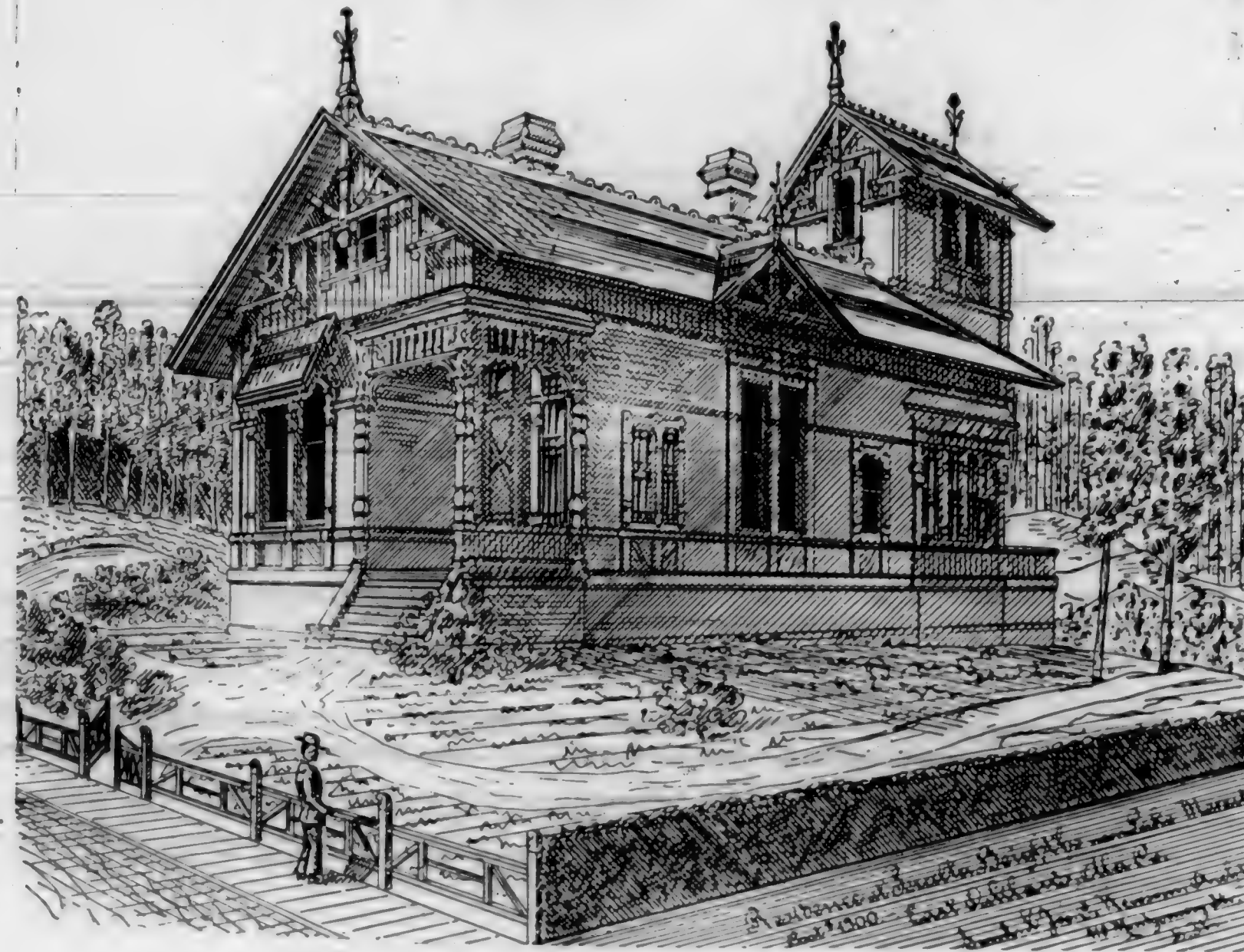
Besides the above a majority of the cards of contractors, painters, plasterers, etc., have appeared in this journal regularly since the first issue.

That all parties are benefited by advertising, is conclusively proven by above statements. Some of the firms jocularly say, they have a mortgage on the space taken by them, as long as they remain in business. Let all continue the good work by sending us an ad.

Master Plumbers' Association.

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The Right to Reject Bids.

AMERICAN ARCHITECT.

A PRIVATE corporation advertise for bids on an important structure in the usual form, "reserving the right to reject any and all bids." The sealed bids are opened in private by the company's officers, the terms of the bids are not made public, and the contract awarded to one of the bidders, who agrees with the company not to allow the amount of his bid to be known. What are the rights of bidders under such circumstances, and what remedy, if any, has the lowest bidder among those shut out, granting him to be solvent and capable, and his proposed bondsmen above criticism? Very respectfully,

A CONTRACTOR.

The bidders have no claim to know the amount of the accepted tender, if the parties immediately interested wish to keep it to themselves, nor has the lowest, or any other bidder, under the conditions of the bidding, a right to insist upon the acceptance of his offer. The reservation made in the advertisement that the company should have the right to reject any and all bids makes this clear, but even where no stipulation of this kind is made, it has been repeatedly decided that the party inviting bids has a right to consider other circumstances besides the relative amount of the tenders, and to accept the one which seems, on the whole, most advantageous for him.

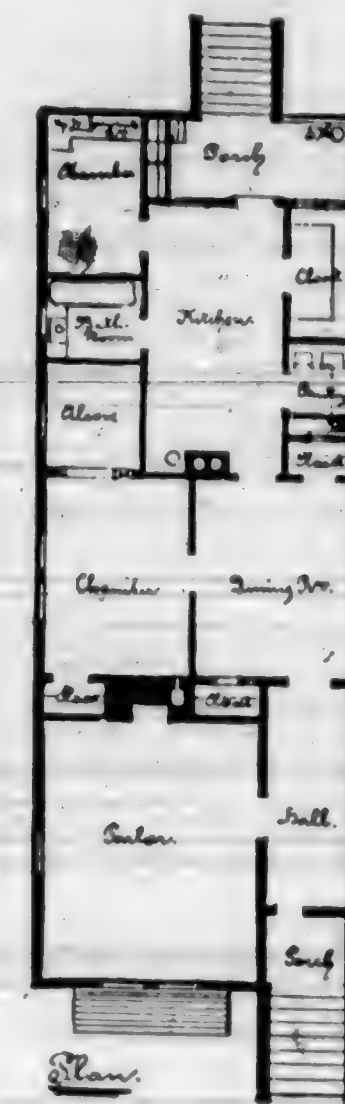
CALIFORNIA WOODS.

AN ABUNDANCE OF LUMBER FOR BUILDING.

THE BIG SEQUOIA VARIETIES.

Monster Trees—Durability of Redwood—Scarcity of Useful Hard Woods—Eucalypti.

MUCH of the value of a country as a place for homes depends upon the quality and quantity of the native timbers. It is true that the timber may be in such excessive quantity as seriously to retard the development of a country. The settlers of the Atlantic Coast had a fearful contest with the solid belt of timber, six or eight hundred miles wide, which met them, like *chevaux de frise*, at every point. There were no open glades ready for the plow, no parks with stately trees so far apart that grass grew as high as a man's head, as in California. When the immigration reached the open prairies, a few miles across, inviting the plowman to immediate work, the settlers' joy was unbounded.



A SCARCITY OF TIMBER.

But as they went farther west, the open glades became larger; the timber thinned out until the groves became a day's ride apart, and finally ceased altogether. It was too much of a good thing. Even in Kansas, the settlers who were in advance of railroads had to dig holes in the hill-sides for dwellings; hence the significant and ominous name for a home—"dugout." There was no timber for fuel. Cornstalks, and even the corn itself, were used to warm the houses. The writer well recollects cooking a scanty breakfast with cornstalks for fuel, while crossing the *wilds* of Iowa on the way to California in 1850.

During the past winter the thermometer went fifty degrees below zero in Dakota and Montana, and no timber within hundreds of miles. The building of homes in such a country, however fertile the soil, must be attended with serious difficulties, especially in a land of blizzards. No wonder people freeze to death in their beds.

CALIFORNIA WELL SUPPLIED.

All of California north of the thirty-sixth parallel is well timbered, or within easy reach of lumber. The Sierra Nevadas from the base to the summit furnish the finest pine timber to be found in the world. The sugar pine is without a peer. It rises in a straight, tapering shaft, symmetrical as a column of the Parthenon, a hundred feet, without a knot or limb. A large variety of other pines, firs, and spruces of immense size affords an inexhaustible supply of lumber for all domestic uses. At the base of the Sierras the pine gradually gives way to a great variety of oaks, including the evergreen live-oak. These do not grow in a dense wood as in the Eastern States, but in the shape of a well-cared-for park. The greater portion of it is so open that carriages may be driven anywhere. This oak timber is brittle, inelastic, and of little economic value except for wood. Scattered over the alluvial plains, it adds much to the general beauty of the country.

THE REDWOODS.

The Coast Range of mountains has its valuable timbers as well as the Sierra Nevadas, though the varieties are entirely different. The pine is represented by but one or two useless varieties, giving place to the *Sequoia Sempervirens*, a close relative of the *Sequoia Gigantea*, or Big Tree family, found only in a few groves along the Sierras and said to be the largest trees in the world, some of them measuring thirty feet and upwards in diameter, and three to four hundred feet in height. Though not so large as the *Sequoia Gigantea*, the coast *Sequoia* is an enormous tree. The first Americans thought they were monsters. Compared to the trees of the older States they were. One man built a house and fenced in forty acres of land with a five-rail fence, all from one tree. Two hundred thousand shingles from a

single tree were not unusual. Some of the trees were fourteen feet in diameter, sound to the center, and a hundred feet to the first limbs. The lower part of the trunk, for ten or fifteen feet, usually settles upon itself, forming a curly grain, now much prized for finishing lumber, but formerly considered worthless. A high scaffold was built to cut the tree off above this swell.

COULD NOT BE HANDLED.

When the trees were felled they had to be blasted to pieces before they could be sawed. No saws were long enough; in fact, the logs could not be moved with any means at the command of the millmen. Then of what use was a twelve foot-wide plank except as a sample production of California?

The redwood, as the first settlers called this tree, from the reddish tint of the wood, is of free grain. It is not unusual to see split siding for a house, twelve feet long and a foot wide. It readily splits into posts, rails, pickets, stakes for grapes or any other purpose. It is inferior in strength to the pine, fir, or any of the soft woods, but has numerous other qualities which make it valuable. It is a common saying that it never rots. A post forming the cross at the Santa Clara Mission, set in the ground seventy years ago, was perfectly sound when it was taken out, though the wind and weather had worn it nearly off above the ground. Fences built of it in 1850 are as sound as on the day they were erected. Houses will last generations, as far as decay is concerned. Being destitute of resinous matter, like that which prevails in the pine family, the redwood is not as inflammable. A house burns slowly, affording time for fire companies to get engines to work. The buildings in San Francisco are to a great extent constructed of redwood, to which fact San Francisco owes much of its exemption from devastating fires.

OTHER TIMBER.

The Coast Range abounds with numerous other valuable varieties of timber, such as the fir, spruce, cypress, madrone, etc. Excepting the last, they are all soft woods, relatives of trees of the same name in the East. They make good flooring and dimension timbers, being stiff and strong, but are not used to any extent for finishing lumber.

The madrone is a slow-growing evergreen, with irregular trunk and spreading top. The wood has about the texture of the sugar maple, is of a dark, rich color, and takes a fine finish. It is coming into use for furniture and fine finishing. The laurel, or pepper tree, is also a hard, elegant wood with about the same uses.

The reader will observe a scarcity of timber suitable for wagons and machinery. The want of it is seriously felt. The Puget Sound firs are strong enough for car building, also for some agriculture machinery, but nowhere is there anything equal to the oak or hickory of the Eastern States. At present all are imported. Even the oak staves for wine casks are brought over the Rocky Mountains.

THE EUCALYPTI.

Our only hope is in growing imported varieties. The locust flourishes well, as do varieties of the walnut and hickory, but our main reliance for hard wood timber is on the eucalypti, a family of about fifty varieties, some of which are equal to any of the Eastern hard woods. The *Eucalyptus Globulus* (blue gum) promises to be eminently useful. It is a rapid grower, adding two inches to its diameter and several feet in height each season. Some of the trees planted as ornamental trees twenty-five years ago are now four feet in diameter, with three good saw log cuts on the trunks. The wood is hard, tough, fine-grained, and said to be the strongest timber of its weight known; but as its grain interlaces, preventing its being split into rails or shingles, it is rather unpopular. They are not suitable for ornamental trees. Being such vigorous growers, they are of necessity gross feeders, absorbing all plant food within fifty or sixty feet but are excellent forest trees. The tall, plume-like trees, a hundred feet or more high, have become quite a feature in the landscapes of San Jose. Nothing can be more stately than a eucalyptus grove fifteen or twenty years old. Every farmer with twenty acres of land should give one acre to a grove of these trees. It will insure him wood for the next hundred years.

It seems to be conceded by good authority that elasticity is a property of young wood, and the greater the exposure the greater the elasticity.

CONTRACTORS, ATTENTION!

For \$5.00 we will insert your business card for one year, and send you this Journal, free.

BUILDING PROPOSALS.

Plans and specifications for the building of the University of Arizona will be received at the office of the Board of Regents, at Tucson, A. T., until Monday, May 2, at 10 A. M.

The design for the buildings must comprise within its scope, plans and specifications to include (under the law) accommodations for the following departments:

1. The department of science, literature and the arts.
2. The department of theory and practice and elementary instruction.
3. The department of agriculture.
4. The normal department.
5. The department of mineralogy and school of mines.

The Regents desire plans and specifications, which will provide for all these departments, and which will constitute a complete university, modeled upon the most approved methods, comprising in architectural design all the latest improvements in mechanical skill that will add to the comfort and convenience of pupils and the advantage for proper training.

It is the intention of the Board of Regents to inaugurate this enterprise by the erection of a single building or portion of a building at present, as the funds now on hand are only sufficient for that purpose. They desire that this first building shall serve as a model for all the others to be erected.

It is the intention to devote the funds now on hand for the establishment of a school of mines and when the plans and specifications have all been received and a selection made, it will then be determined which of the buildings included in said plans and specifications will be the most suitable for the department of mineralogy and school of mines, and the work of constructing this building will then begin.

All the buildings are to be of stone or brick, and to be built upon a plan most suitable for this climate, and with a view to their substantial and permanent character. The Regents desire to call special attention of architects to the necessity of providing means for the greatest shade around the buildings to protect the occupants from the great heat and light consequent upon the hot, dry summers of Arizona. They should be erected upon a plan which will admit of their future enlargement without destroying their architectural beauty and design.

The amount to be used for the building now under consideration cannot exceed the sum of twenty thousand dollars (\$20,000).

The amount of \$500 will be paid for the design accepted by the Board, reserving to itself the right to reject any or all plans and specifications submitted.

CHARLES M. STRAUSS,

Secretary.

IMITATING ROSEWOOD.—Various methods have been devised for treating the surface of certain woods so as to produce imitations of choicer varieties. Some of the most attractive work in this line, however, is made by simply spreading on the surface of the material a concentrated solution of hypermanganate of potassa, this being allowed to act until the desirable shade is obtained. Five minutes suffice ordinarily to give a deep color, a few trials indicating the proper proportions. The hypermanganate of potassa decomposed by the vegetable fiber with the precipitation of brown peroxide of manganese, which the influence of the potassa at the same time sets free, fixes in a durable manner on the fibers. When the action is terminated, the wood is carefully washed with water, dried, and then oiled and polished in the usual manner. The effect produced by this process in several woods is remarkable. On the cherry, especially, it produces a beautiful red color which resists well the action of air and light, and on other woods it has a very pleasing and natural effect.

QUARTER-SAWED lumber has become so popular with customers throughout the country that a great many mills are devoting considerable attention to that class of work.

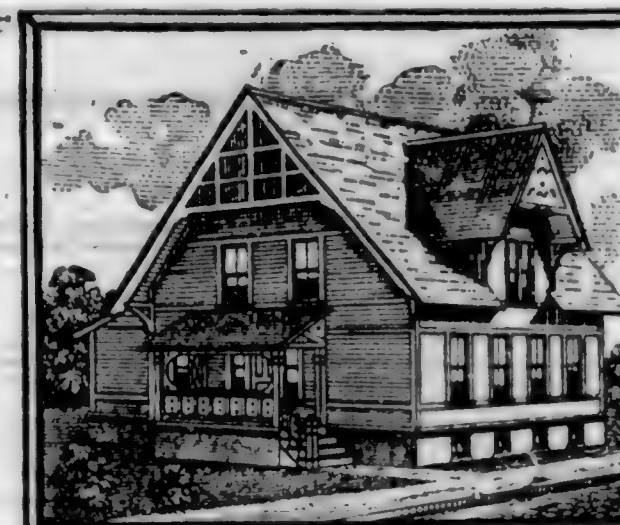
A List of Mechanical and Architectural Works DEDUCT ONE-SEVENTH FROM PUBLISHED PRICE.

The amounts given below are the Publishers' Cash Prices. We intend to reduce our stock, at present the largest of its kind in California, and therefore make the accompanying liberal offer.

Select any work from the list, deduct one-seventh of the price given, forward us the money, and by return mail you will receive the book or books selected, with charges prepaid.

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

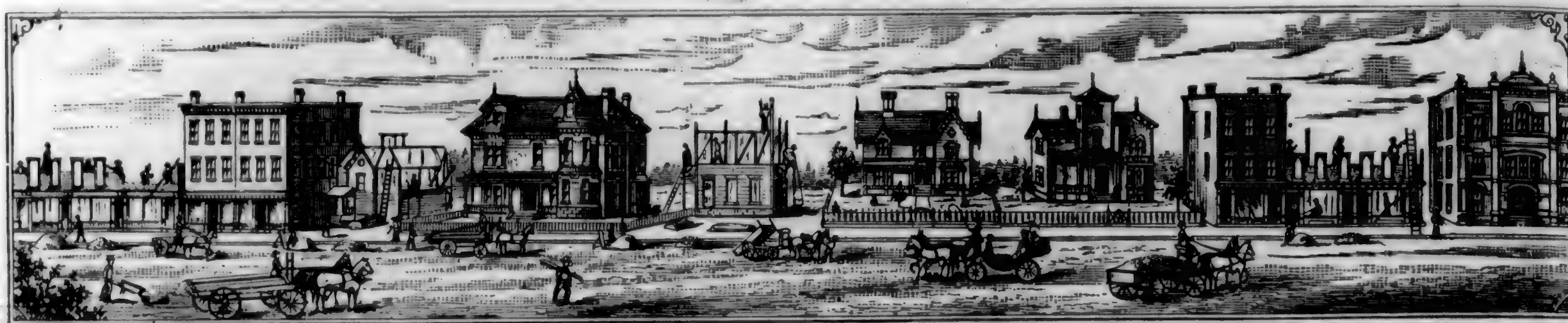
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Album of Mantels,.....	8 00
History of Architecture,.....	15 00
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Lumberman's Hand-Book,.....	2 00
Practical Geometry,.....	1 00
Practical Perspective,.....	5 00
Woodward's Country Homes,.....	1 50
Woodward's Farm Homes,.....	1 00
Woodward's Graperies,.....	1 00
Manual for Furniture Men,.....	1 00
Landscape Gardening,.....	1 50
Common-Sense Church Architecture,...	1 00
Painter, Gilder and Varnisher,.....	1 50
How to Paint,.....	1 00
Architects' Companion,.....	2 50
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Drawing for Carpenters,.....	1 75
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" " Cabinet Makers,.....	1 50
" " Stone Masons,.....	1 50
Building Construction,.....	1 25
Linear Drawing,.....	1 25
Cutting Tools,.....	1 50
Cumming's Details,.....	5 00
Carpenter and Joiner,.....	7 50
Stair Builders' Guide,.....	3 00
Drawing and Shading,.....	1 25
Carpenters' Manual,.....	50
Steel Square Problems,.....	1 00
Work Shop Companion,.....	35
Bound Volume California Architect,.....	2 00
Specifications,.....	50
Born Plans,.....	1 50
Solution Pyramid Problem,.....	1 50
Standard Scroll Book,.....	2 00
Swiss Cottage,.....	2 50
Every Man His Own Mechanic,.....	3 50
Tredgold's Carpentry,.....	7 50
Builders' Companion,.....	1 50
Builders' Work,.....	5 00
Builders' Construction, (Three Volumes, Very Fine).....	14 00
People's Cyclopaedia, (three large volume,).....	20 00
Homes for the People,.....	2 00
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Home Hand-Book,.....	10 00
Ruskin's Works, (four volumes).....	6 00
Industrial Drawing for Carpenters,.....	2 00
Limes, Cements and Mortars,.....	4 00
Wonders of Art,.....	1 25
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American Cottage Building,.....	3 50
Windmills, by Wolff,.....	3 00
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OF CARPENTRY
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REDUCED FROM
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MECHANICS' GEOMETRY,
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BY USE OF CARD BOARD MODELS.
REDUCED FROM
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COUNTRY BUILDING INTELLIGENCE

Alameda.

REAL ESTATE AND IMPROVEMENTS.

The construction of a five-room cottage for Mr. Godfrey has been commenced on St. Charles Street, near Railroad Avenue.

A small cottage is being built on Taylor Avenue, near Prospect Street.

The construction of a six-room cottage for Col. J. W. Hawkins was commenced last week, on San Jose Avenue, near Walnut Street.

Mrs. A. Painter will build a six-room cottage on Regent Street, near San Jose Avenue, work to be commenced on the building this week.

Peder Hundrup is building a four-room cottage on the corner of Everett Street and Blanding Avenue.

A seven-room residence, to cost about \$3,500, is being built for Mr. Lainer, on Kings Avenue, west of St. Charles Street.

An addition has been added to the rear of the skating rink building, on Lincoln Avenue. The two stores in the building will be converted into a laundry.

N. K. Holmquist is about building two cottages on Second Street.

A two-story brick building will soon be erected by Mrs. Nellie Liese, on Park Street.

The following parties are all contemplating building in the near future: John Gale, R. Harvey, P. A. Markson, Mrs. M. L. Troost, John Anderson, F. Foote, C. Radgwill, and many others.

Astoria.

The Truckee Lumber Company will soon erect a large saw-mill near this place.

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

Auburn.

J. J. Smith is erecting a cozy cottage.

Byron Springs.

L. R. Mead intends to enlarge the hotel at this place.

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

East Oakland.

Fifth Avenue and Tenth Street. Repairs. Owner, C. Kirk; architects, J. J. & T. D. Newsom. Day work. Cost, \$1,500.

Fresno.

W. H. McKenzie will erect a handsome dwelling.

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

Geo. W. Meade will soon commence the erection of a building 150x250 feet, two stories high.

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

G. L. Bradley will erect a large brick building.

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

J. W. Ferguson will begin the erection of a two-story brick building in the course of a month.

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

It is proposed to erect a \$25,000 brick building for school purposes.

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

A new Presbyterian church will shortly be erected at this place.

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

Gilroy.

George E. Hersey is making extensive improvements to his property; J. Lenzen & Son being the architects.

Healdsburg.

The Episcopalians are preparing to build a new church.

Los Angeles.

R. Dunnigan is preparing to erect a three-story brick building on Buena Vista Street, near Bellerue Avenue.

Napa.

W. A. Brown is about to build a one-story frame, at a cost of \$2,000. J. Marquis is the architect.

Oakland.

Chas. Mau is building a house on Filbert, near Fourteenth. Cost, \$4,000. Day work.

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

Brush, between Twenty-second and Twenty-third, Oakland. Owner, John Winter. Contractor, Toohig & Moore. Architect, Chas. Mau. Cost, \$3,773 (except sewer and mantels).

Brick building. Owners, A. J. Snyder and J. Woener. Contractor, brick work, Remillard. Carpenter, W. Winnie and R. Murray. Architect, Chas. Mau. Cost, \$9,000.

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

Pacific Grove.

The new hotel building at this place will be in size 100 x 142 feet, three stories in height. Work was begun on the foundations the latter part of February.

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

Portland, Or.

Dr. Glisan is to erect three residences on Eleventh and B Streets.

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

Port Hadlock, W. T.

A large saw-mill is being erected at this place. Also a warehouse.

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

Redlands.

W. C. Butler is about to erect a \$3,000 dwelling.

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

Messrs. Owen & F. S. Hale will also soon build commodious dwellings.

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

Riverside.

Over \$5,000 has already been subscribed towards a new church for the use of the Episcopalians.

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

The Catholics are also preparing to erect a large church.

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

Mr. Turner is putting up a two-story brick building.

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

Colburn & Myers are having erected a brick building.

Album of Mantels, for \$8.00.
History of Architecture, for \$15.

The contract has been let for a two-story brick building, 125 feet front.

R. B. Taylor will soon commence the erection of a two-story brick building.

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

Messrs. Rich, Woodall, Bohman, and others are all contemplating building.

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

G. Lyon contemplates the addition of another story to his brick building.

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

Sacramento.

Dr. G. L. Simmons is making extensive alterations to the brick building on J. Street near Second.

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

St. Helena.

J. C. Mixon has secured the contract for the erection of a house and barn for G. Stein.

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

San Jose.

Henry French is building a two-story brick house. Architects, J. Lenzen & Son; contractor, P. R. Wells. Cost, \$8,500.

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

Maurice O'Brien has let the contract for a one-story brick building to G. E. McDougall. Architects, J. Lenzen & Son. Cost, \$4,000.

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

J. H. Kohlhaner is building a one-story frame for P. Reen. J. Lenzen & Son, architects. Cost, \$4,500.

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

George Hobson, owner; J. Lenzen, architect, J. Davis, contractor, for a \$1,300 cottage, on Hobson Street.

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

C. Curdts is about to build a one-story frame. Owner, C. Omer; architects, J. Lenzen & Son. Cost, \$2,000.

H. L. Hirsch is building a one-story cottage on corner of Orchard and San Carlos Streets; Theo. Lenzen being the architect; A. J. McIlwain the builder.

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

On San Carlos Street, T. J. Gillespie is erecting a two-story cottage. Theo. Lenzen, architect. It is built by day's work.

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

R. Wiltz is having built a two-story dwelling with barn attached, at a cost of about \$5,000. Theo. Lenzen, architect.

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

U. Wood is erecting a large house on Second Street.

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

San Rafael.

The Tamalpais Hotel, lately partly burned, is being repaired at a cost of about \$1,250. Huerne & Everett are the architects; F. Bukey doing the work.

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

Santa Cruz.

J. S. Green has contracted with Kaye, Knapp & Company to erect a two-story building on Beach Hill. Cost, \$2,240.

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

Santa Rosa.

J. Hall is erecting a two-story building near town.

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

Allen & Bryant are erecting a building; Simpson & Roberts being the contractors.

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

Seattle.

Many new buildings are going up at this place.

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

Robert Abrams is preparing foundations for a large building.

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

H. H. Lewis is contemplating the erection of a row of houses on corner of Third and James Streets.

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

Kerns Brothers have secured the contract for grading, bridging, etc., for five miles of the Seattle, Lake Shore & Eastern Railroad.

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

SAN FRANCISCO BUILDING NEWS.

A
Ashbury, cor. Frederick. One two-story frame; one one-story frame.
O.—Mrs. E. P. De Long.
A.—C. I. Havens.
C.—F. W. Kern.
\$8,000.

B
Broderick, nr. Golden Gate Avenue. Two-story frame.
O.—S. W. Collins.
A.—Townsend & Wyneken.
C.—N. Churchhill.
\$1,800.

Bush, nr. Jones. Three-story frame.
O.—Mrs. Maria Sjolholm.
A.—Geo. E. Voelkel.
C.—J. H. McKay.
\$8,000.

C
Clementina, bet. Eighth and Ninth. Two-story frame.
O.—Wm. Feehan.
A.—J. J. Clark.
C.—C. E. Dunshee.
\$2,500.

Clay, bet. Front and Davis. Additions.
\$500.

Cortland Avenue, cor. Wool. One-story frame; two-story barn.
O.—J. G. Fair.
C.—Treadwell & Thompson.
\$6,000.

Cortland Avenue, nr. Wool. One-story frame.
O.—J. Johnston.
\$1,500.

Cortland Avenue, nr. Wool. One-story frame.
O.—J. S. Woods.
\$1,500.

D
Devisadero, nr. Haight. Two two-story frames.
O.—A. E. Marchand.
A.—S. Hatfield.
\$8,000.

Devisadero, bet. Sutter and Bush. Two-story frame.
O.—B. Dinkelspiel.
A.—C. Kenitzer.
C.—F. W. Kern.
\$3,500.

E
Elgin Park, bet. Ridley and Herrmann. Two-story frame.
O.—J. T. Mahoney.
A.—M. J. Welsh.
C.—T. Sullivan & D. Hartnett.
\$3,250.

Eddy, No. 1128. Two-story frame.

O.—A. Marks.
A.—P. R. Schmidt.
C.—H. Keenan.
\$7,000.

F
Fair Oaks, bet. Twenty-second and Twenty-third. Two-story frame.
O.—F. L. Zipp.
A.—C. I. Havens.
C.—A. Klahn.
\$3,700.

Fifth, nr. Bryant. Three two-story frames.
O.—Korbel Bros.
C.—Munster.
\$4,000.

Fifth, nr. Mission. One-story frame.
O.—Mrs. M. Meyer.
C.—W. Zehfup.
\$750.

Fremont, nr. Market. Brick additions.
O.—G. W. Gibbs.
A.—E. K. Swain.
C.—Riley & Loane.
\$5,500.

C
Golden Gate Avenue, bet. Polk and Van Ness Ave. Two two-story frames.
O.—D. Breslau.
A.—W. Mooser.
C.—J. H. McKay.
\$7,000.

Geary, bet. Jones and Leavenworth. Two-story frame.
O.—Dr. Richter.
A.—P. R. Schmidt.
C.—W. T. Commary.
\$12,500.

H
Herrmann, bet. Webster and Fillmore. Two two-story frames.
O.—A. T. Winn.
A.—H. T. Bestor.
C.—I. P. Kincaid.
\$3,000.

Hyde, bet. Clay and Washington. Frame buildings.
O.—Mrs. C. Hirschfeld.
C.—A. Jackson.
\$12,000.

Hayes, nr. Polk. Additions.
O.—Heckersheimer.
C.—A. McDonald.
\$700.

Holly Park, nr. Mission. One-story frame.
O.—F. Gonzales.
C.—W. Graham.
\$1,200.

Howard, nr. Sixteenth. Brick building.
O.—C. Spreckles.
A.—
C.—C. L. B. Jones.
\$9,000.

EACH SUCCESSIVE NUMBER WILL BE COMPLETE IN ITS BUILDING REPORTS.

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

L Laidley , nr. Mercedes. One-story frame. O.—Forster. \$500.	Post , nr. Pierce. Two-story frame. O.—J. C. Weir. —J. C. Weir. —J. C. Weir. \$7,000.	V Valencia , bet. Eighteenth and Nineteenth. Two-story frame. O.—Chas. Meyer. A.—John & Zimmerman. C.—Adam Miller. \$4,500.	West Park Avenue , nr. Mission. One-story frame. O. and B.—G. W. Graham. \$2,000.
M Market , junction Valencia. One-story frame. O.—Hotelling. A.—W. Mooser. C.—Farrell & Bell. \$4,000.	Pacific , cor. Larkin. Two-story frame. O.—H. Grimm. A.—Copeland & Banks. C.—W. Plums. \$5,000.	W West Park Avenue , nr. Mission. One-story frame. O.—G. L. Marshall. \$700.	West Park Avenue , nr. Mission. One-story frame. O.—Geo. Crofford. C.—Geo. W. Graham. \$1,000.
Mission , bet. Twentieth and Twenty-first. Additions. \$1,000.	Pierce , nr. Sutter. Two-story frame. O.—Tripulture. C.—R. Currie. \$5,000.	West Park Avenue , east of Mission. One-story frame. \$800.	
Market , nr. Eighth. Additions. O.—W. Cranan. \$500.	Pacific , cor. Mason. Alterations. O.—J. H. Hienmann. C.—T. G. Fritts. \$2,000.		
Mission , nr. Fourth. Alterations. O.—J. W. Wilson. A.—R. H. Daley. C.—Wessinger. \$2,000.	Pacific , nr. Mason. Five two-story frames. O.—J. H. Hienmann. C.—T. G. Fritts. \$10,000.		
Mission , nr. Fifth. Three buildings. Alterations. A.—O'Connor. Mason—Dunbar. Carpenter—R. McCann. \$15,000.	R Ridley , nr. Guerrero. Two two-story frames. O.—Owen Keenan. A.—T. J. Welsh. C.—J. W. Wessinger. \$8,000.		
Mission , bet. Twenty-first and Twenty-second. Four two-story frames. O.—N. W. Cole. A.—Miller & Arnitage. C.—F. W. Kern. \$12,000.	Richland Avenue , nr. Mission. One-story frame. O.—Mrs. A. E. Lewis. \$1,500.		
Mission , nr. Twenty-eighth. Two-story frame. O.—Wm. Byrnes. A.—M. J. Welsh. C.—L. Frichette. \$2,250.	Richland Avenue , nr. Mission. One-story frame. O.—Archibald. \$1,500.		
Mission , nr. Thirtieth. One-story frame. O.—J. Gibean. \$750.	Richland Avenue , nr. South Avenue. One-story frame. \$600.		
Mission , cor. Cortland ave. Improvement. \$500.	Richland Avenue , east of South Avenue. One-story frame. \$800.		
McAllister , bet. Webster and Buchanan. Three-story frame. O.—J. McCormack. A.—C. J. Devin. C.—McDonald. \$8,500.	Ridley , cor. Guerrero. Two-story frame. O.—Danl. McMillan. A.— C.—T. H. Day. \$8,000.		
Minna , bet. Tenth and Eleventh. Two-story frame. O.—P. Brady. C.—McDonald. \$3,000.	Ritch , bet. Brannan and Townsend. Two-story frame. O.—Morgan & Co. A.—C. V. Pierce. C.—J. Bruce. \$3,250.		
Main , bet. Market and Mission. Three-story brick. O.—R. R. Thompson. A.—W. Patton. C.—R. Smilie. \$50,000.	S Sutter , No. 120. Store fitting. C.—Mahoney. \$3,000.		
O O'Farrell , nr. Octavia. Two-story frame. O.—Mrs. A. Raphael. A.—S. and J. C. Newson. C.—Moore Bros. \$6,000.	T Treat Avenue , bet. Twenty-fifth and Twenty-sixth. Two-story frame. O. and B.—S. R. Doyle. \$4,500.		
Old Mission Road . One-story frame. O.—Mrs. Cassidy. \$500.	Twenty-fifth , cor. Harrison. One-story frame. O.—J. Wheeler. C.—Hopper. \$1,500.		
P Pacific Avenue , cor. Fillmore. Two-story and attic frame. O.—Susan A. McLaughlin. A.—J. M.quis. C.—J. Wilcox. \$14,000.	Third , bet. Brannan and Townsend. One-story brick. O.—Morgan & Co. A.—C. V. Pierce. Mason—Shain & McGuire. Carpenter—J. Bruce. \$11,000.		
Pleasant , bet. Taylor and Jones. Two-story frame. O.—E. R. Warner. A.—G. E. Voelkel. C.—Johnson & Turner. \$1,600.	Turk , nr. Buchanan. Two-story frame. O.—L. Levi. A.—Townsend & Wyneken. C.—J. Lennon. \$4,000.		
	Townsend , bet. Fourth and Fifth. Five one-story bricks. O.—M. F. S. Hopkins. A.—O. G. Moore. Carpenter—J. T. Grant. Mason—T. Whitehead. \$30,000.		

ITEMS IN REGARD TO BUILDINGS IN THE COUNTRY THANKFULLY RECEIVED.

THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

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

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

No Others Received.

SAN FRANCISCO, CAL., APRIL 15, 1887.

Fate of the Amended Lien Law.

It has not received the approval of his excellency, Governor Bartlett, and is therefore dead. The fond hopes of thousands of mechanics and material men are again blighted, and the abominations of the present law perpetuated for a period of at least two years longer. The Governor may experience no compunctions of conscience at the great mistake he has made, being perhaps ignorant upon the many vital points and features involved in the law and its working, but if he could be induced to listen to the honest, heart-felt opinions and views as expressed by a congregation of ninety-five per cent of all those affected by his failure to do the right thing,—sign the amended bill,—he would be as regretful at his mistake as are the thousands who felt sure that the present legal monstrosity would have been virtually eliminated from the statute book by amendments possessing some reasonable degree of justice, equity, and fairness.

But the deed is done, and cannot be recalled, and the whole building fraternity, mechanics and material men alike, must settle down to a realization of the serious and grievous fact that for at least two years more the heavy and hurtful manacles of a bad lien law must be worn. It may be that his excellency had not the time to give the amendments due consideration; or, being unadvised, and not understanding the evils and hardships imposed by the present law, he failed to recognize the necessity for any amendments; or, not having studied the law as it is, he did not comprehend the fact that the present lien law of the State of California is one of the worst conglomeration of legal error and outrage to be found among the law books of the States of the Union combined.

We have not the slightest idea that the Governor was influenced to permit the amendments to go to their death for want of an executive prescription by any other motive than that of not time to consider, or ignorance of, or non interest in, the important measure before him.

Its pretenses to protection of rights are simply farcical, as back of these, and underlying the material features of the law, there are most serious and injurious provisions, which jeopardize tens of thousands of dollars to every one hundred protected. And the more serious feature of the case is that the greater hardships are imposed upon those the least prepared to endure them,—contractors and small contractors,—while in fact not a single individual is to any extent benefited or made more secure in his rights by reason of the tangled and unjust conglomeration of impractical notions, put together for special purposes, and by legislative enactment made a law of the State.

We are warranted in the assertion that the present law was "put through" without any investigation of its merits by the Legislature assembled. It was received from the committee to whom it was referred, and they being influenced and persuaded by those at the time favoring the new experiments contained in the law, reported favorably upon the amendments culminating in the passage of the law as it is, and the Legislature as a body accepted the recommendation of the committee, without questioning the wisdom or rightness of their recommendations, and made the thing recommended a law of the State.

Even those most earnest, and who made themselves personally interested in the passage of the law as it is, became, by the two last past years' experience, and the loud, long, and universal denunciations of those whose just rights and equities have been so materially compromised, convinced that amendment and change were necessary, and met in council with the representatives of the building interests, both material men and mechanics, and joined in perfecting and recommending the amendments which the executive has permitted to expire by limitation without his signature. Consequently, the Governor of the State, perhaps entirely innocently, has committed a great error, through which no rights or interests are secured or benefited, but severe inconvenience, financial risks, and many difficulties imposed upon every man engaged in the building business,—owners, material men, and builders, alike. A present discussion of the hardships and errors contained in the law as it is, and the interpretation given by the courts and legal fraternity, would serve no good purpose, as the demise of the amendments passed by the late legislative body, for want of the Governor's signature, ends all chance for relief until the next assembling of the law-making body, when, it is hoped, the many who are inconvenienced and hurt by the present law will take the matter in hand at an early stage of the Legislature, and see to it that wise amendments are substituted, by which all reasonable and right protections will be extended to all parties, and the onerous and unjust exactions of the present law removed.

The matter of the dead letter amendments was taken in hand at too late a day in the session, and fell through, not upon merit or demerit, but, being in the "last batch" of bills presented to the Governor for signature, shared a common fate,—failed for want of executive attention,—a small matter so far as those wholly disinterested are concerned, but a serious one to those who will be compelled to endure its provoking iniquities two years longer.

Building Record for April.

OUR report this month is very satisfactory for this season of the year. Prospects ahead are very encouraging. The only drawback to a successful building season, is the greed of the material men in raising the prices of their wares to the greatest limit to which the dear public's pocket can be strained.

During the month there has been commenced—

6 brick buildings, valued at	\$173,500
77 frame "	431,850
17 alterations "	31,450
100.....	\$636,800

CONTRACTORS, ATTENTION!

For \$5.00 we will insert your business card for one year, and send you this Journal, free.

DEATH OF LEVI GOODRICH,

Pioneer Architect of Santa Clara County.

ON Saturday evening, April 2, Levi Goodrich, a prominent member of the architectural profession on this coast, passed away to meet the great Architect of the universe above. Mr. Goodrich was one of the best-known citizens of Santa Clara County, and his death will not only be mourned in the garden city, but many other towns will sadly miss his genial face. Although a very large man, he has enjoyed comparatively robust health up to about one year ago. Steady application to a large business commenced to show its effects, and he was compelled to seek recreation. While visiting San Diego in a laudable effort to recruit his weary frame, he was overtaken by a stroke of apoplexy that caused his death in a short time. We are indebted to Bro. H. H. Main, of the San Jose *Herald*, for the following account of Mr. Goodrich's career:

"Levi Goodrich was born in New York City on the first day of January, 1822. In his youth he acquired the trade of a carpenter and builder in Massachusetts, but subsequently went to New York and entered upon the study of architecture, which was also the profession of his father. He followed that pursuit in New York till 1849, when he sailed for California in the ship *Lochoo*, via Cape Horn, and arrived at San Francisco on September 16 of the same year. Immediately upon his arrival he began the practice of his profession. In fact, before he left the vessel he was called upon to draw plans and specifications for a three-story wooden building, which was erected on what is now the corner of Kearny and Washington Streets, where the old Hall of Records stands. On November 30, 1849, he came to this country in a small sailing craft to Alviso, the trip consuming three days and two nights. From Alviso he walked to this city. He soon began work, however, and there are in this and neighboring counties many monuments of his architectural skill. In 1850 he erected the adobe building which formerly stood on the site now occupied by the store of T. W. Hobson & Co., on West Santa Clara Street. From that time to within a year ago he has been engaged in business here. Among the principal buildings for which he prepared the plans are the Court House, county jail, the First Presbyterian church, three public school-houses, the Bank of San Jose, the old and the new State Normal School buildings, Knox Block, Martin's Block, the College of Notre Dame, the new buildings at the University of the Pacific, and many others. He was also the architect of the Court Houses and jails of Monterey and San Diego Counties. During the period of his residence here he twice visited Europe for pleasure and study. Several years ago deceased married Mrs. S. L. Knox. About a year ago he retired from business, being succeeded by his only son, E. B. Goodrich, and G. W. Page. Subsequently E. B. Goodrich left here for the East, where he now is.

"It is about a year ago that the health of Mr. Goodrich began to fail. His physician then reported that a blood-vessel in his brain had probably burst. Since that time his condition has been watched by his family and friends with apprehension."

Mr. Goodrich was a prominent member of San Francisco Chapter, American Institute of Architects, and a most hearty supporter of the CALIFORNIA ARCHITECT.

The Future Cost of Building.

WITH the late rise in the price of building materials, particularly lumber and brick, increase in cost of constructions must follow. To this must also be added the other material fact that contracts, as a rule, have heretofore been taken at too low a figure, and hundreds of *pro ratio* settlements have resulted, by which owners have been benefited. But the universal sentiment of material men and competent contractors against the class of men who go about seeking whom they may devour, i. e., those who undertake work at unwisely low figures, knowing in the premises, so far as they know anything, that it will be impossible for them to execute their undertaking and pay their bills, together with the fact that, as it now appears, there will be enough for all at paying prices, will largely diminish the number of the reckless, don't-care class, and more jobs will fall into the hands of right men, and, as a consequence, in this direction cost of building will advance.

These three things, increase in price of lumber and bricks, and improvement in contract values, must necessarily make buildings more costly for some time to come; yet not more so under the circumstances than the state of things will warrant.

The largest possible price to be obtained is a common rule and maxim of trade in all things, but too much largeness is likely to

"kill trade." People generally are willing to submit to a reasonable amount of pressing, but when squeezed too much they are apt to demur—squel a little. We hope it will not be so in reference to building materials and building matters in San Francisco this season, which now looks most cheering.

The State Booming in Every Part.

FROM every part and section of the State of California, there comes the echoes of boom—boom—boom; and as a matter of course, San Francisco is sharing largely in these grand outbursts and developments which are so rapidly advancing the Golden State to a prominence in the great sisterhood of States, which assuredly presages a condition of things at no distant day, along the present western confines of our great country, the magnitude of which no mortal man can now fully contemplate, nor human foresight comprehend or foretell.

The general law, commercial, agricultural and other interests everywhere abounding, are duly heralded in the daily journals, with but little exaggeration. A glorious era has dawned upon the Pacific Coast, and every portion of its vast limits is enjoying the cheering and refreshing influence of substantial prosperity. Money is abundant and seeking investment, and while thousands of enterprises are being prosecuted with beneficial and profitable results, others are being sought after, and men of energy and means not only stand ready to take hold of any new proposition that promises fair return, but are themselves prospecting—searching for new fields in which to plant largely and freely of their abundance. All of which pictures a beautiful future for every willing heart and hand, and opens up prospects for the working and laboring classes, never before more brilliant.

During more than a quarter of a century, this golden scion of the American Union remained in its incubating state, to a large extent incased in the shell of its own isolation, and hedged in by the prejudices of millions of our own people, and those of other nations, who refused to grant us more than a humble name and place among the civilized communities of earth; but time and the inevitable force of circumstances, and irresistible proofs of inherent resources and greatness, have brought around the period when these shells could no longer hold the gigantic life within, and this heretofore divided and much abused portion of the land of freedom and liberty stands forth in all the glory of its long-restrained grandeur and resources; and eager thousands from every part of our own and foreign lands, are seeking its glorious climate, its soil, and its innumerable inviting and incomparable resources and advantages.

As a natural consequence under this state of things, millions upon millions of dollars are being expended in buildings and improvements of every description. Not a single competent building mechanic or architect is at most more than temporarily unemployed. In most parts of the State, although thousands of working people are rushing hitherward monthly, there is a demand for qualified workmen, and not only in San Francisco, but in other cities and places, proficient draughtsmen cannot be found to supply the demand for help in the offices of practicing architects.

The building reports appearing in each issue of this journal, furnish some criterion for judgment as to the immense volume of building operations, yet this with safety may be doubled or tripled within the actualities that exist. Nor is this spasmodic. There is the tone of permanency in it all, which presages continuance, and men of energy, activity and enterprise may safely contemplate measure of wealth in the future according to the degrees of wise judgment and prudent enterprise entered into. Folly and reckless adventure are ever the forerunners of loss and disappointment, but those who embark upon the present crystal stream of general prosperity, guided by caution, prudence and good judgment, may reasonably anticipate early and safe arrival at the port of financial success.

Getting Oil out of a Grindstone.

YOU can get the oil out of a grindstone if you will mix a pail of whiting and water to the consistency of thick cream. Move the grindstone near the stove, or where it can be made and kept as hot as its safety will allow. Give it a thick coat of whiting by spattering it on with a brush. It will soon get saturated with the oil. Then scrape it off, and repeat until it is all extracted.

CONTRACTORS. ATTENTION!

For \$5.00 we will insert your business card for one year, and send you this Journal, free.



Mantel Bed, Opened.

THE Ideal Folding Bed is one of those sensible, convenient, and practical household necessities that appeal at once to the good-will of the intelligent housekeeper. It folds under a mantel board, can be entirely concealed by curtains, and is, when desired, detachable from the frame, and may be rolled, upon castors, to any portion of the room. The spring is of woven wire, is very durable and comfortable, and the entire bed folded with all of the bedding, occupies but fifteen by sixty-two inches.

Waifs from the World of Wood.

A CURIOUS geological phenomenon exists in the vicinity of Behring's Strait. At Elephant Point, Kotzebue Sound, a ridge two miles wide and 250 feet high seems to be a vast mass of ice, thinly covered with clay and vegetable mold. In this soil birches, alders and berry-bearing plants grow luxuriantly, with the stratum of perpetual ice as the underlying rock within less than a foot from their roots.

Nutmegs grow on little trees which look like small pear trees, and which are generally not over twenty feet high. The flowers are very much like the lily of the valley. They are pale and very fragrant. The nutmeg is the seed of the fruit, and mace is the thin covering over the seed. The fruit is about the size of a peach. When ripe it breaks open and shows a little nut inside. The trees grow on the islands of Asia and tropical America. They bear fruit seventy or eighty years, having ripe fruit upon them all the season. A fine tree in Jamaica has over 4,000 nutmegs on it every year. The Dutch used to have all this nutmeg trade, as they owned the Banda Islands and conquered all the other traders and destroyed the trees. To keep the price up they once burned three piles of nutmegs, each of which was said to be as big as a church. Nature did not sympathize with such meanness. The nutmeg pigeon, found in all of the Indian Islands, did for the world what the Dutch had determined should not be done, carried the seeds, which are their food, into all the surrounding countries.

The crop-destroying rabbit appears to be not the only animal plague of Australia. The decay of the forests is traced by Rev. P. Macpherson, of the Royal Society of New South Wales, to the opossums. After much investigation it was ascertained that a single animal would devour about two hundred leaves of the eucalyptus, or blue gum tree, in a night, proving that the 18,000 opossums killed annually in one county in Victoria were sufficient to destroy upward of thirteen thousand trees and lay bare a space of 700 acres, or more than a square mile.

The oldest tree in the world is said to be the cypress of Santa Maria del Tule in the Mexican State of Oaxaca. It is thought to have spanned the whole period of written history. Humboldt said that in 1801 it measured 42 feet in diameter, 146 in circum-

ference and 282 feet between the extremities of two opposite branches.

By a new process of manipulation hats which it is claimed are more serviceable and finer than anything now on the market are made from wood pulp. They are impervious to water and not wanting in flexibility. It is claimed that felt hats will have to take a back seat as soon as the new hats can be placed on the market in sufficient numbers to supply the demand. They are certain to revolutionize the hatters' trade, as they can be moulded in any shape or style desired and colored to meet the taste of the public. They can be made to have a glossy or nappy appearance.

The largest tree in California is in Tulare County, and is 450 feet high, and the trunk is 138 feet in circumference. It is called the "Father of the Forest."

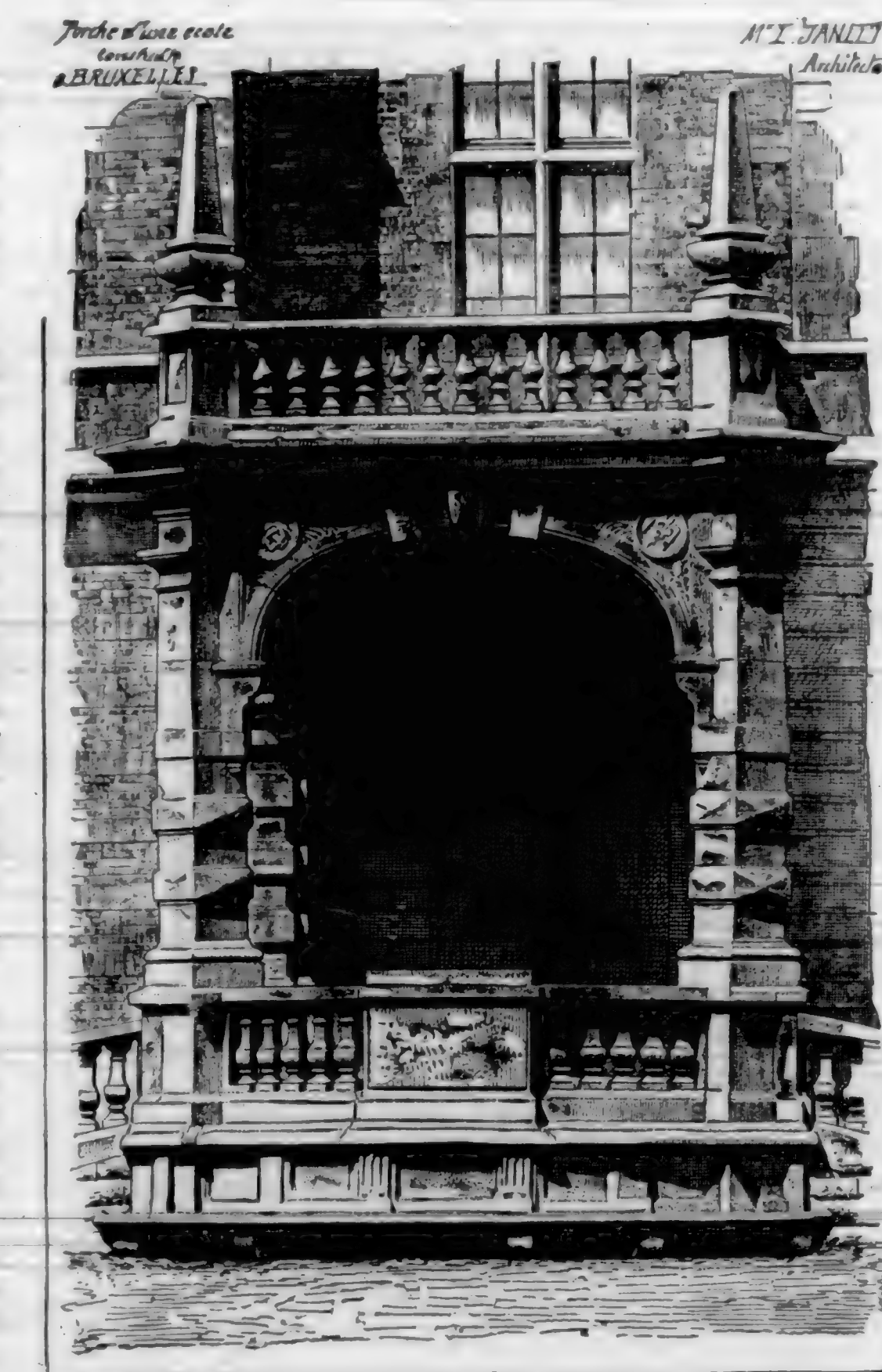
A marine alga of Arctic regions grows at a temperature far below zero, and its spores disappear at higher temperatures. It thus appears that intense cold is necessary to the existence of some forms of vegetable life, together with extreme dryness, and this class of plants includes the cryptogams of red snow.

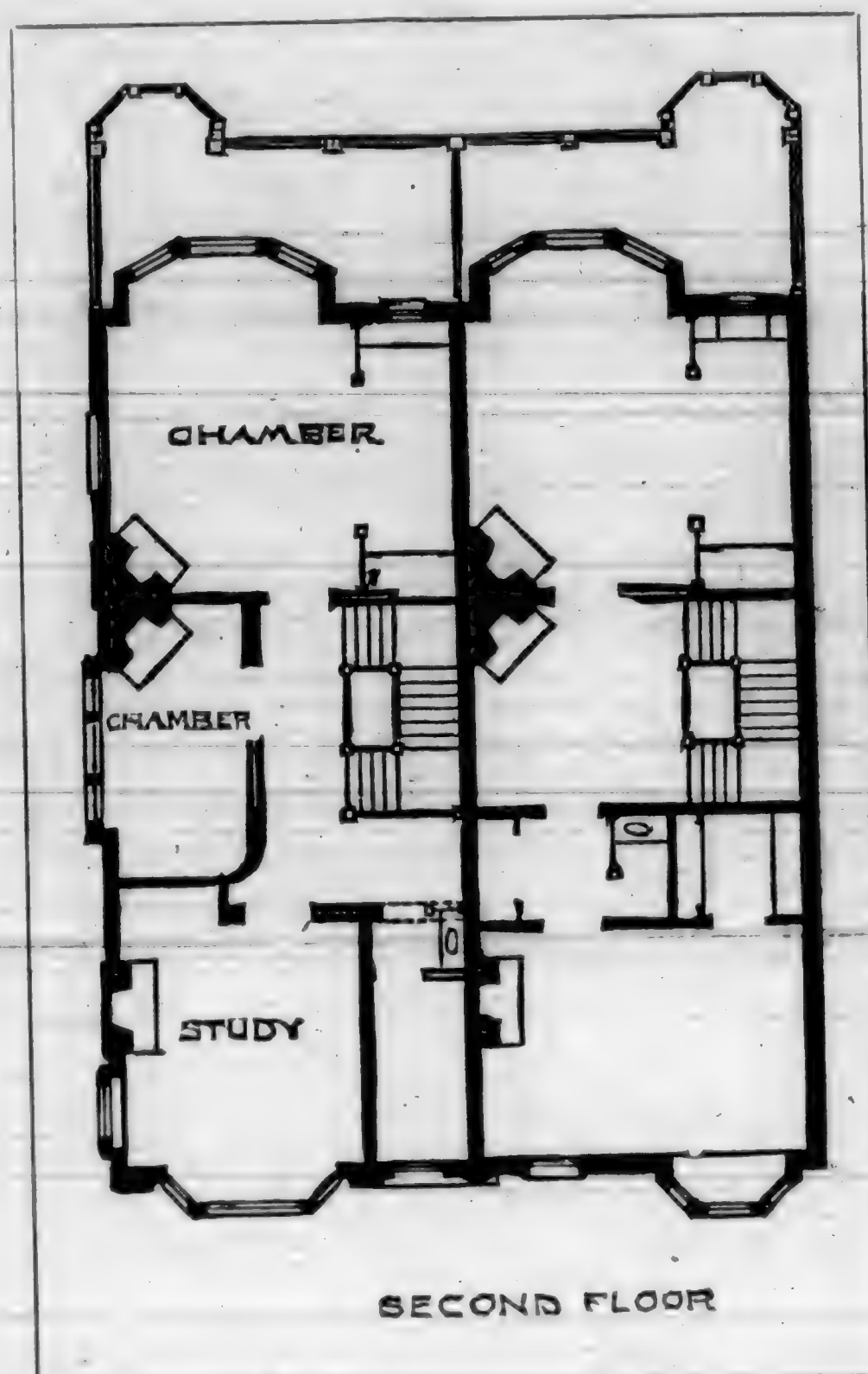
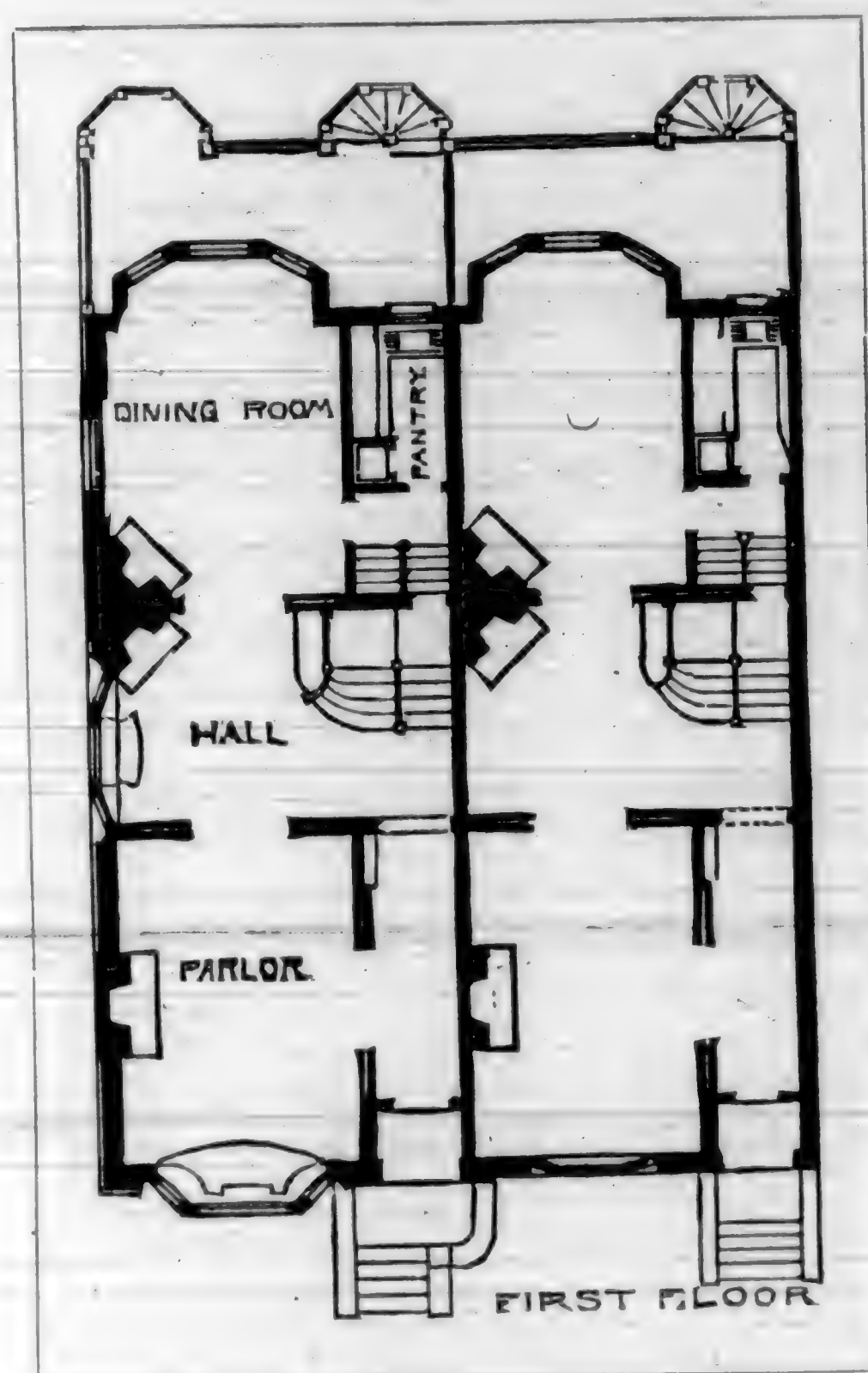
Mahogany is being rapidly introduced into every part of India where it promises to thrive. A single pound of seeds planted in green-houses in the southern districts have yielded between three and four thousand plants. It is thought probable that the world may some day look to India for its mahogany as well as its quinine, instead of America. The Indian product of the latter has already become so extensive and of such superior quality that the cinchona bark exports of the United States of Columbia are said to have fallen off 50 per cent in five years.

Vast arid and almost rainless tracts in Australia, according to Mr. Joseph Bosisto, of Victoria, are thickly covered with a dwarf eucalyptus, barely eight feet high. The stem of this shrub contains half a pint of water, which bushmen quickly obtain, yet inexperienced travelers often die of thirst.

In the arid regions of Egypt a French botanist, M. Volken, has found roots twenty times as long as the part of the plant above the surface. On some of these desert plants the same observer has noticed a very curious moisture-absorbing contrivance. Glandular hairs put forth by the leaves yield a bitter crystalline liquid which spreads out at night and collects the dew.

—Lumber World.





New Books Just Received.

ARCHITECTURAL STUDIES, PART VI, contains twelve designs for houses, costing from \$500 to \$2,500, shown on a large scale, giving perspectives, elevations, and plans, with which are given specifications, bills of materials, and estimate of cost. Price, \$1.00.

SAME AS ABOVE, PART VII. Twelve plates, giving designs for interior wood-work and fittings for moderate cost houses, with full working details. Price, \$1.00.

MODERN ARCHITECTURAL DESIGNS AND DETAILS. A few copies remain of this really good work. Price, \$10.00.

DETAIL COTTAGE AND CONSTRUCTIVE ARCHITECTURE. Similar to the above in general design.

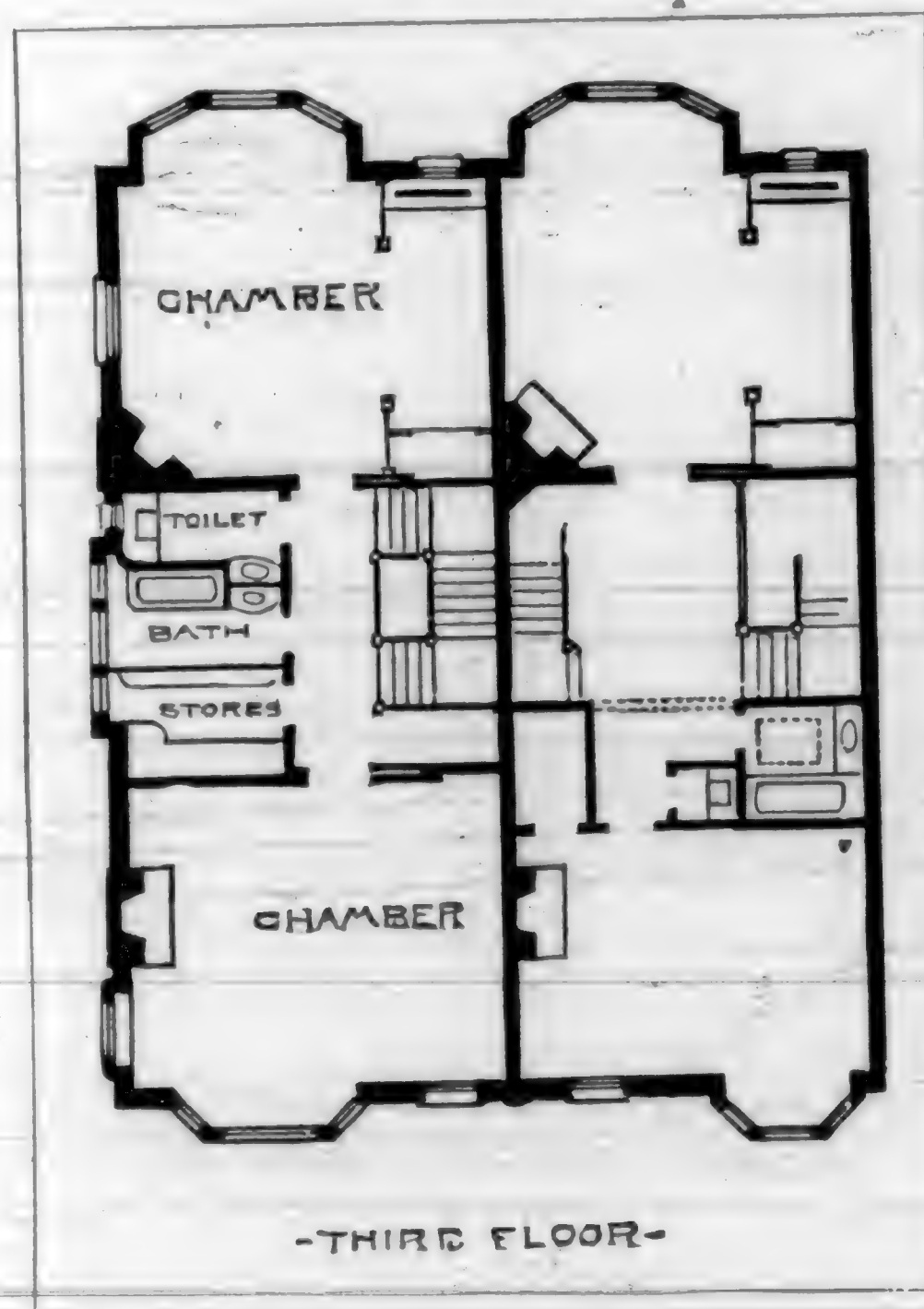
LEFFELL'S HOUSE PLANS. \$3.00 post-paid.

SCIENCE OF CARPENTRY MADE EASY. Price, \$5.00.

MECHANIC'S GEOMETRY, or the Science of Framing by the use of Card-board Models. \$5.00.

We will send the CALIFORNIA ARCHITECT for one year, free, to purchasers of either of the latter two works.

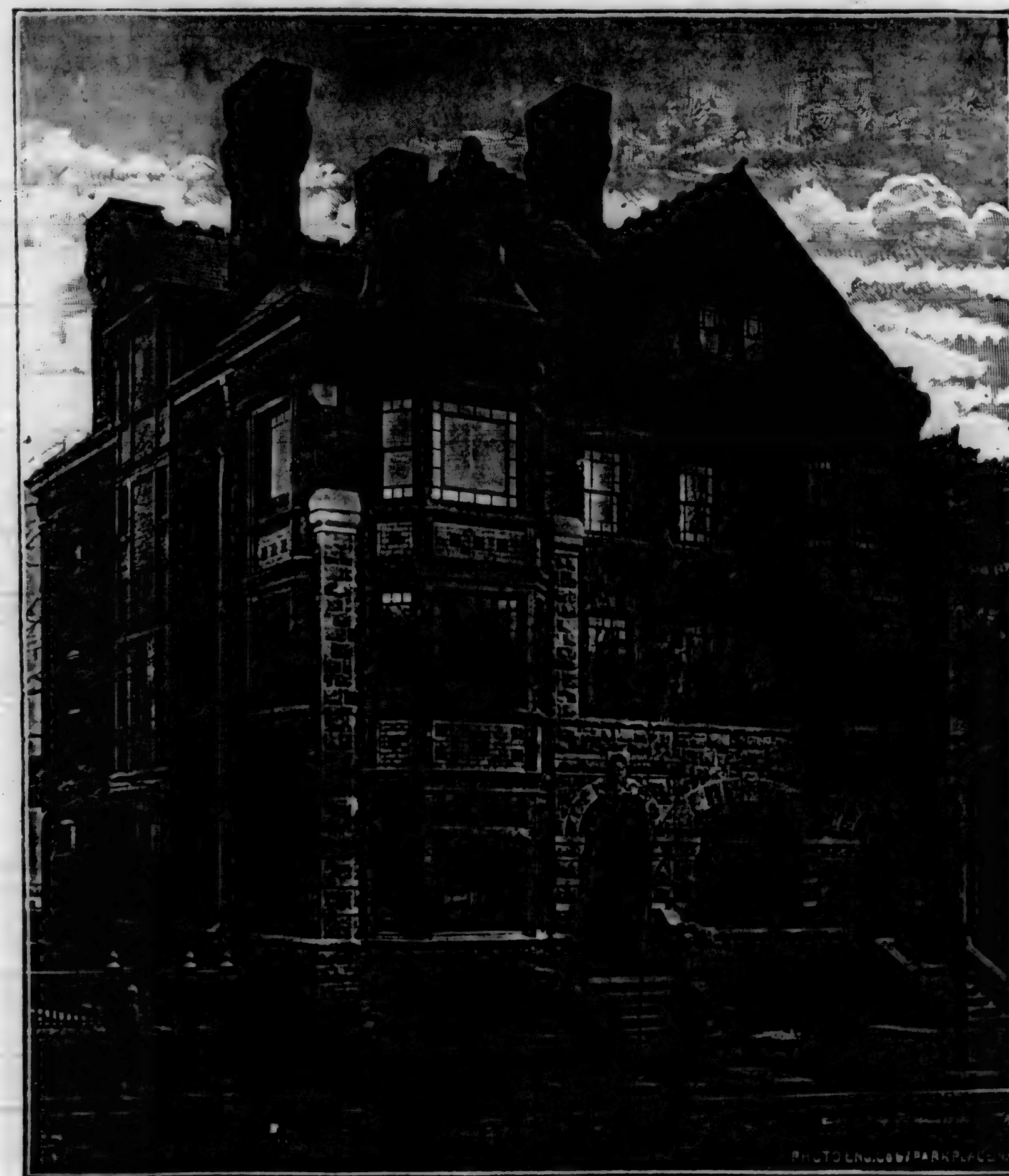
THE AURORA, a family magazine. Printed by Bacon & Co., San Francisco. With no "continued stories," clear type, exceptionally good reading matter, the Aurora recommends itself as an interesting family magazine. The price, for such first-class matter, is exceptionally low, being but \$1.50 per year. The San Francisco News Co. is the general agent, to whom orders can be addressed.



CORRUGATED iron conductor pipes are better than tin. In the first place they will expand when filled with ice, without bursting, and in the second place outlast tin.

CONTRACTORS, ATTENTION!

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A STYLISH DOUBLE RESIDENCE.

A Stylish Double Residence.

THE elevation shown, and the accompanying plans on opposite page, are well worth the study of those who seek for an attractive, stylish house, having all the modern improvements.

The unique and imposing character of the exterior is aptly illustrated by the illustration. The materials are brown stone, over burnt brick and terra cotta, harmoniously combined. The stoops and vestibules are paved with mosaic, and the side walls of the latter tiled to the ceiling. Broad piazzas run the entire width of the rear at the first and second stories.

The interiors are spacious and home-like in appearance. The doors, trimmings, floors, and all the wood-work on the first story are intended to be of antique American oak, enriched with teak-wood carvings. The woods to be employed in the upper stories are ash, cherry, white and yellow pine, with cabinet finish throughout. All the floors to be double and polished.

Original designs in old copper are to be used for interior hardware. All the fire-places and wash-stands are to be handsomely tiled. Especial care to be taken with the plumbing. Among the many features which can merely be mentioned are duplex furnaces, French ranges, porcelain washtubs, large ice closets, electric bells, speaking-tubes, and burglar alarms.

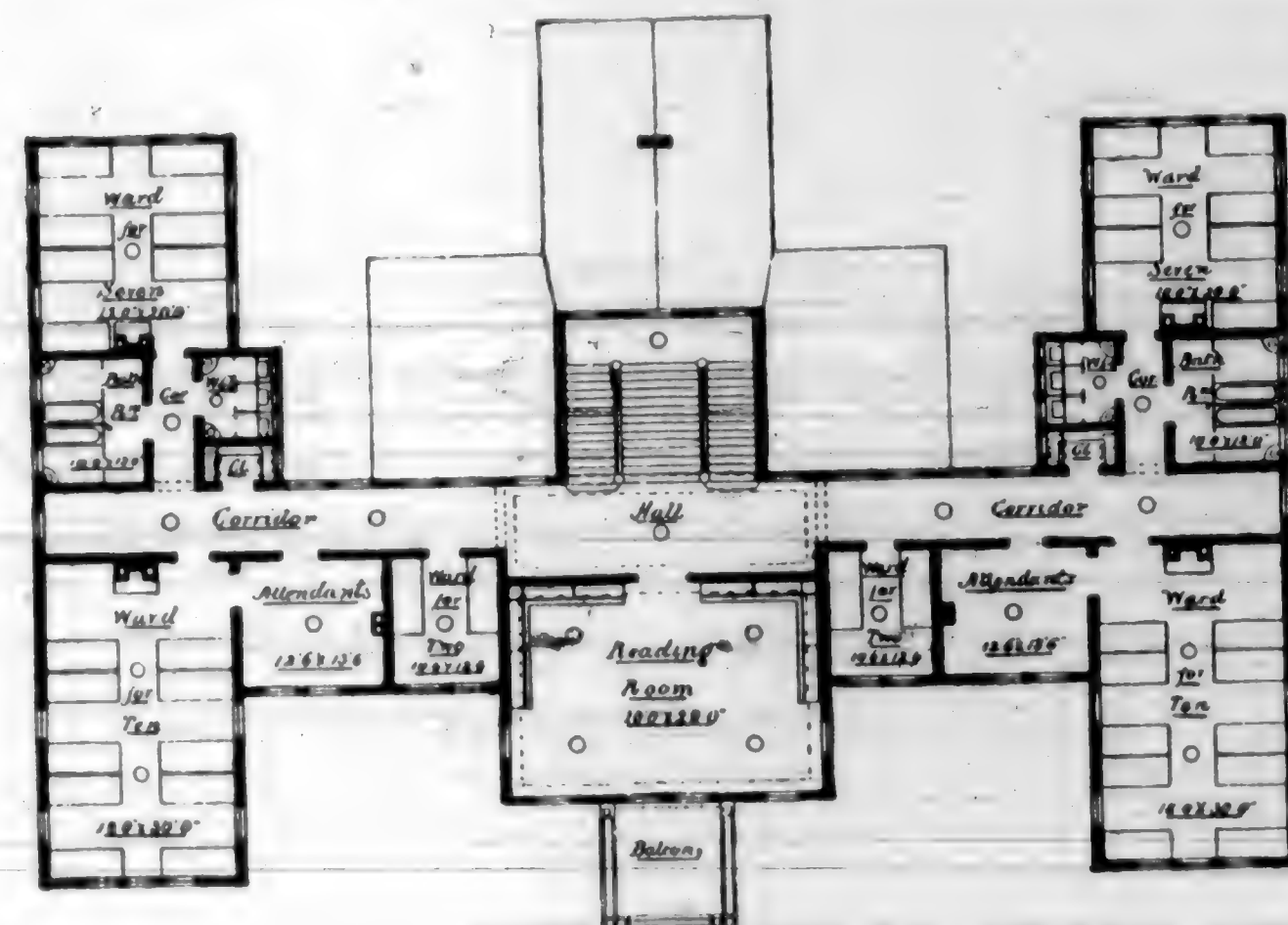
W. C. Taylor, architect, is the designer of the building. We are indebted to J. P. Hayward, of the Real Estate Bulletin, for the use of all cuts in connection with this article.

Introduction of Oil Painting.

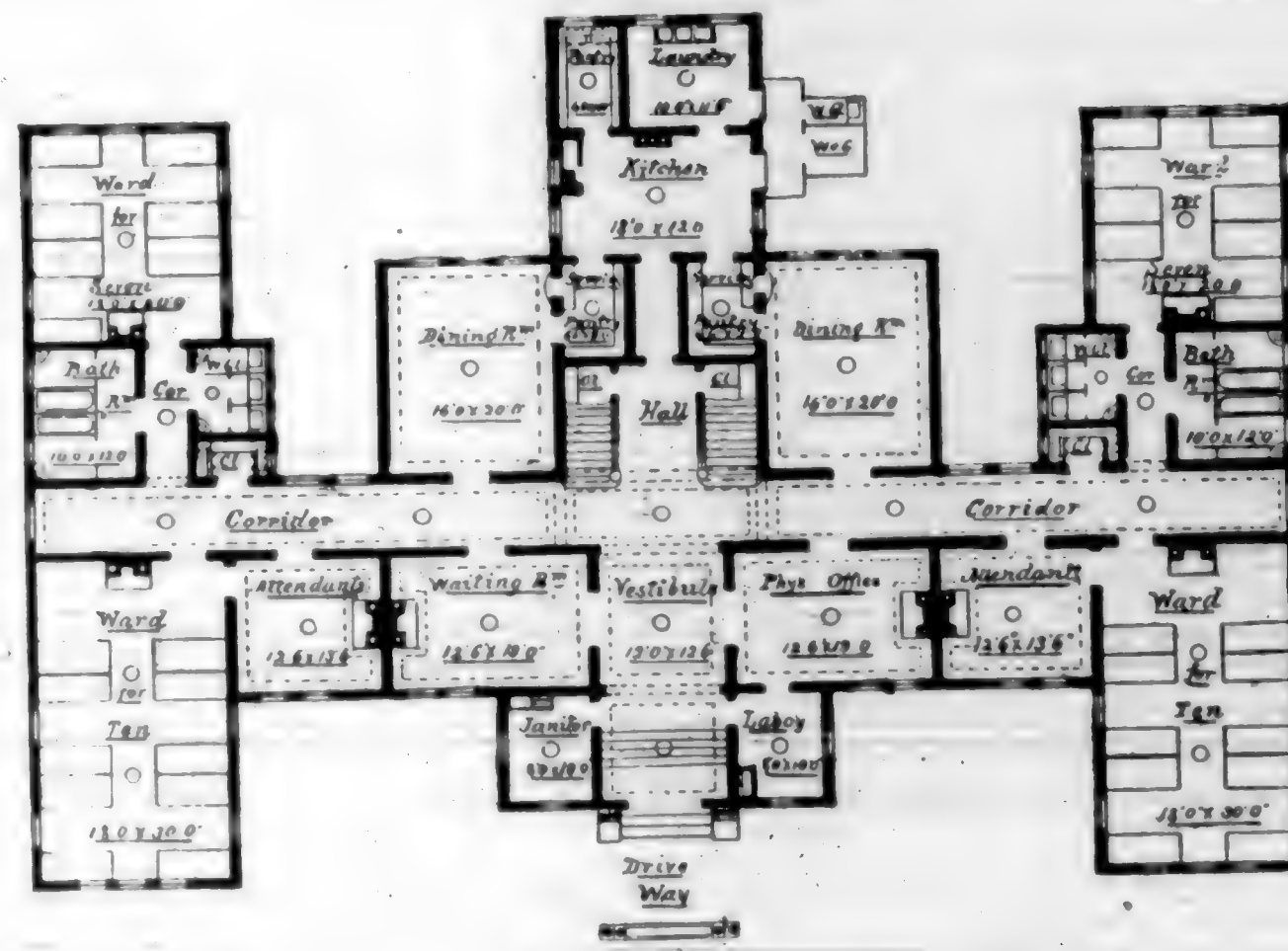
FOLLOWING is a translated extract from the Italian work of Vasari as to the introduction of oil painting: It happened that John of Bruges, pursuing the art in Flanders, and much esteemed in those parts for his great skill, set himself to try different colors; and being a man who delighted in alchemy,

he labored much in the preparation of various oils for varnishes and other things. Now it happened upon a time that after having given extreme labor to the completion of a certain picture, and with great diligence brought it to a successful issue, he gave it the varnish and set it to dry in the sun, as is the custom. But whether the heat was too violent, or that the wood was badly joined or insufficiently seasoned, the picture gave way at the joinings, opening in a very deplorable manner. Thereupon John, perceiving the mischief done his work, determined to proceed in future so that the same thing should never injure his work in like manner. And as he was embarrassed both by his varnishes and by the process of tempera painting, he turned his thoughts to the discovery of some material that would dry in the shadow, to the end that he need not expose his pictures to the heat of the sun. Accordingly, having made many experiments on substances pure and mixed, he finally discovered that linseed oil and oil of nuts dried more readily than any others of all he had tried. Having boiled these oils, therefore, with other mixtures, he thus obtained the medium which he, or rather all the other painters in the world, had so long desired.

He made experiments with many other substances, but finally decided that mixing the colors with these oils gave a degree of firmness to the work, which not only secured it against all injury from water when once dried, but also imparted so much life to the colors that they exhibited a sufficient luster in themselves without aid of varnish; and what appeared more extraordinary to him than all beside was that the colors so treated were much more easily united and blended than when a tempera. Rejoicing greatly over this invention, as it was reasonable he should do, John then commenced a multitude of paintings with which he filled all those parts, to the great delight of all who beheld them, as well as with very large gain to himself, his experience increasing from day to day, and his pictures constantly attaining to a higher degree of perfection.—Painters' Magazine.



Second Floor Plan



First Floor Plan

David Salfeld
Architect

PLAN OF COUNTY HOSPITAL

Is It a Curse?

IN 1840, says the *Age of Steel*, when there was no wood-working machinery worth mentioning in use, one person out of every thousand was a cabinet-maker or upholsterer. In the ten years following, wood-working machinery came largely into use. Now, if machinery is a curse to the mechanic, it must be because it deprives him of work or reduces his wages. But neither of these conditions followed the introduction of machinery; on the contrary, in 1850, in a population of 23,191,000, there were 23,522 furniture-makers, or one to every 985 people; and annual earnings had advanced 20 per cent. In 1860 the proportion of furniture-makers to population was the same as in 1850, but during the ten years wages had advanced so that whereas the mechanic (averaging all classes, including children) in 1850 earned \$298 per year, in 1860 he was earning \$327. Bringing the comparison down to the year 1882, the number of operatives had increased to one in 657 of population, and the average annual earnings of each operative had increased to \$434.70. Of food products, a dollar will purchase as much now as it would in 1850, and a very much greater quantity of manufactured products; so the difference in annual earnings between 1840 and the present, considered relatively to its value—that is, its purchasing power—is enormous. It therefore appears that, as the use of machines has multiplied, the demand for operatives in the furniture industries has increased, and the annual wages have also increased about three-fourths.

Security Against Thieves and Tramps.

THE Folding Gate and Guard Company are offering to the public a device for securing the entrance to their stores and dwellings, which should receive universal, public attention and favor. It is neat in design and general appearance, practical and safe in construction and application, and convenient for all the purposes for which it is intended.

Folding, as it does, into small compass, and being at all times accessible, it is preferable to those cumbersome appliances which require much handling and stowing away at the opening and closing of places of business, and affords perfect security against burglars and desperadoes, not of the most daring and aggressive class. In dwellings and places provided with this safe-guard, any door may be left wide open, and a full current of ventilation obtained, without danger of ingress by miscreants. They are worthy of the attention of every occupant of either store or dwelling, being alike applicable in all cases.

A GIANT MONOPOLY.

A Lumbermen's Organization on a Large Scale.

A Proposed Plan Which Will Give Control of the Trade in Redwood to a Syndicate, and Insure Immense Profits.

THE redwoods of the Pacific are the only ones of that lumber on the face of the globe. Their area is 4,125 square miles. Government experts give the average feet of lumber to the acre at 50,000; practical lumbermen make it 100,000 feet. Some places, such as Eel River Valley, give half a million feet per acre. The total quantity is about 264,000,000,000 feet. Most of the land bearing this vast and valuable source of wealth is already in the hands of private capitalists, i. e., the millmen, who have been quietly obtaining titles to large tracts. They at any rate control the avenues of approach to the redwoods, and may be considered masters of the situation. That such they consider themselves is evident, for within the past few days they have arranged so as to control the production, price and export trade in one of the most valuable lumber products of the world. The redwood is practically indestructible compared with other woods; does not take fire as readily, and can be polished till it looks to the eye like colored marble.

For a short time past all the leading redwood magnates of the coast have been in the city perfecting their organization. The proposed plan contemplates a depot on the other side of the bay, probably near Vallejo, where this lumber will be stored and dried. Here all cargoes will, it is said, come; hence it will be distributed throughout the interior, sold in the city, shipped East by railroad and exported abroad. What is intended for the lower coast will not, however, come here, but will be shipped direct. The plans are all perfected. The only thing that troubles the lumber magnates is that the provisions of the interstate commerce law will advance the rates on shipment East. The quantity to be handled here will be from one hundred to one hundred and twenty million feet a year.

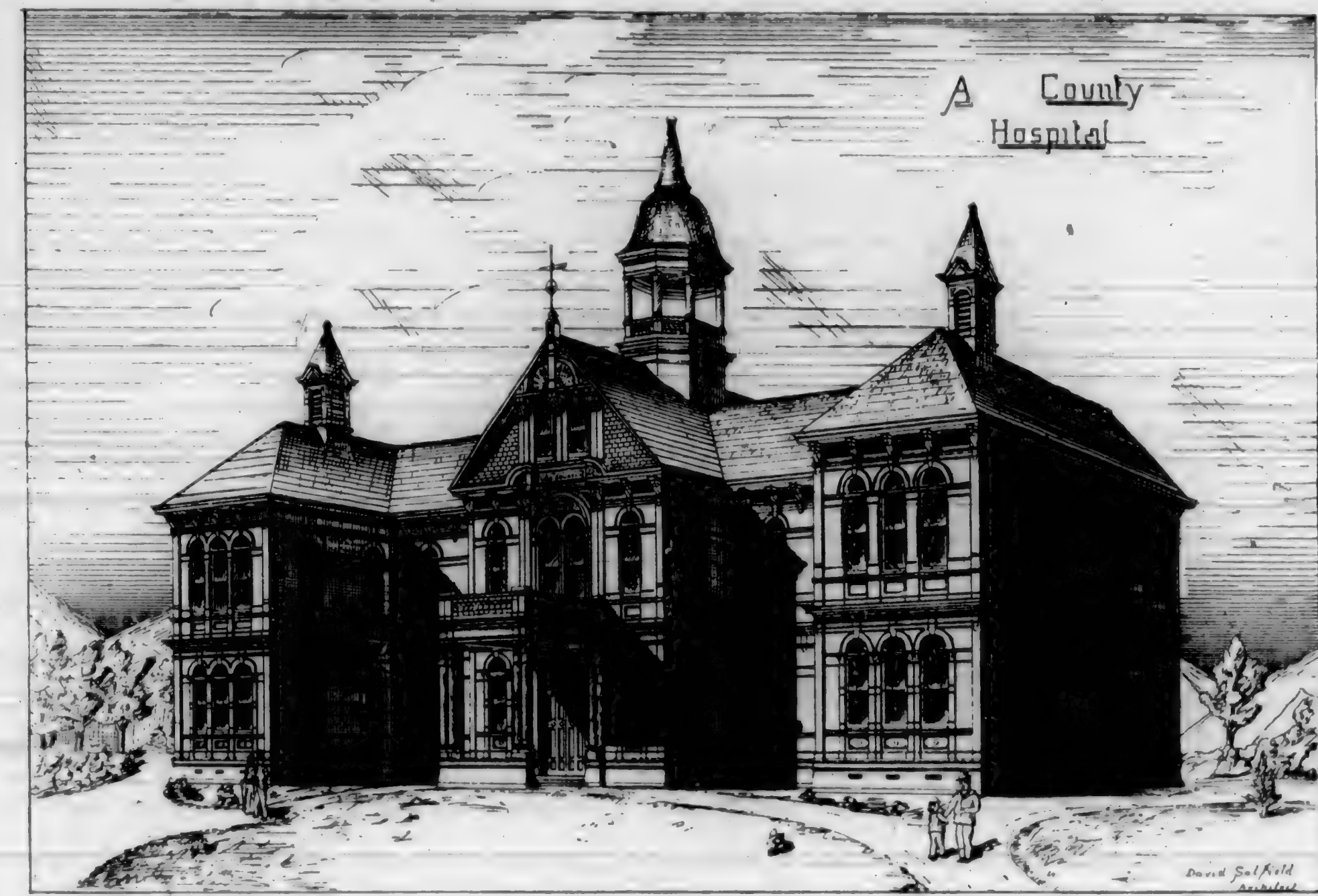
This, however, does not give a proper idea of the value of the trade, and of the importance of the step taken. The total cut of redwood in 1887 was 228,769,251 feet, worth in San Francisco \$5,000,000—reckoned at \$20 per thousand for rough redwood. The price was advanced in 1886 \$3.00 per thousand. It may be estimated that one-third of the \$5,000,000 is profit. Another advance of \$3.00 would add the modest little sum of say \$750,000 in 1887 to the millmen's profits. This will be a great year for building all over the State, and the parties in this little combination can, if they make the advance, pocket a profit of say a million and a half dollars.

Scratching Matches on Paint.

A CORRESPONDENT speaking of the defacement of paint by inadvertent scratching of matches, says that he has observed that when one mark has been made others follow rapidly. To effectually prevent this, rub the spot with flannel saturated with any liquid vaseline. "After that people may strike their matches there as much as they like, they will neither get a light nor injure the paint," and, most singular, the petroleum causes the existing mark to soon disappear, at least when it occurs on dark paint.

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DESIGN FOR A COUNTY HOSPITAL BUILDING.—D. Salfeld, Architect.

Some Facts about Saws.

CUTTING-OFF saws are the subject of much abuse, from the fact that the work required of them generally is not as fine as of splitting saws. It is not necessary that slabs be cut square or smooth; so the saw is not filed or set as regularly as board-saws. Further, there is not near the care bestowed on them that they should have. They are wrenched, twisted, and broken by the cheapest help that is employed about the mill.

Small and fine cutting-off saws for trimming finish lumber are better cared for; indeed, it is a necessity that they should be, to do the work so it will pass. Nevertheless, I wager that nine out of ten take double the power to drive them that is necessary, and one-half are so filed and set that the work is not smoothly done.

A saw, the teeth of which pitch both sides of the eye alike and set very little, may cut or wear away the lumber quite smooth, but at the expense of power and time.

The class of saws run by power, known as drag or butting saws, come in for an equal amount of abuse. The same may be said of "cross-cut" saws, for cutting mill logs and felling trees. Still further, that saw which is recommended as a cure for dyspeptics—the "buck-saw"—is most generally in a condition to induce the disease instead of curing it.

The carpenter's saw is mostly in better hands; for a carpenter is a mechanic, and comprehends the conservation of forces enough to know that a saw nicely filed and set takes less muscle and does the work more to his liking than the one that is badly filed and set. This class of saws is in good hands enough, so I shall say but little about them.

The principles of speed, tension, and causes of breakage from sharp corners filed at the bottom of the tooth, hold good in circular cut-off saws the same as in circular splitting saws. But it is much more difficult to avoid a sharp corner in this class; so I suppose they will have to take the chances for a while yet. But there are other causes of breakage, and a remedy. Of this I shall speak.

Experience and experiment have demonstrated that the best form of cut-off teeth is on the principle of the dado head, that is, cutters and clearers. The saw that has one tooth to every inch of circumference should have four cutters and one clearer. The cutters should have a double shear on the back so it is quite pointed, and a shear of five to eight degrees on the front. More than that causes the tooth to spring sidewise and make set, cracking the plate thereby. The clearer should be filed square, that is, at right angles with the plate. No set by bending; the front should pitch back of the center somewhat. The point should be hammered so as to produce a hook. Use a light hammer, inclining the face of the hammer backward, so the top of the hook will clear the circle of the cut. This shortens the tooth and widens

the point. The result of this method is rather shavings instead of sawdust.

The amount of set, of course, is governed by the kind of lumber that is cut. A cedar shingle bolt requires much more set than oak or maple.

The cause of breakage is this: without clearer the core or center tends to spread the shear outward, as it is set pulling in opposite directions. With a clearer the core is cut out as fast as made. It strikes me this method is so reasonable that it needs no further demonstration. It is not original with me, but I do not remember to have seen it in print.

Another cause of breakage of cross-cutting circular saws is the tension. They are not "open" enough. They are invariably hammered straight, that is, even tension throughout, and the edge is strained by labor and speed so that a twist of the cant causes a break. Of course, all things being right, a saw may be broken by too much twisting, but if they are hammered open so they will fall away from the straight edge somewhat on the cross test they will stand a deal of hard usage.

The principle of cutters and clearers holds good in all cut-off saws, except it may be in fine, smooth, and slow work. In this case the saw should be absolutely round and even set, or no set, and a concave saw.

The principle of clearers in drag saws is equally essential for fast work. I have put a drag saw through a twelve-inch frozen beech in six strokes, having every sixth tooth a clearer; the teeth one and one-fourth inches long, slightly hooking, filed double shear, the clearer having the point hammered hooking and one-tenth inch shorter than the cutters.

My attention was first called to this method by a tree-sawyer who was very successful in sawing down oak trees in Massachusetts (where they fairly scrape the ground to save timber). The saw he used was the style of two clearers and four cutters. I noticed the saw-dust in shavings form, sometimes three inches long. I found his method was to hammer the points of the clearers to a nice hook, so it cut instead of scraping.—C. E. G., in *Mechanical News*.

TIN roofs should always be painted on the under side with mineral paint and be laid in single sheets, flat lock.

COMMON brick work will sustain 800 pounds to the square inch before crushing and weighs 112 pounds to a cubic foot.

WHITE paint, white furniture, curtains, white walls, and white woodwork are the latest agony.

IN finishing California redwood the filling should be stained with a little crimson lake.

ASKED, ANSWERED, AND COMMUNICATED.

WE intend to make a specialty of this department of our journal, and, in order to make it thoroughly interesting, we desire the co-operation of all architects, mechanics, etc., whether subscribers or not. In this column there is a great opportunity for comparison of ideas and we hope to receive from those in-ers, questions arising in their daily the solutions given to the various too pleased to receive replies from better solutions for them. If a gen-brought about, great advantages will without bringing up for discussion mechanical, or scientific pursuits, opinions, for or against, of every munication will receive deliberate and careful consideration.



About Miters.

PRACTICALLY it is quite as easy to make a good miter as it is to allow an imperfect one to suffice, and although a little more time may be absorbed in doing so, yet its effect upon the cost of manufacture is not sufficiently great to merit serious consideration.

One point to which we would particularly draw attention is that of making a miter a perfect joint, each piece fitting close to the other at all points, and not simply at the upper edge, or at the edge which meets the eye. Such a miter as this has no strength in itself, and never can be depended upon. It holds itself together because the mouldings or whatever the part mitered may be is firmly fixed, and not because of any strength in the miter itself. The larger the miter, in the case of mouldings especially, the more careful ought the man to be in making the joint quite true in all points, so that when fixed together the miter may be glued and so better enabled to stand and remain intact.

The most important axiom of the cabinet trade—that all the material used in the construction of work must be thoroughly dried and seasoned—holds good in this as in all other branches. If the wood be not quite dry, then the miters will never be as perfect as they should be, for no matter how well they may be made in the first instance, the shrinking and possible warping of the wood, after the first job has stood for some time, overturns all calculations and destroys at once all possibilities of good and perfect workmanship being maintained.

As we have had occasion to mention before, mouldings mitered around pillars, or which are so narrow that their safety, when in prominent positions, is a matter of conjecture, should be strengthened by being grooved to a slight depth, say one-eighth inch, into the rail or pillar upon which they are placed. It entails no further trouble in mitering, and is not very difficult to accomplish if done before the job is put together.

All mouldings that have many internal miters—such as is the case in frames for over-mantels and side-boards etc.—being filled with numerous small panels, should be polished before being fixed into the rabbet. A much cleaner job is thereby insured, and, if carefully fitted afterward, no trouble will be experienced in leveling off the polished surface of the wood.

The latter is the objection usually urged against this mode of procedure, but if properly done, all the leveling might very readily be effected from the under side, thus leaving the polished surface untouched. By this means the miters will be quite free from the collection of polish and filling-in which usually gathers in the corners if the mouldings are polished after the job is completed by the cabinet-maker. Therefore, the plan we recommend should be adopted in every case where possible.

With regard to the proper intersection of all the members of the mouldings that may happen to be under manipulation, we should like to say that unless the miter be a perfectly true one, it is impossible for the intersection to be satisfactory, and will have to be in a manner forced by "cooking" the miter, easing off and paring away until the different members meet each other in a proper manner. We need hardly add that a miter which has been finished off by this carving process will be far from being what it should be, and will never present the neat and clean appearance which is so desirable. We would also like it to be clearly understood that although a perfect miter includes and consists of a perfect joint, yet a perfect joint, however close it may be, is not necessarily a perfect miter. Unless the man works each piece which he may happen to be mitering in the miter-trap, or shoot-

ing board, as the case may be, and gauges and corrects it by means of a bevel set to a true miter—an angle of 45 degrees—he is very apt to make one piece a little longer or a little shorter than its fellow, and although the result may be a perfect fitting joint, yet the probability is that it is not a miter, and will therefore not intersect as well or as neatly as it should do.

The question, as argued by many men, as to whether scribes or miters are the better for cabinet work is not one that can be settled off-hand. Both are very good, equally so we might say, in their way, and if thoughtfully introduced the scribe will prove itself a very valuable substitute for the miter. In making a scribe we should advise the workman to make its shoulder cut inwards from the point of contact, so that it becomes rather thin on the edge. By this means, when the joint is not as close as might be wished, the application of a clamp would very easily draw it up.—*Builder and Woodworker.*

THE GARLAND TRAP.

IT is a sure seal or safeguard against sewer gas. All danger from evaporation or syphonage overcome. It prevents back water. Should all the water evaporate out, it is still a shut-off against sewer gas. It has an opening at the bottom and top to remove any obstruction.



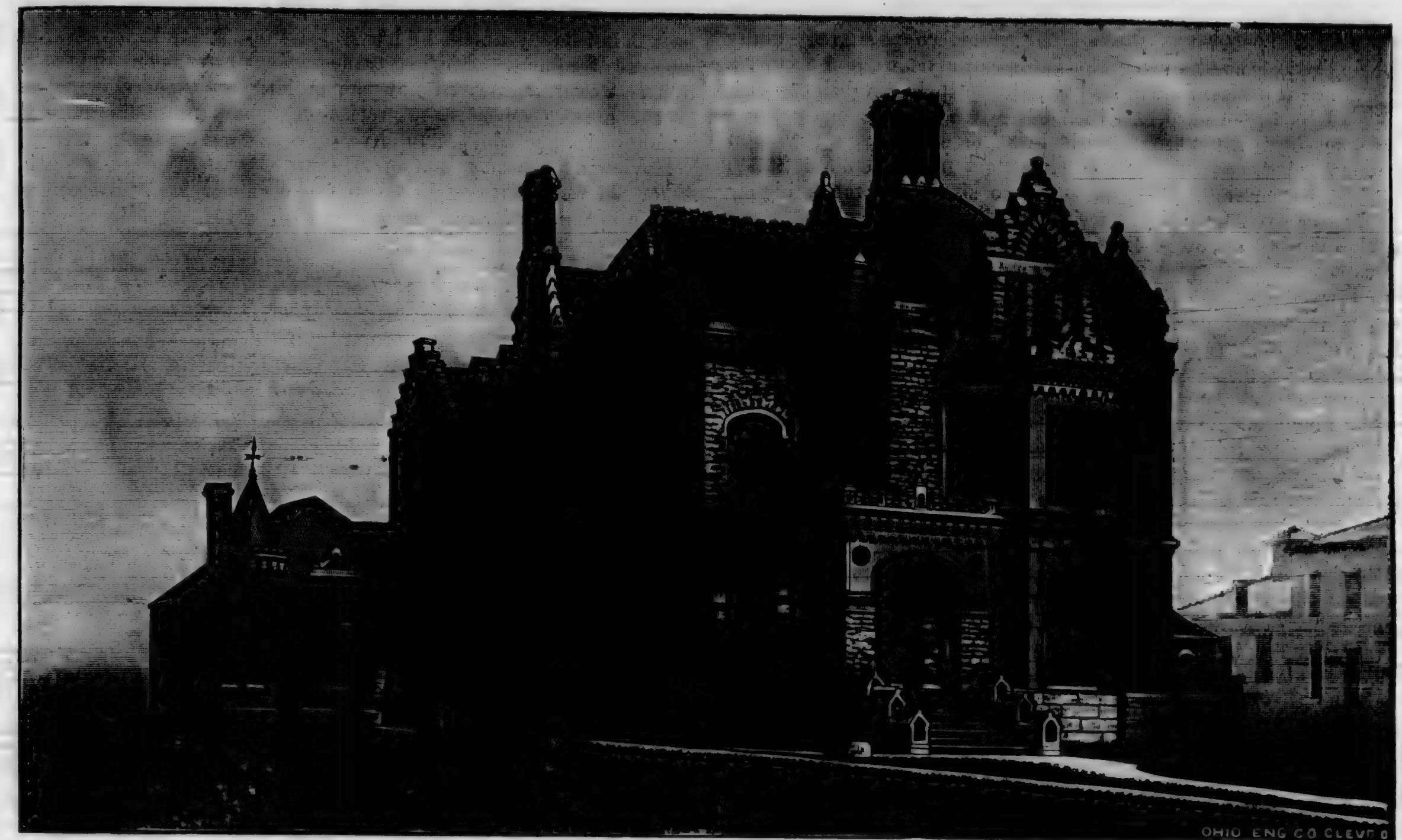
The loaded ball valve F, is slightly heavier than water; it floats up and around the chamber while the water is flowing out, afterwards falling gently into its seat, thereby forming a shut off against the induction of sewer gas or back water.

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

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

Value of Pictures in Rooms.

A ROOM without pictures is as barren as a room without windows; each shed light and cheerfulness on surrounding objects. Nothing, we think, is more melancholy, particularly to a person who has to pass much time in his room, than blank walls; for pictures are loop-holes of escape to his soul, leading it to other scenes and other spheres. It is such an inexpressible relief to a person engaged in writing, or even reading, on looking up, to find his soul escaping, as it were, through the frame of an exquisite picture, to other beautiful and perhaps idyllic scenes, where the fancy for a moment may revel, refreshed and delighted.—*Sel.*



DESIGN FOR A BUILDING TO BE BUILT OF CLEVELAND STONE.

Tin Roofing Plates.

IF the foundation of a building is paramount in construction, as doubtless it is, the roof which is to protect the whole edifice is only second in importance. The qualities of tin as a roofing material rank high, as may be amply proved by the great popularity it has attained during the past few years. Convenient in application, durable, and very economical, it has gained in favor and is now employed to a far greater extent than any other material throughout the country.

Of late, tin roofing has been severely attacked on all sides. With the competition of these days and the consequent reduction in the price of roofing in this description, much of the material has been of far inferior quality to that produced in former years. With the lowering of price, we get a corresponding reduction in the quality of the material, so that at the present time the market is stocked with tin plates, many of them of so inferior a quality as to be wholly unfit for their purpose.

Under these circumstances, it is a pleasure to refer to the plates of Messrs. Merchant & Co., of No. 525 Arch Street, Philadelphia, who have also offices at New York and Chicago. This well-known house issued the first quality of plates in the market, under the name of "The Gilbertson Old Method." They are of far greater weight than usual, averaging 120 pounds for each box of 14x20, and have an extra thick coat of uniformly good quality. To prevent fraud, and guarantee that the purchaser shall get what he is paying for, each sheet is stamped with the name and thickness of the metal, and thus the owner and architect have insured the proper performance of the contract by the builder, in this important respect at least.

We have not space here to show the material gain from a pecuniary point of view, effected by the use of a good quality of roofing, but that it is the truest economy in the end there can be no doubt.

The house of Merchant & Co. has long been identified with the best quality of tin plates, and no better proof could be had of the justice of this than the fact that their goods were chosen, after undergoing the most thorough and severe tests, for the White House at Washington, and this at a price higher than that of their competitors.

We have had enough of bad roofs and more than sufficient of the grumbling of builders, owners, and architects at the poor quality of tin plates. Let them use the goods of Messrs. Merchant & Co., and see that they are properly laid, and there will be no further cause for either the one or the other.

Tay & Co. are the authorized agents in San Francisco for the brand of tin mentioned.

A New Work—"Architectural Studies."

WE have before us Parts VI and VII of "Architectural Studies," just issued by William T. Comstock, of New York.

The first of these is devoted to small and low-priced country houses, giving among them a number of designs that can be executed for \$1,000 or less. One is impressed, in looking over these designs, at seeing how much a little good taste can do for the improvement of houses where only a small sum of money is to be expended. The second of the two, Part VII, is devoted to the interiors of moderate-cost houses, giving a large number of examples of window finish, wainscoting, window-seats, staircases, hall and library finish, book-shelves, china closets, mantels, bath-room fittings, with full working details drawn to large scale, carrying out the idea of good, tasteful, but moderate-cost interior fittings, as Part VI does that of good planning and well proportioned exteriors, the whole scheme being to furnish suggestions for building a good, comfortable home, after a well-thought-out plan and within the limits of a moderate purse. They are published in paper, portfolio, at the cost of \$1.00 each.

PLASTERING and lathing are usually estimated by the square yard. Local customs govern the allowance to be made for opening closets, etc. In some localities it is the custom to deduct all openings, such as windows and doors. In other places half of the openings are deducted, while the custom in still other sections of the country, is to measure on all openings and figure them in. Closets, presses, etc., in one place, would be figured at their actual surface contents, while in other sections of the country the contents of the surface would be doubled. Suppose you desire the number of lath to lay a square yard. The calculation of this is very simple. A standard lath is 1 1/2 inches by 4 feet long, and consequently contains one-half of a square foot. It would, therefore, take 18 lath to lay a square yard of surface if the lath were laid close together. As a rule, however, the lath fall sufficiently short in width to allow for the openings which are left between them. Each bundle should contain 100 lath. As some bundles fall short of this, and as there is more or less waste in cutting, it is necessary to make an allowance, and each lather has a rule for this, resulting from his experience, which varies from 20 to 22 lath to a square yard.

An inch of well-haired mortar between floors will be found to effectually deafen them against sound.

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

Carpenters Here and Abroad.

THE carpenters of the United States enjoy a great many privileges unknown to the European artisans, and occupy a social position much higher than do their English cousins. It is a poor carpenter in America who cannot make three dollars a day, while abroad finished workmen hardly get that sum a week. A comparison of the carpenters of the United States and the carpenters of London, serves to show how much higher in the social scale are the American workmen.

There are about 20,000 men in London who make their living as carpenters and joiners. Of these, nearly 5,000 are inexperienced workmen, and are not allowed to belong to the various trades organizations, toward which the spirit is very strong. There are two large trade societies in London. The Amalgamated Society of Carpenters and Joiners is the larger, and at present is composed of 3,000 members in London, and 26,000 in other places in the kingdom. Next is the General Union of Carpenters and Joiners. This Union has 1,000 members in London, and about 6,000 throughout the kingdom. Thus, it will be seen, that only about one-third of the workmen are trade-unionists, partly because the Unions are for insurance as well as for trade purposes, so that age and other restrictions keep out many who are in sympathy with the Union. Expert carpenters in London do not get half the wages of American carpenters. There are few carpenters here who will work for less than 30 cents an hour; there are equally few in London who get more than 18 cents an hour.

The regulation hours and pay—that is, 52½ hours a week at 9d. an hour—are quite generally enforced all through London, although some few firms get more and give less. Uniform pay has brought out another class of carpenters who are not benefited by the uniformity. These are the unskilled workmen, who are paid all the way from 3½d. to 7½d. an hour. There are very few apprentices in London, as neither masters nor men like to be bothered by having them around. This system has not yet forced the importation of German skilled mechanics, which importation must in time necessarily follow, as it has in other trades in which apprentices have been done away with.

The social condition of most London carpenters is deplorable. Few have any means at all of comfort or enjoyment, and, more than that, there is a lamentable lack of the necessities of life. They live, ordinarily, in a few rooms, for which the rent averages from \$2 to \$4. Taxes are paid by the landlord. To help out, the children are put to work as soon as old enough, and sometimes as much as \$10 a week is added to the family purse by this means. These families ordinarily breakfast on bread and butter and tea. Dinner depends largely upon the state of the family purse.

In hard times, all money must go for food to keep the man strong and well, so that the wife and children are frequently obliged to make all their meals of the same monotonous diet. The carpenters, when working right along, make about ten dollars a week, but out of this sum must come reductions for the sixteen compulsory holidays that occur during the year; they, however, average about six months of work. Of course, some carpenters save money, and eventually become foremen. Some keep a small store in connection with their trade, and thus accumulate money. On the other hand, some sink into utter wretchedness, thus making the average condition lamentable.

The Parisian carpenters are much more intelligent, and their social condition is much higher than that of the London carpenters. Their number is daily decreasing, owing to the introduction of bronze and metal cornices and other constructions that were made of wood. The tendency is very strong for secret societies. The most important is the fraternity of *Compagnons du Devoir*, or *Compagnons Passant*. The different degrees of the order are designated by the names of animals, such as the wolf or dog.

There are no engagements between the workmen and the bosses. The *patron* can dismiss his workmen at any time he pleases without any notice whatever, and the workman can put his tools on his back and knock off work also at any time without giving notice. However, when the *patron* dismisses the workmen he must pay the latter the entire day's wages for the day of dismissal.

Wood is so dear in France now that a builder can import his doors and sashes from Germany cheaper than they could be made at home. The carpenters live decently, however, and while much below the plane of the American mechanic, he is much above the London workmen.

Probably the best situated workmen as regards work and wages, and the most discontented and distrustful of all, are the German carpenters. Most of them are Socialists, and on elections they vote solidly for the red candidates. As there is considerable building going on in Berlin now, there is plenty of work, and

wages are fair. They live comfortably as a rule, although some of them are in poor circumstances. The average German workman is not happy unless he has at least one strike in a year, and more are frequent. Political trades-unions have been suppressed by the Government, and now the majority of carpenters belong to the great Carpenters' Association, which numbers more in membership, probably, than any other existing trades-union.

Reviewing the situation of all four classes of mechanics, the American workmen are in far better circumstances than any of the European.—*Manufacturer and Builder.*

BUILDING PROPOSALS.

Plans and specifications for the building of the University of Arizona will be received at the office of the Board of Regents, at Tucson, A. T., until Monday, May 2, at 10 A. M.

The design for the buildings must comprise within its scope, plans and specifications to include (under the law) accommodations for the following departments:

1. The department of science, literature and the arts.
2. The department of theory and practice and elementary instruction.
3. The department of agriculture.
4. The normal department.
5. The department of mineralogy and school of mines.

The Regents desire plans and specifications, which will provide for all these departments, and which will constitute a complete university, modeled upon the most approved methods, comprising in architectural design all the latest improvements in mechanical skill that will add to the comfort and convenience of pupils and the advantage for proper training.

It is the intention of the Board of Regents to inaugurate this enterprise by the erection of a single building or portion of a building at present, as the funds now on hand are only sufficient for that purpose. They desire that this first building shall serve as a model for all the others to be erected.

It is the intention to devote the funds now on hand for the establishment of a school of mines and when the plans and specifications have all been received and a selection made, it will then be determined which of the buildings included in said plans and specifications will be the most suitable for the department of mineralogy and school of mines, and the work of constructing this building will then begin.

All the buildings are to be of stone or brick, and to be built upon a plan most suitable for this climate, and with a view to their substantial and permanent character. The Regents desire to call special attention of architects to the necessity of providing means for the greatest shade around the buildings to protect the occupants from the great heat and light consequent upon the hot, dry summers of Arizona. They should be erected upon a plan which will admit of their future enlargement without destroying their architectural beauty and design.

The amount to be used for the building now under consideration cannot exceed the sum of twenty thousand dollars (\$20,000).

The amount of \$500 will be paid for the design accepted by the Board, reserving to itself the right to reject any or all plans and specifications submitted.

CHARLES M. STRAUSS,

Secretary.

A CLOTHES chute or small dumb waiter from the second story to the laundry are a great convenience.

By wrapping plumbing pipes with heavy felt paper they will be protected from frost.

CONTRACTORS, ATTENTION!

For \$5.00 we will insert your business card for one year, and send you this Journal free.



COUNTRY

BUILDING INTELLIGENCE

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

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

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

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

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

Alameda.

A cottage is being built on the corner of Park Street and Blanding Avenue.

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

J. H. Young will shortly commence the erection of three cottages on Clinton Avenue, corner Oak Street.

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

Fred Brammam is about to build a cottage on Buena Vista Avenue.

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

A. H. Peterson will erect a large residence on corner of Santa Clara Avenue and Mozart Street.

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

R. E. Combs will also erect a building.

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

The First Presbyterian Church is to be moved to another part of the town and extensive improvements added. Proposals are invited for the same.

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

Paul Bunker is to build a \$4,000 residence on San Antonio Avenue.

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

The brick has been purchased for the new Thompson Block, to be erected at the corner of Park Street and Central Avenue. The structure is expected to cost at least \$60,000, and will be the finest building in the city. Wm. Patton is the architect.

Shavings and Sawdust, for \$1.50.
American Cottage Building, for \$3.50.

Two-story frame. Owner, E. M. Battles; contractor, J. Bernard; architect, Smith. Cost, \$1,800.

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

Central Avenue. Two-story frame. Owner, J. E. Youngberg; architect, G. A. Bordwell; contractor, S. J. Shelper. Cost, \$3,000.

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

Baumont.

A \$25,000 hotel is to be built at this place. Formerly this town was known as San Geronio.

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

Berkeley.

Two-story frame. Owner, S. Perkins; architect, C. Day; contractor, J. Spencer. Cost, \$4,000.

Album of Mantels, for \$8.00.
Architects' Companion, for \$2.50.

East Riverside.

It is the intention to erect a \$10,000 hotel at this place.

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

Fresno.

Joseph Spinney will erect a dwelling.

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

We understand Hon. J. M. Shannon will shortly commence the erection of an elegant residence.

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

D. E. Nichols will erect a two-story brick building.

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

Goldstream, B. C.

James Phair will erect an \$8,000 hotel building.

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

Gridley.

Active measures are being taken towards the erection of a \$20,000 hotel.

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

Helena, Mont.

A \$60,000 club building is proposed.

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

Healdsburg.

John A. Paxton, it is said, will erect a winery.

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

Kingsburg.

The following parties have signified their intention to build as soon as spring has fairly begun. J. R. Allison, A. A. Smith, E. Winslow, Landrum Smith, O. Warner, Wm. Peakes, J. H. Busikist, Wm. Weymeier and J. P. Clark.

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

Los Angeles.

Whitter, Fuller & Co., of San Francisco, propose to erect a large brick building.

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

Monterey.

Material is being handled to replace the fine hotel building lately destroyed. It is calculated that it will take \$500,000 to erect the new building.

Cutting Tools, for \$1.50.
Home Hand-Book, for \$10.00.

Napa.

A syndicate is being formed to erect an \$80,000 hotel building.

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

Oakland.

The State has stopped its manufacture of doors, sash and blinds. The principal firms in that business in the city of San Francisco, have combined, and will erect in Oakland, a large manufactory for above named materials.

Artisan, for \$5.00.

Builders' Guide, for \$2.00.

Eleventh Street near Market. Two-story frame. Owner, Mary L. Ginn; architects, Matthews & Son; contractor, Geo. L. Voice. Cost, \$4,000.

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Peralta, near Sixteenth. Two-story frame. Owner, H. B. Fritzchen; architect, M. P. Schetzel; contractor, M. W. Rain. Cost, \$2,500.

Building Superintendence, for \$3.00.

American Cottage Homes, for \$3.00.

West Street, corner Thirteenth. Two-story frame. Owner, M. P. Brown; contractor, Puttiani & Co. Cost, \$3,000.

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

San Pablo Avenue. Two-story frame. Owner, L. Friedman; architect, Chas. Man; contractor, H. McCracken. Cost, \$4,000.

Steel Square Problems, for \$1.00.

Workshop Companion, for 35c.

Fifth Street near Grove. Frame building. Owner, Mrs. A. Downey; architect, Chas. Man; contractor, P. F. Nelson. Cost, \$1,600.

Ontario.

The railroad company intend erecting a fine depot building.

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

Oregon Items.

Among the new buildings of importance now under way in Portland, or to be built this summer, are a three-story brick building on the southeast corner of Front and Morrison for W. S. Ladd, a three-story brick addition to the building on the northeast corner of Front and Morrison by S. G. Reed, a three-story brick building on the southeast corner of Third and Washington by Henry Fatling, a \$11,000 residence on Seventh between Morrison and Alder, six handsome cottages on B between Ninth and Tenth, to cost \$12,000, for Dr. Glisan, and a number of other handsome buildings in various portions of the city.

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

A new flouring mill will soon be erected at Elberton, Washington, near Colfax.

Every Man His Own Mechanic, for \$3.50.

Tredgold's Carpentry, for \$7.50.

Spokane Falls has 5,000 inhabitants, and about 50 buildings are now under way.

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

A force of men is engaged in getting out stone at the quarry near Coos Bay for the jetty works. Work on the harbor improvement will commence about May 1.

Building Superintendence, for \$3.00.

American Cottage Homes, for \$3.00.

A force of men is engaged surveying the route of the Seattle & Bellingham Bay Railroad.

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Contract has been awarded for the delivery of 25,000 piles for the jetty at the mouth of the Coquille River.

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

Shavings and Sawdust, for \$1.50.

Ira F. Powers will build a furniture factory in South Portland.

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

Hoffman & Bates have secured the contract for building the N Street elevated railroad.

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

Sellwood is to have a \$4,000 school-house.

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Mrs. Hewett is erecting a residence.

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

Practical Geometry, for \$1.00.

Pomona.

Near this town, a large hotel is to be built, at a probable cost of \$40,000. Messrs. Park and Oldham, of Pomona, can be written to for particulars.

Artistic Homes, for \$3.50.

Modern House Painting, for \$5.00.

Portland.

A \$35,000 pavilion, in which to hold fairs, etc., is on the tapis.

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

Reno, Nev.

A two-story brick building to be used as a post-office will be commenced shortly. Wm. Thompson is the manager.

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Riverside.

A saw and planing mill is about to be erected by Messrs. Walker and Banta.

Hand Railing and Stair Casing, for \$1.50.

Drawing for Carpenters, for \$1.75.

A new Episcopal church on Tenth Street, will be commenced in a few weeks.

Steel Square Problems, for \$1.00.

Workshop Companion, for 35c.

Important building operations will soon be going on extensively in the center of the city. A fine block is to go up adjoining the St. George Hotel on the north; an additional story is to be put on Frankenheimer & Lightner's store; a new block is talked of adjoining Wilbur & Reynold's dry goods store; Clarence Stewart will remove the Cochrane second-hand store and extend his building over that, two stories high, adding at the same time another story to his present place of business, and G. D. Cunningham proposes to connect his corner block with the building next to the city hall, making the building occupied by Drs. Woodill & Ainsworth two stories high and arching the alley between the two buildings, giving a uniform

appearance from the corner up to the vacant Perrine Block. When C. O. Perrine puts in his four-story block from there to the corner of Orange it will give that side of Eighth a fine, imposing look.

Cutting Tools, for \$2.00.

Cumming's Details, for \$5.00.

Sausalito.

One and one-half story frame. Owner, Mrs. Small; architect, Behnd. \$2,000.

One and one-half story frame. Owner, Mr. Hamlin; architect, Behnd. \$3,000.

San Luis Obispo.

It is understood that arrangements are being perfected for a \$100,000 hotel building.

Grimshaw on Saws, for \$4.00.

Mechanics' Geometry, for \$4.00.

Santa Ana.

Plans preparing for S. H. Fichenal's new building.

Album of Mantels, for \$8.00.

History of Architecture, for \$15.00.

Seattle, W. T.

Mrs. Howard H. Lewis will improve her property on Mill Street by the addition of a two-story brick building.

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

Industrial Drawing for Carpenters, for \$2.00.

Stockton.

A. Wolf will erect a two-story building on the principal business street.

Practical Perspective, for \$5.00.

Drawing for Carpenters, for \$1.75.

Spokane, W. T.

I. T. Benham & Son have secured the contract for a \$12,000 hotel. J. N. Squier is the owner.

Drawing for Stone Masons, for \$1.50.

Building Construction, for \$1.25.

Selma.

A. Barieu is erecting a brick building 90x120 feet, two stories high.

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

H. A. Lemon is putting up a brick building 35x70 feet.

Drawing for Bricklayers, for \$1.50.

Drawing for Cabinet Makers, for \$1.50.

Geo. B. Otis is having materials hauled for a brick building.

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

Kutner, Goldstein & Co. are making preparations to build a brick building.

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Materials are being hauled for the construction of gas and water works.

San Bernardino.

Large swimming baths will be erected.

The railroad company are erecting a round-house with a capacity of twenty-five stalls.

Manual for Furniture Men, for \$1.00.

Common-Sense Church Architecture, for \$1.00.

A machine shop 90x160 will shortly be built.

Artisan, for \$5.00.

Builders' Guide, for \$2.00.

Also a car shop of the same size as above.

Woodward's Farm Homes, for \$1.00.

Woodward's Graperies, for \$1.00.

Sonoma Co.

It is an assured fact that a railroad to connect with the main line, via Petaluma and Napa, will be started very soon. Also a branch line from Santa Rosa to Sebastopol. Lots of supplies of all kinds will be needed for their construction.

South Riverside.

A prominent Minnesota capitalist intends to erect a two-story brick building to contain five stores.

San Jose.

Architect Page has let a contract to Mr. Piggotts for J. L. Reidy. Cost, \$2,500.

At the fair grounds large additions are to be made for the use of racing horses. About \$2,000 will be required.

Building Superintendence, for \$3.00.

American Cottage Homes, for \$3.00.

E. O. Smith is arranging for the erection of a handsome \$6,000 residence on First Street, near the railroad depot.

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

Practical Geometry, for \$1.00.

Capt. J. C. Morrell is having plans prepared for an eight-room dwelling on Fourteenth Street.

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

A site for a fire-proof Hall of Records for Santa Clara County has been selected in San Jose.

San Diego.

A \$15,000 brick building is under advisement for the use of the Grand Army Post, G. A. R.

Seattle, W. T.

J. Morris Haller has commenced excavating, preparatory to the erection of a block of buildings.

SAN FRANCISCO BUILDING NEWS.**A**

Ash Avenue, cor. Buchanan. Alterations.

O.—L. Junker.

A.—Salfeld & Kohlberg.

C.—F. Weinehl.

\$1,300.

B

Bush, near Broderick. One-story frame.

O.—C. and M. Kerstein.

A.—Townsend & Co.

C.—J. J. Dunn.

\$1,500.

C

Bryant, nr. Main. One-story frame.

\$600.

D

Broadway cor. Montgomery Ave. Repairs.

\$500.

E

Castro cor. Twenty-fourth. Two-story frame.

O.—J. B. Mahoney.

A.—T. J. Welsh.

C.—J. McNery.

\$7,000.

F

California, cor. Jones. Two-story, basement and attic, frame.

O.—Chas. Crocker.

A.—Curtlett & Cuthbertson.

Mason—O. E. Brady.

\$40,000.

G

California, bet. Octavia and Laguna. Two-story frame.

O.—S. Foorman.

A.—Chas. Geddes.

C.—A. Jackson.

\$2,700.

H

Chesley, nr. Harrison. Alterations.

O.—B. O. Malley.

A.—Townsend & Co.

C.—J. O'Connor.

\$900.

I

Clementina, nr. Ninth. Two-story frame.

A.—J. J. Clark.

C.—C. E. Dunshee.

\$3,500.

J

Cliff House. Four-story frame.

O.—A. Sutro.

A.—Behnd (Phelan Block).

Day work.

\$30,000.

K

Cortland Avenue, corner Wool.

One-story frame; two-story barn.

O.—J. G. Fair.

C.—Treadwell & Thompson.

\$6,000.

L

Dolores, nr. Twenty-ninth. Two-story frame.

O.—Weissenduck.

C.—R. Bergfeld.

\$3,000.

M

Dolores, near Eighteenth. Two-story frame.

O.—McKenna.

\$3,000.

N

Eddy, nr. Taylor. Four-story brick.

O.—M. Rosenbaum.

A.—Salfeld & Kohlberg.

C.—T. Day.

\$75,000.

O

Eureka, nr. Eighteenth. One-story frame.

O.—F. H. Weiniger.

A.—M. P. Schetzel.

C.—W. Kain.

\$1,200.

P

Eddy, No. 1128. Two-story frame.

O.—A. Marks.

A.—P. R. Schmidt.

C.—H. Keenan.

\$7,000.

Q

Fifth, near Mission. Additions.

O.—Mrs. M. Meyer.

C.—W. Zehfuss.

\$750.

R

Fifth, near Brannan. Two-story frame.

O.—J. Baumberger.

C.—Frighthouse.

\$2,200.

S

Fifth, near Brannan. Two-story frame.

O.—Teustemacher.

\$1,500.

T

Folsom, bet. Fourth and Fifth. Additions.

O.—Mrs. A. Brand.

A.—H. Geiffuss.

C.—E. Klatt.

\$7,000.

U

Folsom, bet. Fourth and Fifth. Concrete foundations for three-story brick.

O.—A. Field.

M	
Market , nr. Sixth. Preparatory work.	Pacific , bet. Gough and Octavia. Two two-story frames.
O.—E. J. Baldwin.	O.—Mrs. R. Greenbaum.
A.—A. A. Bennett.	A.—Keintzer.
C.—R. Ringrose.	C.—C. Chisholm.
\$4,500.	\$7,500.
Mission , near Nineteenth. Two-story frame.	Park Avenue , nr. Harrison. Three one-story frames.
\$2,500.	O.—Goldstine.
Minna , bet. Tenth and Eleventh. Two-story frame.	A.—P. R. Schmidt.
O.—P. Brady.	C.—H. Keenan.
A.—T. J. Welsh.	\$5,000.
C.—A. McDonald.	Park Avenue . Same as above.
\$2,800.	Additions.
McAllister , cor. First Avenue. Two-story frame.	\$2,000.
O.—M. O'Brien.	Page , bet. Webster and Fillmore. Two-story frame.
C.—J. Sullivan.	O.—F. D. Black.
\$3,200.	A.—A. J. Barnett.
McAllister , nr. Lyon. Two-story frame.	C.—W. T. Commary.
O.—A. Philpot.	\$7,000.
A.—Townsend & Wyneken.	Pacific , cor. Buchanan. Two-story frame.
C.—J. Irwin.	O.—O. H. Baldwin.
\$3,800.	A.—S. and J. C. Newsom.
Mission , nr. Twenty-eighth. Two-story frame.	Day work.
O.—W. Byranes.	\$18,000.
A.—M. J. Welsh.	Polk , cor. Pine. Additions.
C.—L. Frichette.	O.—S. Foorman.
\$2,250.	A.—C. Geddes.
Mission , bet. Third and Fourth. Four-story brick.	C.—A. Jackson.
O.—D. Kiel.	\$3,000.
A.—Behnd (Phelan Block).	S
Mason—J. Wagner.	Seventeenth , cor. Mission Avenue. Two-story frame.
Carpenter—Houston.	A.—T. J. Welsh.
\$20,000.	C.—J. Blake.
Main , bet. Market and Mission. Three-story and basement, brick.	\$7,000.
O.—R. Thompson.	Steiner , bet. Eddy and Turk. Two-story frame.
A.—W. Patton.	O.—P. McSherry.
C.—R. Smilie.	A.—Schoenstein.
\$43,000.	C.—C. H. Taft.
Mission , nr. Seventh. Additions.	\$2,500.
\$1,500.	Stevenson , bet. Hermann and Ridley. Four two-story frames.
Madison , nr. Harrison. Two-story frame.	O.—L. F. Caldwell.
\$2,200.	C.—M. Brennan.
Morton , near Dupont. Improvements.	\$5,000.
\$500.	T
Montgomery Avenue , cor. Green Street. Repairs.	Tenth , bet. Folsom and Howard. Two-story frame.
O.—Larrimore.	O.—P. McEnroe.
\$3,000.	A.—T. J. Welsh.
N	C.—J. Blake.
Nineteenth , nr. Castro. One-story frame.	\$4,000.
O. and B.—Wilson.	Twenty-fifth , nr. Bartlett. Additions.
\$1,200.	C.—Dunshee.
Ninth , near Howard. Two-story frame.	\$600.
O.—M. McGrath.	V
A.—H. Geiffuss.	Van Ness , cor. Vallejo. Five two-story frames.
C.—J. W. Nelson.	O. and B.—J. Hinkle.
\$5,500.	\$40,000.
O	Vallejo , cor. Laguna. Two-story frame.
Oak , nr. Ashbury. Two-story frame.	O.—W. S. Johnson.
O.—J. W. Reilly.	A.—W. F. Smith.
A.—M. J. Welsh.	C.—F. W. Kern.
C.—A. Klahn.	\$4,500.
\$2,800.	Vallejo , nr. Polk. Five two-story frames.
P	O. and B.—J. Hinkle.
Pine , corner Fillmore. Two-story frame.	\$25,000.
O.—Mrs. W. H. Armstrong.	Valencia , cor. Willow Avenue. Two-story frame.
A.—B. E. Henriksen.	O.—Jos. Moore.
C.—G. G. Gillespie.	A.—C. I. Havens.
\$5,700.	C.—R. Doyle & Son.
Post , corner William. Three-story frame.	\$7,000.
O.—J. Rosenthal.	W
A.—Salfield & Kohlberg.	Washington , cor. Mason. Three-story brick.
C.—J. H. McKay.	O.—Powell Street Railroad.
\$10,500.	Masons—Butlers & McGowan.
	\$28,000.

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LUMBER.

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Rough Pine, merchantable to 40 ft. inclusive.....	\$20 00
" " " 41 to 50 " ".....	21 00
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" " 1x3, 1x4, and 1x6, Fencing, odd lengths.....	19 00
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" " selected.....	24 00
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" " " selected, planed, 1 side.....	27 00
" " " " 2 " average, 40 ft.....	29 50
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" " " " 4 " ".....	34 00
Deck Plank, rough.....	29 50
" " dressed average 35 ft.....	34 00
Pickets, rough, B. M.....	19 00
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" 1 1/2 ft., ".....	4 00
Rough dunnage, delivered, per M.....	20 00
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REDWOOD.

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Rough Redwood, merchantable.....	\$20 00
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" " common surface.....	22 00
" " 1-inch surface.....	28 50
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" " No. 2.....	26 00
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" " " other sizes, No. 1.....	30 00
" " " 7 to 11, No. 1.....	26 00
" " " under 7, No. 1.....	23 00
" " Rustic, No. 1.....	33 00
" " No. 2.....	28 00
" " T & G, beaded, 12 ft. and over, No. 1.....	33 00
" " " other sizes, No. 1.....	33 00
" " " 7 to 11, No. 1.....	26 00
" " " under 7, No. 1.....	23 00
" " Siding, 1 inch.....	23 50
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Shingles, per M.....	2 00
" fancy, per M.....	3 75
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Shakes, split, per M.....	9 00
" sawed ".....	11 00

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No Others Received.

SAN FRANCISCO, CAL., MAY 15, 1887.

The Sewerage of San Francisco.

THE presence of Mr. Waring, a gentleman of national, if not world-wide, reputation as a thorough scientist upon all sewer questions, is a welcome guest in our city, and it is hoped that his extensive experience and knowledge in and of the subject matter, will enable him to suggest remedies for the foul and health-destroying condition of the sewers of San Francisco. That they are such, no one conversant with facts will question. That the lives of thousands, nay, tens of thousands, of human beings in this city, both old and young, have been jeopardized or sacrificed by sewer agencies, is beyond reasonable doubt, and enormous sums of money have been consumed in building those conduits intended to protect life and health, but which only in part perform the purposes for which they were and are so intended.

Mr. Waring will find in the course of his investigations, that nature had provided a site for a city, as far as drainage is concerned, surpassed but by few on earth, with hills and high grounds at its back and center, and abundant surplus material to fill all low places to make perfect the inclines to the bay. He will also find that a grave mistake was made by those who established the grades in the early days of the city, even if the eastern boundaries had been extended no farther than Front Street, which at one time was supposed would be the water front. Had this remained as the limit of extent eastward, then the grade should have been uniform from Kearny Street, which would have added some fifteen feet to the fall from that point. Another mistake was made in fixing base at the low altitude of 6 1/2 feet, as that figure necessarily forces the sewer outlets below the tides, so that at times the waters of the bay form a liquid embankment against the outgo of solid matters, and change of tide had and has to be relied upon to clear the sewers. Had the water front remained a permanent fixture at Front Street, the sewer difficul-

ties would have been less. But when eastward the city front sped its way, several blocks beyond the first intended point, no remedy for level sewers existed, except to raise all the streets and buildings west of Front Street. This not being resorted to, the only thing remaining to be done was to extend the sewer at base level to the outlet.

Mr. Waring will also find this material fact to overcome, viz., a thousand feet of dead-level sewerage at the east front of the city, and much more at the south front to overcome. Again, the present 3x5 feet sewers are at times insufficient to free themselves from the great rush of water passing through them—so much so, that south of Market Street, in places, the water forces its way up through the man-holes and floods the streets. If all this can be met and successfully overcome by Mr. Waring, he will have done a most excellent thing for the city of San Francisco. Until he shall have more fully developed and made public his recommendations, nothing can be said favoring or disapproving his propositions. But we may with confidence expect some very practical and feasible suggestions from him.

Will Present Prosperities Continue.

QUESTIONS as to the permanency of the great and wide-spread prosperities which have developed throughout the length and breadth of California, and the Pacific States and Territories generally, during the past few, and especially the last three years, lead some to feel that it is too good a condition of things to endure for any great length of time, and timidity and fear begets doubts and misgivings, and these corrode what little of progressive vitality they may possess, rendering inert and dormant energies which, if properly exercised, would bring personal compensation, and at the same time assist in stimulating others to safe ventures and undertakings, which, otherwise, might continue undeveloped for long periods of time.

Nothing so demoralizes the common interest of communities, as the lack of enterprise among the people composing the commonwealth. One sterling, active, wide-awake citizen, with scarce a dollar to his name, is worth more to any city or State than a thousand grasping, hoarding, centralizing, purse-bound, avaricious men, whose idol—god—is accumulated possession and personal wealth. The one as compared with the other, is as the showers and zephyrs of spring to the parching heat of mid-summer, or the chilling blasts of winter's storms. California has been too abundantly cursed with the latter class, and as a consequence the general interests of the State have been held in check, and thousands of possibilities which are at the present time so apparent, have remained unapplied and practically worthless during more than a generation of human life.

Perhaps the time lost was necessary to ripen and mature the present and recent past state of things, and make clear and plain how great and goodly a strip of land lies along the Pacific Coast, as part of the domain of free America. And now that people from all sections of the Union and from foreign countries, as well as ourselves, are made to realize the inherent values and greatness of the Pacific States, why should it be feared that we, as a people, cannot continue advancing and prospering, with never more than the occasional, periodical, temporary death in commercial, producing, manufacturing, and mechanical life, which at times comes to the most favored and prosperous people.

If present prosperities were the result of some uncertain thing, worked up and stimulated by various unreal, spasmodic, speculative games, controlled by combinations with a mere stock and chance prospect, then fears might be justified. But the fact that the present beautiful outlook is the result of permanent investments in lands and business pursuits and productions, and things necessary to human life and happiness, there can be but one conclusion reasonably drawn—that permanent, present, and still greater future prosperities are fully assured, and that those who doubt the stability of present things, do so more from personal, mental, and business deficiencies, than from any indications sustained by good judgment or apparent probabilities.

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