

Building Intelligence.

Building operations still continue brisk, as will be seen by our report. The late rains has put a damper on the erection of buildings in the country, but in our judgment it is only a temporary lull. Mission property is looking up, and next year there will be a larger increase of buildings erected in that part of the city than has been witnessed for many years.

SAN FRANCISCO.

Folsom and Tenth. Nine two-story frame.
O.—Mrs. C. H. Robinson.
A.—Schmidt & Havens.
C.—C. A. Hussey.
\$35,000.

Ninth, cor. Jessie. Five two-story frame.
O.—A. P. Hotelling.
A.—Kenitzer & Baum.
C.—Ed. Farrell.
\$18,000.

Leavenworth, nr Ellis. Two-story frame.
O.—W. Sharon.
A.—Gaynor.
C.—W. M. Fletcher.
\$13,000.

Jackson and Fillmore. Four two-story double frame.
A.—H. C. Macy.
C.—J. J. McCready.
\$18,000.

Eddy and Taylor. 13 two-story frame.
O.—N. Luning.
A.—Schmidt & Havens.
C.—Walker Bros.
\$29,000.

Washington Avenue, nr Howard. Eight two-story frame.
O.—A. P. Hotelling.
A.—Kenitzer & Baum.
C.—Ed. Farrell.
\$12,000.

Pine and Leavenworth. Four two-story frame.
O.—W. Sharon.
A.—Gaynor.
C.—W. M. Fletcher.
\$29,000.

Fillmore, x Jackson and Pacific. Two-story attic and basement frame.
O.—W. A. Johnson.
A.—Smith.
C.—J. Robinson.
\$8,000.

Oak, x Gough and Octavia. Two-story and basement frame.
O.—J. Flaherty.
A.—J. Gosling.
Days' work.
\$4,000.

Waller and Buchanan. One-story attic and basement cottage.
O.—J. Nightingale.
A.—J. Marquis.
C.—T. J. Hamilton.
\$4,500.

Guerrero and Ridley. Two-story frame.
O.—Capt. Rogers.
A.—J. C. Pelton.
C.—W. Clark.
\$5,500.

Filbert, nr Buchanan. Three one-story frame.
O.—Jas. Aitken.
A.—Behrens.
Days' work.
\$2,500.

Larkin, nr Union. Two-story and basement frame.
O.—Mrs. C. Hines.
C.—O. Murphy.
\$3,400.

Oak, nr Octavia. Two-story and basement frame.
O.—G. Puriensky.
A.—Schmidt & Havens.
C.—H. Thom. Wohrden.
\$1,000.

Clay, x Leavenworth and Hyde. Alterations and repairs.
O.—F. Cordes.
A.—Curlett & Eisen.
C.—D. Perry.
\$2,500.

Pine and Jones. Conservatory.
O.—Jas. G. Fair.
A.—Gaynor.
C.—Wilcox.
\$3,000.

Union, x Jones and Leavenworth. Two-story frame.

O.—F. Kapke.
C.—J. P. Hanson.
\$3,100.

O'Farrell, x Powell and Mason. Raising and additions.
O.—Marchand.
C.—G. R. Bowles.
\$4,000.

Ellis, nr Powell. Additions to frame.
O.—Peast.
C.—Rowels.
\$2,140.

Ninth, nr Utah. Additions to Glass Works.
C.—Falconer.
\$600.

Ellis, nr Larkin. Repairs to frame.
O.—B. B. Kennedy.
Days' work.
\$1,110.

Howard, x Twenty-ninth and Thirtieth. Two-story frame.
O.—Buckley.
C.—T. F. Mitchell.
\$3,500.

Twenty-fourth, nr Potrero Avenue. Repairs to frame.
O.—N. O'Leary.
C.—T. F. Mitchell.
\$1,000.

Sixteenth and Nebraska. Buildings for match factory.
O.—Newbauer.
A.—Wolfe & Son.
C.—McIntosh.
About \$1,300.

Baker, nr Sutter. One-story frame.
O.—P. Martin.
Days' work.
\$1,500.

Harrison and Essex. Additions and alterations.
O.—H. Miller.
A.—A. Laver.
C.—C. H. Atkinson.
\$3,000.

Bryant Avenue, and Mariposa. Barns and sheds.
O.—Walker & Lutz.
C.—C. H. Atkinson.
\$4,000.

Essex Street, and Laurel Place. Repairs to brick dwelling.
O.—Captain Nelson.
C.—B. P. Hurlbut.
\$4,000.

Berry, nr Fourth. Repairs to frame.
O.—Cal. Cigar Factory.
Days' work.
\$1,500.

Waller and Buchanan. Alterations.
O.—Protestant Orphan Asylum.
A.—Swain & Cleveland.
C.—A. Flood.
\$15,000.

Clinton Park, nr Market. One-story frame cottage.
O.—J. Hetzel.
C.—G. Sauer.
\$900.

Fourth Street, nr King. Repairs to frame.
O.—A. T. Spotts.
Days' work.
\$1,500.

Laguna, nr Greenwich. One-story frame.
O.—B. R. Brotherton.
\$1,500.

Union, nr Buchanan. One-story frame.
O.—B. & J. W. Cudworth.
\$800.

Sacramento, and Van Ness Avenue. Frame building for church.
O.—First Presbyterian Society.
A.—Wright & Sanders.
C.—Gray & Stover, Carpenters, Waggoner, Mason.
\$25,000.

Twenty-third and Valencia. Four two-story frame.
A.—T. J. Welch.
Days' work.
\$15,000.

First, x Folsom and Harrison. Interior decorations.
O.—P. J. Donahoe.
A.—T. J. Welch.
C.—J. W. Smith.
\$1,460.

McAllister, x Gough and Octavia. Two-story frame flats.
O.—Mrs. McGinney.
A.—T. J. Welch.
C.—J. Doherty.
\$6,725.

Pine and Steiner. Remodeling church.
O.—Dominican Fathers.
A.—T. J. Welch.
C.—J. Blake.
\$2,140.

Geary, nr Polk. Three-story frame.
A.—H. C. Macy.
C.—F. Klatt.
\$6,500.

Sixth, x Folsom and Howard. Alterations to frame.
O.—L. Dumas.
A.—Behrens.
C.—L. D. Frichette.
\$1,500.

Hill Street, nr Valencia. Two-story frame addition.
O.—D. J. Stack.
A.—H. D. Mitchell.
Days' work.
\$1,200.

Sutter, nr Kearny. Alterations and fitting up store.
O.—Chenoweth & Lewis.
A.—E. De Pierre.
C.—Cook & Tronson.
\$7,000.

Hyde, x Clay and Sacramento. Two-story and basement frame.
O.—Mr. Niebaum.
A.—W. Mosser.
C.—A. Pare.
\$7,000.

Ellis, x Laguna and Buchanan. Two-story frame.
O.—T. Metzler.
A.—Schmidt & Havens.
C.—Waterbury & Maxwell.
\$3,500.

Post, x Dupont and Stockton. Four-story and basement brick.
O.—I. Levy.
A.—Schmidt & Havens.
C.—Walker Bros.
\$30,000.

Fell, nr Polk. One-story frame.
O.—Geo. Cumming.
Days' work.

Buchanan, nr California. Two-story frame dwelling.
O.—A. Montpelier.
A.—Schmidt & Havens.
C.—F. Klatt.
\$6,250.

Eddy, x Mason and Taylor. Alterations to frame.
O.—S. N. Locke.
A.—Schmidt & Havens.
C.—Walker Bros.
\$3,600.

Montgomery Avenue, nr Broadway. One-story and basement frame.
O.—H. Waggoner.
C.—Ziegler.
\$3,000.

Greenwich, nr Kearny. Repairs to frame.
O.—Mr. Block.
A.—T. J. Welch.
C.—Kidd.
\$1,000.

Lombard, x Dupont and Kearny. Additions and repairs.
O.—S. Menzies.
C.—O. Chisholm.
\$6,500.

Stockton, nr Chestnut. Two-story frame.
O.—Grimm.
A.—Mooser.
C.—Bonds.
\$2,300.

Chestnut, x Powell and Mason. Repairs to two-story frame.
O.—G. G. Wilkes.
C.—Ziegler.
\$800.

Green, near Montgomery. Two-story and basement frame.
O.—H. Kohler.
Days' work.
\$3,000.

Lombard, x Kearny and Dupont. Repairs to frame.
O.—J. Brownell.
C.—J. P. Hanson.
\$1,000.

Green, near Leavenworth. Two-story and basement frame.
O.—Runyon.
A.—Meeker & Banks.
C.—Gray & Stover.
\$4,000.

California, nr Polk. Frame stable.
O.—Allen & White.
C.—W. B. Keger.
\$2,500.

O'Farrell, near Hyde. Repairs to frame.
O.—Royd.
C.—W. Little.
\$2,500.

Post and Webster. Five two-story and base frame.
O.—L. Tausig.
A.—Schmidt & Havens.
C.—Haskell & White.
\$18,500.

Beale, x Folsom and Harrison. Two-story brick building.
O.—Whittier, Fuller, & Co.
A.—Percy & Hamilton.
C.—W. M. Fletcher.
\$7,600.

Bush, nr Fillmore. Two-story frame.
O.—S. Siegel.
A.—J. Goelling.
C.—T. J. Hamilton.
\$5,500.

Bush, x Scott and Pierce. Repairs to two cottages.
O.—Tausig.
A.—Schmidt & Havens.
C.—Haskell & White.
\$300.

Pine, x Sansome and Montgomery. Five-story and basement brick.
O.—J. G. Fair.
A.—J. P. Gayer.
C.—Bulter & McGown.
Masons, Mahoney Bros. Carpenters.
About \$100,000.

California and Middle St. Two two-story and base frame.
O.—E. H. Miller.
A.—W. P. Moore.
C.—A. Jackson.
\$16,000.

OAKLAND.
San Pablo Avenue Station. One-story cottage.
C.—Herbst.
A.—S. & J. C. Newsom.
\$1,200.

Washington, x Webster and Fillmore. Two-story and base frame.
O.—Mrs. Newgass.
A.—S. & J. C. Newsom.
C.—J. McKay.
\$4,000.

Third Avenue, East Oakland. One-story frame cottage.
O.—E. T. Cooper.
A.—Newsom & Gash.
C.—Haskell & White.
\$3,500.

Adeline, nr Eighteenth. One-story frame cottage.
O.—C. O. Nordhausen.
A.—Newsom & Gash.
C.—Wilkins.
\$3,250.

Central Avenue, and Market. Conservatory, etc.
O.—Hart.
A.—Matthews & Son.
C.—Haskell & White.
\$1,500.

Tenth, x Franklin and Webster. Additions and repairs.
O.—Ice Company.
C.—Haskell & White.
\$15,972.

Watt's Tract. Frame school-house.
O.—City of Oakland.
A.—W. H. Kirke.
C.—R. Smilie.
\$6,500.

Twenty-fourth and Filbert. Additions.
O.—J. Good.

A.—W. J. Cuthbertson.
C.—A. G. Lockhart.
\$500.

BERKELEY.
Walnut and Virginia. One and a half-story frame.
O.—B.—A. H. Broad.
\$1,800.

Elsworth St., One-story frame.
O.—Orlando Smith.
C.—Isaac Hall.
\$1,800.

Bancroft Way. Two-story frame.
O.—H. A. Palmer.
C.—A. H. Broad.
\$3,500.

Atherton St. One and a half-story frame.
O.—B.—G. A. Embury.
\$2,000.

Oxford, cor. Virginia. One-story frame.
O.—Haskell.
C.—Daniel Willis.
\$2,200.

Bancroft Way. Two-story frame.
O.—Congdon.
C.—Schon.
\$2,000.

Elsworth St. One-story frame.
O.—Silas Carl.
C.—Isaac Hall.
\$1,800.

Berkeley Way. One-story frame.
O.—L. B. Clark.
C.—C. R. Lord.
\$1,100.

Choate, cor. Dwight. One-story frame.
O.—Calhoun.
C.—John Spencer.
\$1,200.

North Berkeley Depot. Repairs.
\$400.

Bancroft Way. Repairs.
O.—Mrs. Walcott.
\$2,000.

SACRAMENTO.
Twelfth and K. Two-story frame residence.
O.—F. Elliott.
A.—N. D. Goodell.
\$5,500.

I, x Second and Third. One-story brick building.
O.—M. Graf.
C.—D. Falconer.
\$3,500.

K, x Seventh and Eighth. Improvements and additions.
O.—Eagle Cracker Bakery.
\$5,000.

K, x Tenth and Eleventh. One-story brick building.
O.—Soc. Grangers' Association.
\$4,000.

Front, x R and S. Two-story building.
O.—W. R. Knights.
\$3,200.

MISCELLANEOUS.
Red Bluff, Cor. Oak and Washington. Two-story brick building.
O.—I. O. F.
A.—A. A. Cook.
C.—Swain & Hudson.
\$15,972.

Bricks are being laid for \$12 per M. in the New Odd Fellows Hall Building.
One-story building.
O.—O. A. Lovett.
C.—J. M. Morris.
\$1,995.

Two-story brick building.
O.—W. H. Bahney.
C.—O. P. Fuller.
Cor. Main and Oak. Two-story brick building.
O.—J. Clements.
A.—A. A. Cook.
C.—Swain & Hudson.
\$13,940.

Menlo Park. Additions to frame.
O.—B. Burke.
A.—T. J. Welch.
Days' work.
\$4,000.

Two-story attic brick basement frame dwelling with stable.
O.—John Parrott.
A.—Schmidt & Havens.
C.—C. Chisholm.
\$30,000.

Woodland. One-story cottage.
C.—Dr. L. B. Holmes.
C.—K. Glenn.
\$1,200.

Alameda, Park Avenue, x Alameda and Encinal Avenue. Two one-story frame cottages.
O.—Miss Colley.
C.—Gilbert & Brown.
\$4,400.

Encinal Avenue, nr Walnut. Two-story frame dwelling.
O.—J. Bennet.
Days' work.
\$2,000.

Fremont. Brick building for hotel.
O.—J. A. Blasingame.
C.—C. S. Peck.
\$26,000.

Holtsburg. Two-story frame dwelling.
O.—H. Barnes.
C.—P. Greist.
\$1,200.

Geyersville. Two-story frame dwelling.
O.—Mrs. P. Archambault.
C.—Greist & Favour.
\$4,000.

Large barn nr town.
O.—H. Ellis.
C.—Harris & Winder.
One-story frame.
O.—A. H. Stites.
C.—A. Leigh.

Vacaville. Two-story and attic frame building.
O.—W. W. Smith.
A.—Taylor & Copeland.
C.—Burpee.
\$11,565.

San Jose. Ten miles from town. Two-story frame.
O.—P. Martin.
A.—Theo. Lenzen.
C.—M. D. Green.
\$5,400.

Second, nr San Fernando. Additions and alterations.
O.—Theo. Lenzen.
A.—Theo. Lenzen.
Days' work.
\$4,000.

Buildings at Fair grounds.
C.—Switzer.
\$600.

Cor. Seventh and Santa Clara. One-story cottage.
O.—Rev. A. Calhoun.
C.—W. C. Hamilton.
\$3,000.

Cor. First and El Dorado. Three-story brick building.
O.—Jas. Phelan.
A.—L. Goodrich.
\$32,600.

Rear of Farmers' Union Store. Two-story brick building.
\$4,500.

Monterey Road. Eight miles from town. Two-story frame.
O.—J. H. Lee.
A.—Theo. Lenzen.
C.—J. D. Stewart.
\$3,000.

Sixth, x Santa Clara and San Fernando. Two-story frame.
O.—G. W. Blackford.
A.—Theo. Lenzen.
C.—J. Lenzen.
\$4,000.

The California Architect and Building News.

VOLUME III.
NUMBER 11.

SAN FRANCISCO, NOVEMBER, 1882.

\$2.00 per Annum, in Advance
Single Copies, 20 Cents.The California Architect
— AND —
BUILDING NEWS.Published on the 15th of each month by the
SAN FRANCISCO ARCHITECTURAL PUBLISHING CO.

JAMES E. WOLFE, Editor and Manager.

GEO. H. WOLFE, Business Manager,
Room 11, 240 Montgomery St.

Sent, postage paid, to any part of the U. S., at \$2.00 per annum.

Entered at Post Office as second-class matter.

ADVERTISING RATES.

Outside of front cover, per square, each insertion... \$2 50
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Page following Building Intelligence, per square, each insertion... 1 50
Page preceding reading matter, per square, each insertion... 1 25
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BUILDING.

Either of these journals, in connection with the CALIFORNIA ARCHITECT AND BUILDING NEWS, will be sent to one address for \$2.50 per year.

General Items.

As has been stated in the several issues of this journal during the current year, a large degree of activity has prevailed in building circles since January, 1882, sometimes approximating a boom in proportions and extent. And although there have been few—very few—single improvements of large dimensions and cost—fewer of the expensive kind than were commenced in 1881—the character of buildings erected in 1882 speak well for the prosperity and growth of San Francisco in a three-fold sense; first, the mere fact that a comparatively large number of houses have been built presumes the employment of mechanics and laborers generally, and consequent bettered circumstances and comforts to the working classes of the community, which in itself is a pleasing feature to contemplate; secondly, the improvements being confined mainly to private residences of various cost, some of them being moderately elegant in design, appointments, and comforts, and a good class of tenements in single residences and flats, none of which seem to remain long unoccupied, evidences the increase of population, and the expansion and general growth of the city; and thirdly, all this is being done mainly from the cash resources of owners, with far less resort to mortgages for the purpose of raising the necessary building fund, demonstrates the fact that the financial conditions of the masses are much improved over former years, when perhaps three out of every five cases of building improvements were incurred by mortgages. This view of matters is supported by the following, from Magee's Real Estate Circular:

"The savings banks did a very light business last month. One of the smaller banks—the Humboldt—led off in its loans. It lent \$119,800 on city property. The Hibernia Bank only lent \$81,325, the German Bank, 67,750, and the Savings Union, \$65,150. The Hibernia Bank released \$438,400, but \$300,000 of that sum are to be credited to the release of an old mortgage last month, lately renewed at a lower rate of interest. The German Bank released \$213,375, and the Savings Union \$78,070. All of the banks continue to report a very light demand for money. The low rate of interest of 6 per cent., the banks paying the mortgage tax, tempts few or no persons to speculate. Those who now borrow are doing so to improve property they already own, or to acquire homesteads for actual occupation. There is no speculation or excitement, in short, in any kind of city real-estate, consequently borrowers now are not speculative in any sense of the word. The number of real estate mortgages recorded last month was 145, of the value of \$964,760. There were 161 releases, aggregating \$1,311,783. The real estate loans made by private capitalists were very heavy last month; they lent \$555,735. Mr. Blythe borrowed from John Parrott last month \$375,000, at 6 per cent., on his Market Street property, releasing at the same time an old loan of \$275,000."

There is a great deal of talk as to what is to be done in the near future, and although the statements made may be in excess of the undeveloped facts of the future, still there are movements and transactions on foot which give color to large anticipations; and from all that we know or have been able to learn, we are warranted in predicting continued building prosperity in San Francisco for 1883.

All present appearances indicate an undiminished if not increased demand for both skilled and unskilled labor, with perhaps partial and temporary exceptions during the winter months. And whatever break may occur, will be most felt by the less proficient classes, whose services, as a matter of course, are the first dispensed with. When a lessening of forces becomes necessary, the better men are selected and retained, and the inferior discharged. This fact should inspire every man who is compelled to rely upon his daily earnings for the means of support for himself and family to qualify himself to hold his situation so long as there is work in his line for any one to perform. The abject poverty of some mechanics and laborers is the result of their individual neglects and gross indifference to the important duty of filling well and faithfully a position among the best of their fellow-workmen. Indolence and carelessness have kept multitudes in poverty, who might have bettered their condition by energetic efforts to overcome the disadvantages surrounding them. And those who willfully disregard the common law of life, in matters involving their best interests, richly desire all the evils which they bring upon themselves through their persistent omission or willful neglect to secure to themselves benefits which are within the reach of all who act manfully and wisely in the contests of life.

Some people affect to believe that they derive no benefit from advertising, for the reason that they cannot trace any particular transaction to any particular advertisement. Neither can we attribute the growth of vegetation to any particular drop of rain or ray of sunshine, but it is very evident that without rain or sunshine it would fail to flourish.

Redwood Lumber.

TRUE AND FALSE ESTIMATES CONSIDERED.

The Post-Intelligencer, of Seattle, W. T., has some severe strictures on Prof. Sargent's article, recently published in the North American Review. An extract from the article reads as follows:

"The belt of redwood forest along the California coast has always suffered severely at the hands of the lumbermen, and many of its finest and most accessible trees have already been removed. A large amount of this valuable timber is still standing—less, however, than has generally been supposed; and at the present rate of consumption, the commercial importance of this forest will have disappeared in a few years more."

This the Washington Territory paper calls "the very error of the moon, so to speak." It says:

"In Humboldt County, Cal., the whole area of the redwood forest has been mapped and plotted. There are something like 500,000 acres of that timber in that county alone. Disinterested experts estimate 100,000 feet of lumber per acre as an average, if not a small yield. At eighteen dollars per thousand feet, the redwood of Humboldt County alone would just about pay the present national debt. There are immense untouched bodies of redwood in Del Norte County—to the north of Humboldt—in Mendocino, Sonoma, Marin, and Santa Cruz counties to the south. We do not know what the writer means by a few years. The oldest child begotten by any one of the babes born to-day will not live to see the supply of redwood exhausted on this coast. A statement so wild as the above leaves little room for the reception of what else the writer has to say as trustworthy material upon which to base an opinion as to the extent and value of our forest growths. We will not follow him further in this direction. He evidently is not at home in the woods."

An interesting feature of these comments is the estimate of the amount of redwood standing in Humboldt County. It is placed at 50,000,000,000 feet, while the forestry bulletin of California, prepared under the directions of Prof. Sargent, put it at 25,825,000,000 for the entire State. According to the opinions of practical lumbermen who have traveled through the redwood region, a poor guess would be of more value than the figures issued by government.—Northwestern Lumberman.

PORT TRADE. This last item is destined to be in a few years no small factor in the decimation of our noble forests. Again, no allowance has been made for the millions of feet that are being wasted by fires, and the absolutely wanton destruction of clearing lands for the sake of convenience. We know of one party who actually hired a lot of cheap men to cut down timber from the top of a ridge, simply that the sun might shine a little longer on his clearing. We are inclined to the opinion that while the figures given by the W. T. papers represent the amount of lumber actually to be seen, the amount given by Prof. Sargent is about that which is actually available for future use. One of the problems of the future to be considered is an easy and economical method of getting lumber out of apparently inaccessible places. We shall be pleased to hear from our friends in the redwoods upon this subject.—ED. CAL. ARCHITECT.

Another Attempt to Obtain Plans without Pay.

The accompanying letter explains itself, and serves to illustrate how meanly unfair some well-to-do men can be, and how the architectural profession is undervalued by some people, because of the bantering, huckstering methods pursued by that class of non-competents, calling themselves architects, who enjoy no proper estimate or understanding of the duties and responsibilities of a qualified architect, and who entertain no right conception of the dignity of the profession. It is this class of men in America who have belittled the profession, and in certain spheres created the presumption on the part of so many property owners, that the skill, services, and labors of architects are of but little value, and can be obtained for any consideration that may be offered, even the shadowy honors of being recognized as an architect without merit. Hence some even wealthy men play with the opportunities thus afforded, and put forth invitations for competitions which lack all semblance to fair-mindedness. The letter reads:

SEATTLE, W. T., Sept. 30, 1882.

EDITOR CALIFORNIA ARCHITECT.

Sir: Having read in the current number of your paper an article headed "Another Absurd Competition Proposition," I am induced to forward you in that connection the inclosed scrap, clipped from a Seattle paper, containing a proposition in my opinion even more preposterous than the Brooklyn absurdity, for as you will perceive by the published notice that the gentleman intimates, with a directness and decision as distinct as it is delicate, that it is entirely dependent on his gracious will and pleasure whether or not he ever pays anything to anybody. I am pleased, however, to be able to say that the invitation did not seem quite satisfactory to the profession here generally, for though there are eight advertised architects in Seattle, and perhaps as many more who don't advertise, only two responded to the call.

The building is intended to be a handsome three-story brick and iron corner block, extending some fifty or sixty feet on both streets.

Respectfully,

* * *

NOTICE TO ARCHITECTS.

I will receive plans for the building to be erected on corner of Mill and Front Streets until August 3rd next.

The plan approved and accepted will be paid for, and no other, and all may be rejected at my option.

Particulars at my office. JOHN LEARY.
SEATTLE, July 25th, 1882.

All such absurd and unbusiness-like propositions can only be classed as practical insults, manifesting a disposition on the part of the proposer to obtain a something valuable in itself

and to the party proposing, with no corresponding disposition manifest to return fair recompense for the value obtained. And the common reply of a willingness to pay for such plans as may be approved, is but a subterfuge to cover a wrong act. For in a majority of cases, the real purpose is to find out certain involvements, and to gain desired information without cost.

No just and fair-minded man would be guilty of asking of others the expenditure of time, skill and labor, without a cheerful willingness to propose recompense, or a sense of duty to pay for the services performed at his instigation. It is the brutal-minded who seek to secure and serve their own purposes at the expense of others, without consideration of the rights of others; men who, having gained an advantage in this world's goods, use its power in oppressing and humiliating others less fortunate, with no sentiment of that royal virtue, Be just unto others as well as to thyself.

But so long as the architectural profession is incumbered with parties who consent to crawl, and yield to any and all demands made upon them to ape the architect, while better fitted for the hoe and shovel, or perchance the jack-plane or trowel, it may be expected that there will be others to whistle and laugh at the wagging tails of the canines, who dare not attempt either to bark or bite, even though a kick should accompany the whistling.

One thing is very certain, that no such proposition would be noticed by any architect possessed of fair qualifications, or appreciating the virtues which should characterize those who venture in paths once trod by such men as Michael Angelo, Wren, and thousands more even of these latter years, who placed and place value upon their conceptions, delineations, and services.

If such advertisements as Mr. Leary's read—Wanted. A few incompetent paper spoilers, and boys desiring a little practice in line making and shading, to practice on attempts at plan-making for a building, etc., there would be no offense, for the service of such parties would be equally as valuable as the proposition of Mr. Leary, of Seattle, or the Brooklyn people are honorable and fair.

All such cases as that under notice are arguments why Chapters of architects and architectural societies should be established in all parts of the country, and such rules, regulations, and procedures established as will at least inform owners that qualified architects are not creatures whose services may be obtained without fair and just compensation. An architect's time, skill, and labor are to him as much of value as the knowledge of law or medicine is to those who plead before courts of justice in defense of their clients, or stand by the bed-side of the sick or dying, administering to their relief, when disease or death spreads the shadows of sorrow around fond and loving hearts.

If Mr. Leary wanted a steam boiler and engine or other thing made of special pattern, it would be just as reasonable for him to make known his wants by advertisement or personal application, requesting boiler-makers, for instance, each to make a boiler, and when made, the one accepted by him would be paid for, or, at "his option," all of them might be rejected. Is it likely that any worker in metals or other materials would be such an unmitigated simpleton as to notice the proposition? And would not the reply be, The man is a fool? The analogy is harmonious, for if the iron used in the one case cost more than the paper, office rent, etc., in the other, the time and study required of an architect to qualify for correct plan-making, is a matter of long years of diligent application, and possesses a value, and competent architects so understand the matter, and it were well that all property owners reached the same conclusion.

Science of Carpentry Made Easy, \$5.00.

Logging Interests.

A great storm has prevailed in northwestern California, which has seriously affected logging interests, and reduced the intended output considerably. The Eureka Times states that the damage sustained will mount up into the hundreds of thousands of dollars. In all the camps large crews were at work, and efforts were being made to get down to market before the rains set in, so that a sufficient amount of logs to supply the mills all winter would be at hand. The storm lasted two weeks, and during that time camps were shut down, and it is estimated that the log supply will be 10,000,000 feet short of the amount that would have been put into stream had the weather been more favorable. The mill men and contractors have suffered great loss by reason of heavy expenses during the storm.

"Building."

A new architectural and mechanical paper has made its appearance in the literary world. It is published by W. T. Comstock, the successor of the old architectural publishing firm of Bicknell & Comstock. This fact is sufficient to prove to its readers that nothing will be left undone to place it on an equal footing with the other really good journals published in the same place. In the initial number, the article on perspective will be found of much interest to students and mechanics. Attention is called to the large "ad." in the September and October issues of the "CALIFORNIA ARCHITECT," in which the future designs of the editor are fully set forth. "Building" is published in New York City, and will be sent to any address upon receipt of \$1.00. To those who wish to subscribe for a shorter time, so that they may judge of the merits of the journal, the sum of twenty-five cents in postage stamps will secure a copy for three months. Address W. T. Comstock, 6 Astor Place, New York City. P. O. Station D., or the office of this Journal.

The Sanitary Engineer.

The true spirit of enterprise has characterized the management of our New York contemporary from its commencement, and as a new feature its managers now propose to supply a deficiency created by the refusal of Congress to grant an appropriation to defray the expense of continuing the publication of the Bulletin of the National Board of Health—a valuable source of information, which, extinguished, creates a vacuum in sanitary intelligence greatly to be regretted. To repair this damage, and restore to some extent at least the almost universal advantages of the National Board's Bulletin, our contemporary has so arranged with the Board that hereafter the more valuable portions of what would appear in the Bulletins, were they continued, will be found in the columns of the Engineer.

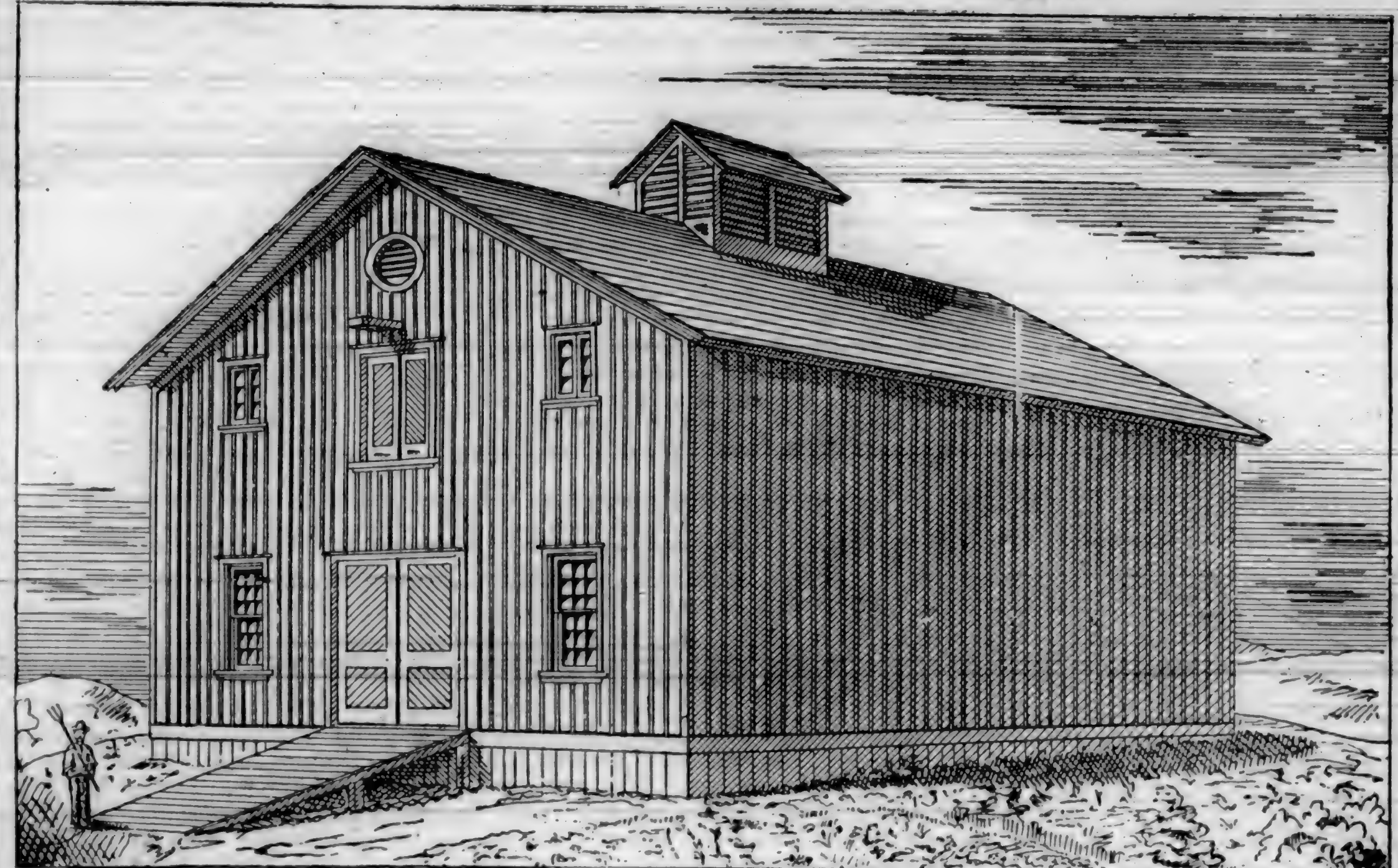
Index to Volumes I. to IV.

We are having carefully prepared a full index to all articles in volumes I. to IV. It will be of the same size as our regular journal, so that those who preserve their monthly issues for binding at the close of the year, by securing an index first, can have it bound with their monthly numbers. We will send one to every subscriber. Any one failing to receive it should notify us at once.

\$2.50.

We will send the "California Architect and Building News" for 1883, and one copy of "Palliser's Model Homes," for \$2.50.

Uses of the Steel Square.



The above cut represents a substantially built barn. We had prepared a cut showing the frame of the building, giving the sizes of the various sills, joists, girders, etc., but by an accident just before going to press, the plate was mashed so it was impossible to use it. It will appear in our next, with a full explanation of the same.

\$10.00. We will send the "California Architect and Building News" for 1883, and one copy of "Francke's Celebrated Work on Monuments," for \$10.00. Every architect and marble-worker should have a copy of this work.	\$3.50. We will send the "California Architect and Building News" for 1883, and one copy of "Palliser's Useful Details," for \$3.50.
\$5.50. We will send the "Science of Carpentry Made Easy" and the "California Architect and Building News" for one year, for the sum of \$5.50.	\$4.25. We will send the "California Architect and Building News" for 1883, and one copy of "American Cottage Homes," for \$4.25.
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\$6.00. We will send the "California Architect and Building News" for 1883, and one copy of "Science of Carpentry Made Easy," for \$6.00. Any one sending us 5 new subscribers to the "California Architect and Building News," we will give one copy each of "American Cottage Homes" and "Model Homes."	\$5.50. We will send the "Science of Carpentry Made Easy" and the "California Architect and Building News" for one year, for the sum of \$5.50.

This series of articles on the square was commenced in the September number, 1881. Back numbers can be supplied at 20 cents each.

The Triangle.

SPEECH DELIVERED BY J. GASH, ESQ., BEFORE THE SAN FRANCISCO CHAPTER AMERICAN INSTITUTE OF ARCHITECTS, NOV. 3, 1882.

Mr. President and Gentlemen:

I have taken for papers to read before you this evening a subject which I am fully aware you are all as familiar with as I am, being, as it were, the alphabet of our profession. And though I may not read to you anything that is new, yet what I have to say will, I am sure, recall to your minds many pleasant thoughts of the days when you were studying the alphabet of our profession—geometry. From that alphabet I have selected the triangle for my subject. That this may indeed be justly called the Alpha of architectural design, we have only to study the architecture of Egypt, Greece, and Rome; and for its zenith we may take Gothic architecture in France, Germany, and England; and there we see it applied in almost every portion of those sacred edifices that were erected throughout Christendom.

That Christianity should lay a strong claim to its use in her sacred edifices, is not much to be wondered at, as the foundations of its belief was based on the trinity of which the triangle is so justly symbolical.

Besides its use amongst the ancients as a

ing heathen mythology. The double triangle of five points being worn as a talisman and an emblem of health, and was also used as an emblem of fellowship. This form of double triangle is sometimes called the five-pointed star, and perhaps for the above reasons have been adopted as an emblem in our national flag. The double equilateral triangle being an emblem of perfection, with the all-seeing eye, has been adopted by Free Masonry, and worn by its members to the present day.

That the triangle was used in Grecian and Roman architecture, we have only to examine the geometrical construction of their theaters, and there we see it brought into use more especially in a Roman theater described by Vitruvius, where he speaks of four equilateral triangles being so placed that their points must so touch the circumference of the circle which formed the ground plan of the auditorium.

That its use was known for both its advantage in shedding the rain off the roofs of buildings, and also as a matter of strength, we may see in many of the Roman buildings, especially the Roman Pantheon, and the Temple of Peace, founded by Claudius.

But it is in the Christian epoch that it has been especially used, and its different variations mark the several changes of Gothic architecture, a few of which I will briefly touch on, trusting you will patiently bear with me—a favor I shall

Two inverted equilateral triangles, drawn with a circle, form the basis of a hexafol for Rose windows, the finest example of which is perhaps in the south transept of Rouen Cathedral.

For the quatrefoil we are indebted to the square, which is much used in connection with the trefoil, especially in Henry VII. chapel in Windsor, which is, perhaps, the finest specimen of Gothic architecture in England.

In tracery the isosceles triangle is much used, being already referred to as a talisman amongst the ancients; the sum of the five angles of the two triangles forming the star, being 180°, or two right angles; the sum of the three angles of the equilateral triangle being the same. This figure or star from the bases of the pentagon by joining its several points, and is much used in Gothic tracery; the best examples being found in the Church of St. Owen, in Rouen; and an example also in the Rose window in Sutter Street church in our own city. There is also an example in the Rose window at Ames Cathedral.

The right-angled triangle whose sides measure 6, 8, and 10, almost all builders are familiar with; but why those numbers should produce such a figure, or why such a figure should be governed by such numbers, require some modern Pythagorus, as this mystery remains so far unveiled.

The next triangle in geometry is called a scalene triangle, being the result of circumstances, and cuts no figure in architecture, save a good reminder never to have such about our work, which should be perfect like the equilateral triangle, and square like the right-angled triangle. I will now occupy a few moments of your time in reading the uses of the equilateral triangle in Gothic architecture.

It is worthy of remark, that while the equilateral triangle formed the basis of Gothic architecture, not only in doors, windows, and ground-plan, and in the grand and stately arches of its aisles and transepts, but even in those delicately clustered columns with emblematical foliage for capitals that supported those vaulted canopies, the architects of those grand old buildings never lost sight of one fact that is well worthy of all future members of this profession to follow; that is, as near as possible apply the laws of geometry in our work; and whatever decoration you may be stimulated to adorn your work, let it have some object or cause; not the result of a mere whim, but based on some fundamental principle. While you go from one period to another in Gothic architecture you find the equilateral triangle used in Gothic windows; and as you leave this you next come to the lancet window, being only the change of location of the center of the arc.

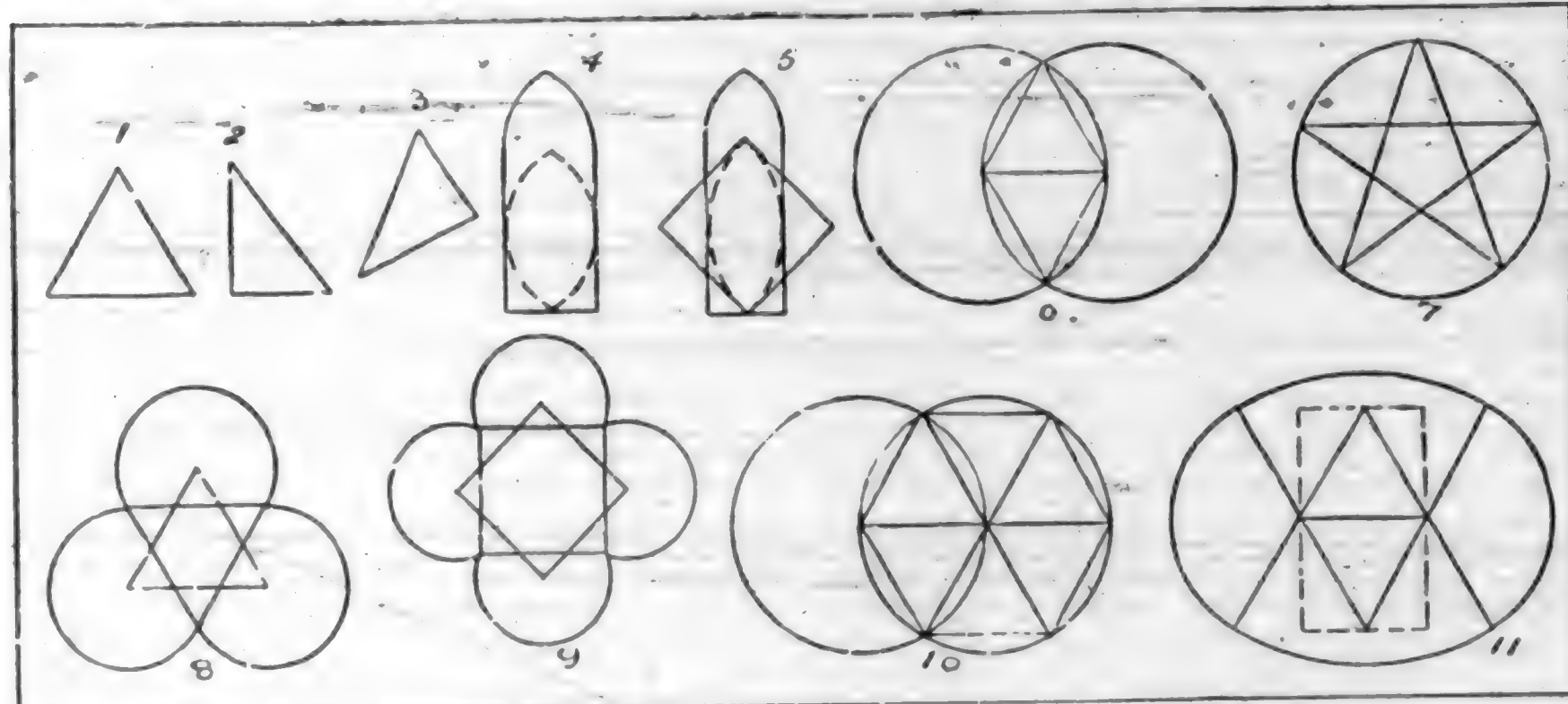
You take the two equilateral triangles above referred to as forming a lozenge, and their height will give the points of the spring of the arch in windows much used in early English, which in later periods was lengthened as circumstances required.

For examples of the double equilateral triangle as used in the ground-plan of gothic churches, I would refer you to the churches of Winchester, York, Salisbury, Norwich, Exeter, and others. While I am fully aware that I have read to you nothing new, I would say that in reading over works looking for notes, on the above, I have met with much that was indeed interesting, so that in this respect any of us will be well paid by getting up papers on some subject connected with our profession for our monthly meetings.

The Carpenter, formerly published in New York, has been moved to Philadelphia. The address is 613 Callowhill Street.

\$2.50.

We will send the "California Architect and Building News" for 1883, and one copy of "Palliser's Model Homes," for \$2.50.



symbol of the Diety, having neither beginning nor end, and being perfect in all its parts, it is not strange that it should be readily applied by Christians in buildings erected by them for worship.

The crystals of gold, the noblest of metals, is an equilateral triangle. The diamond, the most valuable of gems, crystallizes in the form of the octahedron, each face forming an equilateral triangle.

That its use was well known to the Egyptians, we have only to study the architecture of her pyramids, and there we see its use was almost as well known as it is by ourselves at the present day. In their measurements we find, according to M. Jomard, a French writer on Egyptian antiquities, that the triangle whose sides measure 3, 4, and 5 was a symbol frequently employed by Egyptian priests, and was sometimes called the Egyptian triangle. It was with them the symbol of universal nature. The base representing Osiris, or the male principal; the perpendicular, Isis or the female principle; and the hypotenuse Horus, their son, or the product of two principles.

On these numbers, 3, 4, and 5, is based the solution of the 47th proposition in Euclid, that the square of the hypotenuse of a right-angled triangle is equal to the sum of the other two sides, supposed to be discovered by Pythagorus; but Plutarch and other ancient writers say that this solution was well known to the Egyptian priests and communicated to him.

Its use amongst pagan nations we find by read-

feel grateful for. Before referring to these it may be well to see how many changes a triangle may undergo, and what figures may result from those changes. Taking the equilateral triangle described by the intersection of two circles with a common radius, and describing another triangle on the opposite side, we get what is called a lozenge; and drawing four lines at right angles to each other, and touching the four angles formed by the two triangles, we get the most perfect rectangle, being a figure the square of whose longest side is three times the square of the shorter side. Next to the square, this is the only quadrilateral figure whose sides bear any geometrical proportion to each other, and is the result of two inverted equilateral triangles.

Producing the legs of two inverted equilateral triangles formed by the two circles above referred to, we get a hexagon, being the most perfect polygon, and by the wisdom of an all-wise Creator, selected by the honey bee in the architectural construction of its cells.

Again, taking the apex of one of the above triangles as center, and one of the legs produced as radius, and describing an arc to touch where the other leg and circle meet, and doing the same with the other side, we get the oval, all resulting from the equilateral triangle.

Bisecting the sides of an equilateral triangle, and joining the points of section, we form four equilateral triangles, and from these we make the trefoil, a figure so much used in gothic tracery, a marked feature especially in early English.

The Cracking of Paint.

Last month we received a lengthy communication from a prominent carriage manufacturer in regard to the cracking of paint, and the remedy therefor. Some of the questions asked were such as to require much time and study for satisfactory answers. We have consulted some of our best-informed mechanics, and gleaned various items from our many exchanges, and trust the answer we give to our correspondent will be appreciated by all who take an interest in painting and good workmanship.

We first consider the cause of the cracking of paint. While around on our investigating tour, we propounded this question many times, and no two answers agreed. One would say, "You had too much oil in your paint"; another, "Too much japan." Again, "There was not enough of oil"; and a very sedate-looking individual whispered in our ear, "That the paint dried too quick."

From the mass of answers we received we have deduced the opinion that the cracking of paint on carriages, hacks, etc., is due more than anything else to the hurried manner in which it is applied, aided in a measure by the too liberal use of oil.

A great many painters persist in mixing their paints so as to have them elastic all the way through; by so doing, they expect to have a tough, elastic surface, that will give like rubber to the swelling and shrinking of wood. Provided the paint remained just that way, all would be well. But sooner or later, the paint is bound to dry hard, and when it does, it naturally contracts; when its elasticity gets to the utmost limits, the paint will give way, and spread open in large cracks. This fact is the same with the house-painter as well as those who work on carriages.

One great fault to be found with the painter is, he supposes his work to be thoroughly dry, when, in fact, it is not half-way dry. In the good old days it took six months or more, with fine drying weather, to get a job ready for finishing on the elastic principle. Now many a job is put through in less than a month, and the work is supposed to stand just the same.

There are two ways of finishing work: one on the elastic principle, and the other is the quick process, or flat coating. Few will give the time necessary for the first way. The different coats should be put on very thin, and each to be allowed to thoroughly dry before another is put on. The flat coating can also be hurried so that it will crack badly.

To avoid the cracking of paint, the following ideas, if carried out, will be found to work admirably. Let every part of the wood, inside and out, be properly primed with fresh priming. Let the priming get perfectly dry; then mix every coat of lead so that it will dry hard. Mix the filling with japan and varnish, so that this may dry firm and hard; use no oil in it. Have every coat dead color. Do not apply the coats too heavy; have them as thin as possible to answer your purpose, and let each get thoroughly dry before putting on another. Place enough coats on to fill the grain of the wood, making a perfect surface. Then you will have on a body of paint firmly bound together and thoroughly dry. When paint is thoroughly dry, it can shrink no more, as it only shrinks when in the process of drying; and if it does not shrink, it cannot crack.

If the paint is not well protected by varnish, it will perish in time, sooner or later, owing to how well it is protected. Once a year is enough to have a carriage varnished to be kept in order, though no rule is laid down; except when it commences to look as if it wanted varnishing, have it done. Don't wait till it wants burning off before attending to it.

Nowadays painters will paint jobs in two

weeks, and wonder at the cracks. The blame is generally laid on the material, or anything else that is handy and suitable, but the real fact of the case is finishing the job in two weeks, requiring the coats to dry as hard as possible, and trust to luck for results.

\$10.00.

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Work yet to be Done.

One of our most intelligent and experienced sanitary experts has the following sensible say in a private letter—so sensible and valuable that we copy entire: Despite all the agitation of late years, it is amazing how much yet remains to be done in the line of sanitary work. When after four years spent in recommending sanitary reform I began the practical work of remedying bad drainage and plumbing, I had to confess astonishment at the small results that has been accomplished in the way of improvement. The sewer-gas scare, dating from before 1876; the two outbreaks of yellow fever at the South; the diffusion of official health documents; the publication of sanitary periodicals and books, with the wide dissemination of information by the press and on the lecture platform—all seem as but a drop in the bucket, in view of what yet remains to be done. We have scotched the snake, not killed it, and the ground has been barely scratched for the seed of reform. We need to start a sanitary boom, and ought to make household hygiene as popular and attractive as household decoration. People should be impelled to search out antique nuisances and the sources of old-fashioned contagion with as much ardor as they now track "grandfathers' clocks" and carved oaken side-boards. We already see one good result of the art decoration fever, in the taste for bare floors and hard-finished walls. A sanguine man may have faith that in time a healthy house will be as much admired as an artistic one, and that even bric-a-brac may pale in glory before perfect plumbing and ventilation. The character of our people is such, and the condition of our climate so different, that we cannot always follow foreign experience in sanitary matters. Hence it is vitally important to study local conditions and requirements, and at least take the first step toward practical success by employing only men of competency in supervising sanitary work.—The American Plumber.

A California Tree.

The region around Guerneville, in Sonoma Co., is somewhat noted for its remarkable growth of large timber. The following account of the saw-logs cut from one of the "giants of the forests," recently felled, will no doubt be found especially interesting to our eastern friends. The details can be relied upon, as they were furnished by Mr. W. L. Van Doren to the editor of the *Petaluma Argus*.

The standing height of the tree was 347 feet, and its diameter near the ground was 14 feet. In falling, the top was broken off 200 feet distant from the stump, and up to the point of breaking the tree was perfectly sound. From the tree saw-logs were cut of the following lengths and diameters: 1st, 14 feet long, 9 feet diameter; 2nd, 12 feet long, 8 feet diameter; 3rd, 12 feet long, 7 feet 7 inches diameter; 4th, 14 feet long, 7 feet 6 inches diameter; 5th, 16 feet long, 7 feet diameter; 6th, 16 feet long, 6 feet 10 inches diameter; 7th, 16 feet long, 6 feet 6 inches diameter; 8th, 16 feet long, 6 feet 4 inches diameter; 9th, 16 feet long, 6 feet 3 inches diameter; 10th, 18 feet long, 6 feet diameter;

11th, 12 feet long, 5 feet 10 inches diameter; 12th, 18 feet long, 5 feet 6 inches diameter. It will thus be seen that 180 feet of this remarkable tree was converted into saw-logs. As the length and diameter of each log is given, the reader can, at leisure, figure out the quantity of inch lumber the tree contains. If, instead of being cut into lumber, it had been worked up into 7-foot pickets, it would have afforded fencing material to inclose a good-sized ranch.

Can any of our mill men in the East furnish us with statistics exceeding those of the above-described "giant"?

EVERYBODY'S COLUMN.

"FAR BET AD HOSTE DOCEBI."

ED. ARCHITECT: Will the charring of timber effectually prevent it from decaying?

W. A. Guerneville.

ANS.—If the timber is perfectly sound and well seasoned, the effect of charring will be to preserve it for an indefinite time. Should the wood be green, charring can only be expected to prevent infection, as decaying may begin at the center, and proceed, without ever appearing at the surface of the beam. This is the reason why so many fence posts that have been charred have failed to meet the expectations of those who put them in the ground.

BUSINESS MANAGER OF ARCHITECT: Will you please inform me how many feet of redwood is being shipped per month to the East? What part of the finish of the buildings is it being used for?

R. J. B.

ANS.—We will endeavor to obtain the number of feet that have been shipped in 1882, and will inform our readers in the December issue of this journal. The demand for California redwood is increasing very fast in eastern cities, especially so in New York. We confess that we would be sorry to see a large demand for this lumber east of the Rocky Mountains, as the immense drain that is now being made on our forests will in forty years from now almost decimate them of this really choice timber. It must be remembered that in each successive year there will be a much larger amount of lumber cut in order to meet the home demand; and from practical observation we do not think we have any too much timber in sight to meet the demands in the future for the use of the young folks that are now growing up around us.

Why do not some of our California inventors grapple with the problem of straw lumber. There is no State in the Union that presents so many advantages as California in regard to obtaining large quantities of the raw materials. If a ton of straw will make 1,000 feet of lumber, surely the plains of Colusa and Stanislaus can be relied upon to produce thousands of tons of straw, and therefore thousands of thousands of feet of lumber. Who will be the first to move in the matter?

We believe the lumber is used principally for store finish and wainscoting, where it is desirable to have a contrast of light and dark woods.

BREAKAGE OF COLD-CHISELS.—The usual cause of chisels breaking is from overheating, too high temperature, and by striking the finishing blows on the edge. A chisel should not be finished in dressing it by hammering on the edges.

CALIFORNIA ARCHITECT: What is the difference per degree of heat between the expansion of cast and wrought iron?

ANS.—Cast-iron expands $\frac{1}{15000}$ of its length for one degree of heat; wrought-iron, $\frac{1}{14000}$.

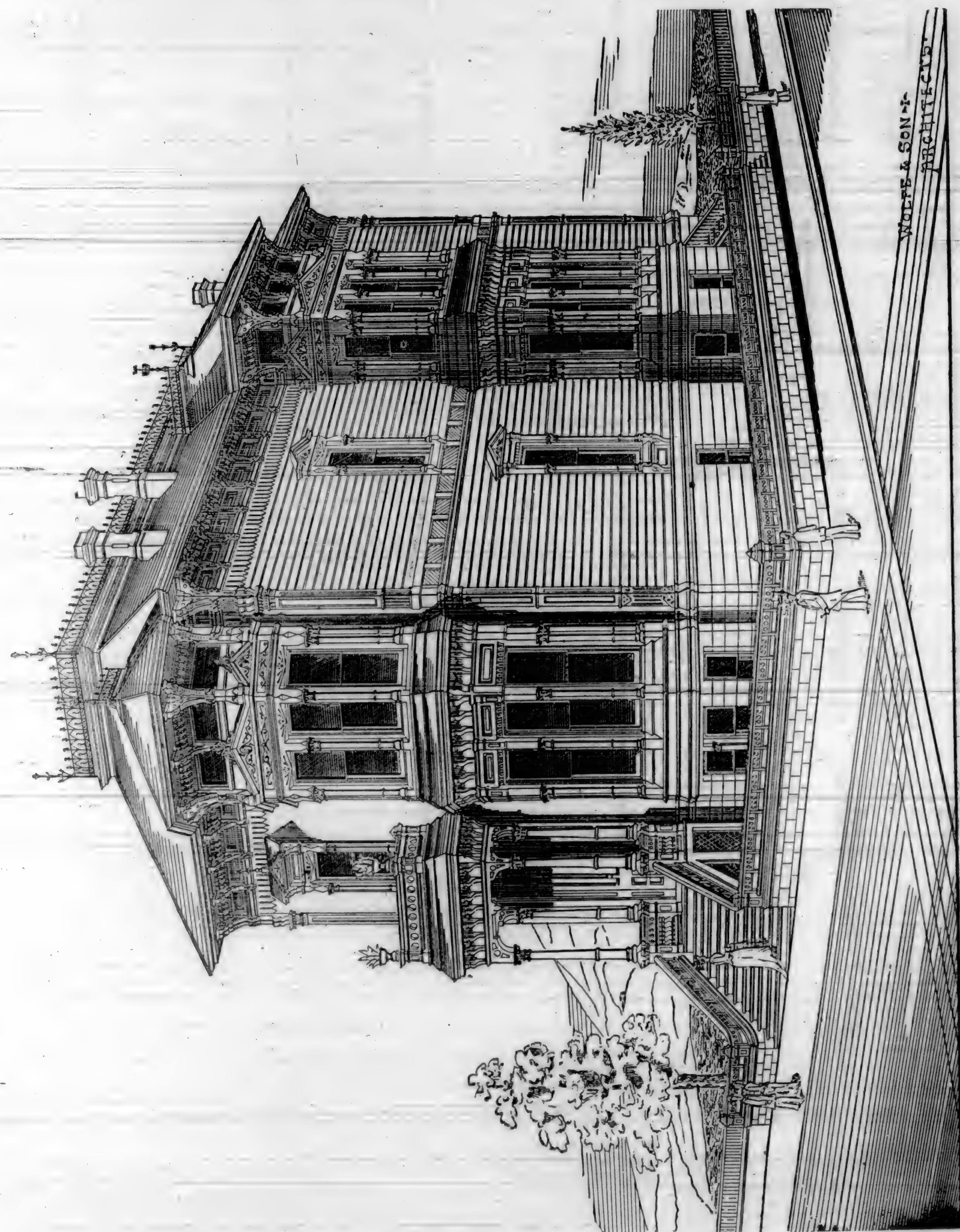


PLATE 3.—DESIGN FOR A HANDSOME CITY RESIDENCE.

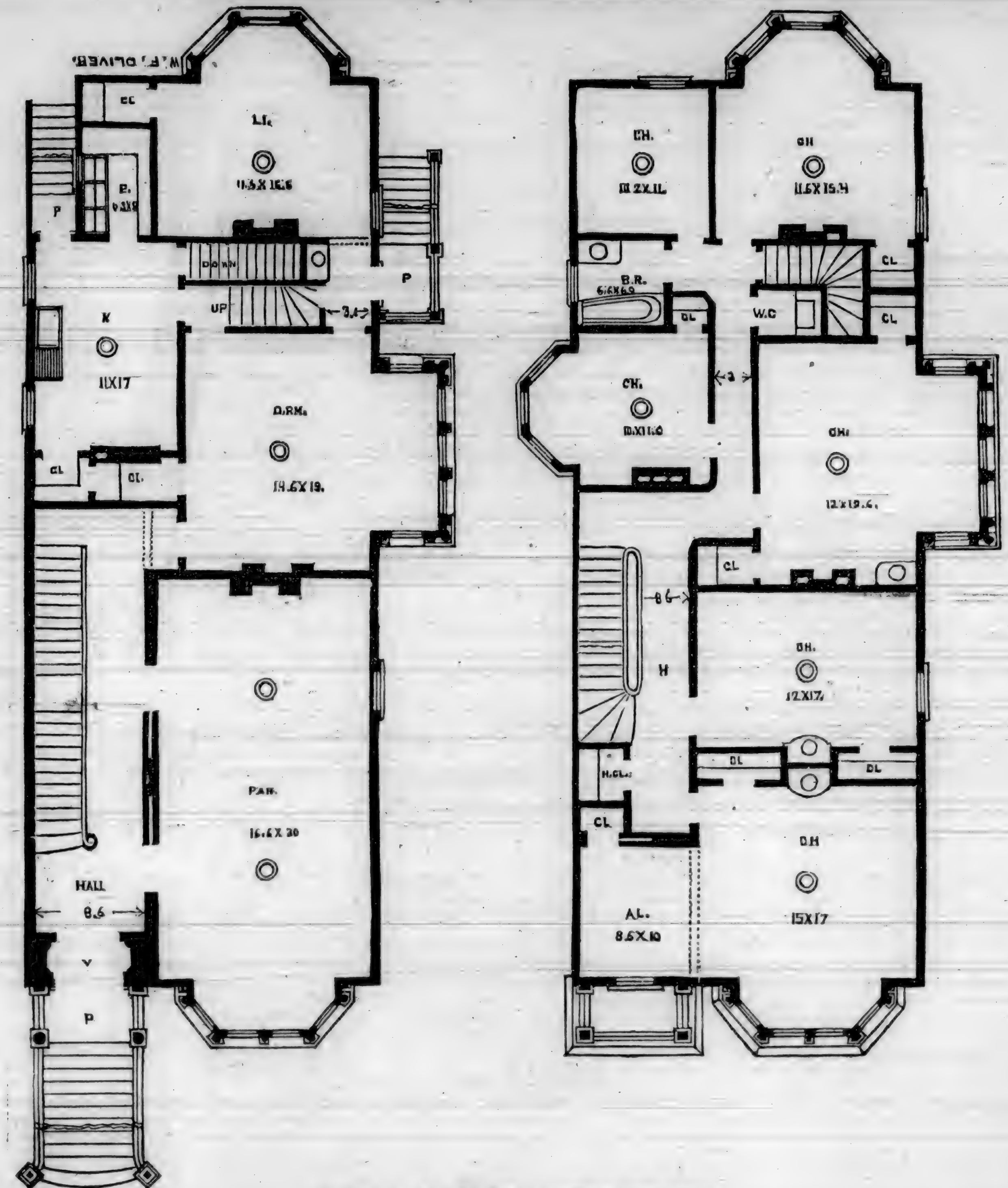


PLATE 4.—PLANS FOR A CITY RESIDENCE.

The Time to Form Clubs.

In our next issue we will give a list of papers with which we have formed business connections, and by which we can offer this journal, and any one of the really good papers published in the East, for a less sum than it will take to subscribe for them separately. We are also making arrangements by which we can give our subscribers a choice of the best architectural and mechanical books published, in connection with

the "CALIFORNIA ARCHITECT," at a cost but little in excess of that of the books alone. Do not order any Eastern paper until you have either seen our December issue or written to us in regard to our terms.

\$5.50.

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Less Income from Poorly Planned Buildings.

Incompetency and lack of good judgment, and absence of right understanding of actual necessities, are often clearly manifest in the erection of buildings; and if a correct computation of the yearly losses to owners of buildings within the United States in rentals and income from their real estate improvements, resulting from inexcusable and unpardonable errors committed in the conception, maturing, and carrying out of the plans adopted, compared with what might have been accomplished at comparatively trifling advance, and in some cases actual less cost, could be reached, the total would assume proportions sufficient to build an entire city like that of San Francisco every year.

Of course, every man has a right to do as he pleases with his property, but when he does that which, to his neighbors and passing observers, appears unwise, unaesthetic, and practically less good than it might have been, his acts naturally become the subject of criticism; and he should not feel aggrieved even though rated by some one as a "stupid."

The "bump" of economy in many individuals is by far too largely developed; and, becoming a controlling influence upon the mind and nature of the person, leads to numerous errors. It seems to us, that if some men and women could but realize how ridiculous and sometimes contemptible they make themselves appear to others, and how much they compromise their own interests by the persistent application of a fancied economy—cheap—rule of action, i. e., asking, expecting, and requiring more for a stated consideration than is just and fair, they would resort to more reasonable and sensible methods, and accept the gilded rays if not the full splendor of the golden rule—"Do unto others as ye would have them do unto you." But this is next to impossible to some people; hence, in the matter of erecting buildings, the smaller elements of human nature assume control, and all that is done is tinged with if not overwhelmed by illiberality and unfairness—a disposition to obtain a dollar's worth in every connection for sixty cents, more or less, according to the degree of inequity actuating.

Consequently, the "cheapest architect" is hunted up: cheapest simply in the abstract use of the term, but in all essential respects often the most expensive by a thousand per cent. Yet the proffer of services at low rates enchants the seeker of "cheap" commodities; and the veriest knave or blockhead calling himself an architect often secures engagement against the better and far more competent man, who, honoring his profession, entertaining a due regard for its dignity, and recognizing its responsibilities, refuses to accept insufficient compensation for his services. The result that follows is twofold: the owner is deservedly financially injured, sometimes to a large amount, through the incompetency of his cheap architect to conceive or execute good, practical, and proper plans for the improvement contemplated; or, if not so, he is made to pay the full and proper commission of five per cent. or more in other ways, so that the cheap man finally laughs at the exacting client, and enjoys all the financial benefits—perhaps more than the rejected architect who demanded in the premises fair and right remuneration for his services.

No one enjoying fair business intelligence can, upon any right business hypothesis, presume for one moment that men who undertake obligations at less than compensating rates can afford, in justice to themselves, to be scrupulously correct in their transactions. The thing is absurd. And these men who, as architects, huckster their services at nominal prices, and in addition pay large percentages to solicitors, who hunt up, and in innumerable cases persecute,

owners by persistent solicitations, cannot afford to respect the right, proper, and defensible rules of integrity and correct dealings. They must have money sufficient to meet the numerous contingencies; and, strange as it may appear, some who have uniformly undertaken architectural works, not only below the regular rates of charges established by the architectural societies the world over, but for less than actual cost of preparing plans, specifications, details, etc., have grown rich. This fact needs no comment; it carries its own explanation.

But this rule of economy is carried beyond the architect, and enters into every transaction connected with the operation in hand. The effort to secure cheapness in materials and workmanship of every class is persistent, and often accompanied with the absurd proposition of first-classness, a something which, under the circumstances, is not possible, and the demand for it simply betrays the ignorance of the party demanding. But those extreme economists, generally being in themselves first-class misunderstanders of right and fair things, are easily humbugged into the belief that their cheaply obtained results are first-class, even though destitute of a single first-class quality or feature, and the delusion to them is as good and satisfying as would be the genuine article.

\$7 \$10.00. 

We will send the "California Architect and Building News" for 1883, and one copy of "Francke's Celebrated Work on Monuments," for \$10.00. Every architect and marble-worker should have a copy of this work.

White Lead and Zinc.

The carbonates of lead is the purest form of white lead known to the trade, and it is therefore used by painters where great body or covering quality is desired. This form of lead, when ground pure in linseed oil, is not permanent; it eventually succumbs to the action of solar heat. It would last far longer if painters were to use a *coarse grade*, which would admit the oil between the particles, thus affording a clench or bind for the oil, when the duration of both oil and lead would be extended. It is a great mistake to suppose that because acetic acid is used in corroding lead that it remains to act upon other substances; for the simple fact of its union with oxide of lead it is lost in the carbonates of white lead; and when levigated and ground it is a pure carbonate and not an acetate of lead. The grinding of white lead to a fine, impalpable powder has a great deal to do with its stability when compounded with oil and exposed to the weather. It will last longer when stained or colored with earthy mixtures; but when applied as a white paint to surfaces of sunny exposure, it will chalk in two or three years. At this stage its decay is rapid; and if not recoated it will be soon blown or washed away. The causes which tend to the rapid decay of the carbonate of lead and oil are solely due to their constituent gases of which they are composed. The oil is composed of carbon, hydrogen, and oxygen, and when applied as above in their coatings on exteriors of buildings, the oil in drying absorbs oxygen from the air, and the white compound becomes hard and firm to the touch. The affinity of the oxygen in the oil to that in the air is fatal to the solidity of the mixture or paint, though the oil by it becomes a solid. The action is not like that of the volatile oils; but instead, it absorbs or takes from the atmosphere large volumes of oxygen, and by it disengages the carbon and hydrogen, leaving a disintegrated mass of lead and resin. This tendency of seed oils is further demonstrated by the spontaneous combustion of various substances when besmeared with these oils. Therefore, if there is no other protector present, pure white lead is sure to be left to the

mercy of the elements. The use of raw or boiled linseed oil as the vehicle to bind the lead makes but a very little difference in the lasting qualities; but the harder the oil dries, the more durable the lead will be. The process of oxidizing the lead cannot be improved to any extent or advantage to the painter, and as to corroders, the mode now used is about the same as that of the old Dutch process. Climatic influences hasten or retards the durability of white lead. In semi-tropical countries the oil disintegrates so rapidly that white lead will not be serviceable more than half the time that prevails in a more temperate zone. The hardness of zinc has induced many painters, as well as some manufacturers, to incorporate the zinc with white lead, in order to have an article which will extend the durability of the carbonate of lead. There is as yet no formula by which the proportions can be agreed upon; for some think a mixture compounded with one-half zinc, and others that a one-third proportion, would be sufficient to harden without affecting the body of the lead. To this latter view we are inclined to admit it as a corrective in sunny exposures. In such cases, a small proportion of blanc de zinc, thoroughly stirred into a mixture of pure white lead, will no doubt change the nature of its chemistry sufficiently to give to the compound a more lasting quality. J. E. W. C.

Indiana Walnut in 1834.

In the course of a recent conversation concerning Indiana timber in general and walnut in particular, with one of our pioneer settlers who came to this country in 1834, says the American *Wood-worker*, the old gentleman remarked: "The walnut timber used to be a great deal of bother to us in those days. In clearing our lands we usually felled the trees, then rolled them into log-heaps and burned them. Walnut was the meanest wood of all, as it was almost impossible to burn it. I knew a neighbor to spend the best part of some three weeks trying to reduce an immense walnut tree to ashes. Some years later there was a saw-mill erected a few miles away, and the owner bought a great deal of timber, some of which he sawed up, but most of it he shipped in the log to Cincinnati. I had sold him considerable timber, when one day he came to me and asked what I would take for a large walnut tree that had fallen in a swamp a year or two before. I told him he might have it for nothing if he would take it out of the way. He told me afterwards that he had made quite a little sum out of it; but had I that tree now I could sell it for \$400. Many and many a fine walnut tree did we cut for a coon. We had no particular use for walnut then. It was in the way, and we took the quickest and best methods of getting rid of it. Sometimes we made rails of it, but it was frequently so curled and twisted that it was impossible to split it. We would probably have ridiculed the idea then that these curled and twisted logs might some day have made us wealthy, or that a big walnut knot would ever have any value."

The smallest circular saws in successful use are those used in cutting the center slit in steel pens. These saws are no larger than a nickel piece, and not thicker than common paper, and yet they revolve about 4,000 revolutions per minute. The rigidity, notwithstanding their thinness, is due to this high rate of velocity.

BUILDER AND WOOD-WORKER, CARPENTRY AND BUILDING, BUILDING.

Either of these journals, in connection with the CALIFORNIA ARCHITECT AND BUILDING NEWS, will be sent to one address for \$2.50 per year.

San Francisco Chapter American Institute of Architects.

The regular monthly meeting of the Chapter was held November 3rd, 1882. A large number of members was present. Vice-President Wm. Curlett presided. Minutes of preceding meeting were read and approved.

E. J. Molera and Joseph Gosling were elected members of the Chapter. Proposition of W. Ferris to become a member as Draughtsman was received and referred to a committee.

Committee on Articled Students reported progress. It is the intention of the committee to send communications directly to the practicing architects of this district, stating the objects and benefits to be derived from following the plans proposed, and thus secure a full list of the Articled Students in the profession.

The trustees were instructed to take the necessary steps to have this Chapter incorporated under the laws of the State of California.

The Chapter then had the pleasure of listening to a very able and instructive lecture by John Gash, Esq. His subject was "THE TRIANGLE." Mr. G. handled the subject in a masterly manner, and the lecture throughout showed evidence of much careful study on his part. After the lecture, the speaker illustrated his ideas upon the blackboard. A vote of thanks was tendered Mr. Gash for his able effort. The full speech will be found in another part of this issue.

James E. Wolfe made a few remarks upon the subject of "DRY ROT IN TIMBER," and promised the Chapter, in the course of three months, to deliver a lecture either upon that or some kindred subject.

Responsibility of Architects.

A rather singular case is considered in the article on Jurisprudence of Building in the last number of *La Semaine des Constructeurs*, which contains so exact a statement of the extent of the responsibility of architects as to be worth a brief mention. It seems that a certain architect was employed by a proprietor residing at a distance to build a villa. The first estimate of the cost amounted to twenty-two thousand francs; but this was revised and increased to twenty-five thousand. The actual expense of the building, including additions of fencing and shed, was forty-two thousand francs. The architect brought in a bill for commission on the whole forty-two thousand francs, which the owner refused to pay, offering, instead, the usual percentage on the estimated cost of twenty-five thousand. This the architect declined to accept, and claimed his whole bill. The proprietor then, to justify himself for refusing payment, represented that the architect had injured him in various ways. In the first place, he had spent on the buildings nearly twice his original estimate; in the second place, he had failed to exercise proper care: in ordering double sashes and blinds in places where they were unnecessary; in planning corridors in the interior of the house only twenty-three inches wide, so that they could not be used for passage-ways and needed to be enlarged; and in allowing a beam to be built into a chimney, under a fireplace, which could not be used in consequence. In view of these things, the proprietor demanded that the architect should pay the cost of enlarging the corridors, damages for the loss of the use of the fireplace, and reimbursement of the cost of the unnecessary outside sashes and blinds; besides the expense of modifying a lighting-rod, which was asserted to have been improperly placed. The correspondent who asks the opinion of *La Semaine*, and who seems to be an impartial observer of the dispute, adds that the assertions of the proprietor in regard to matters of fact were correct; but that he had inhabited the house for two years without making any complaint, and that it was not

until the architect had sent in his bill that his sufferings seemed to begin.

To this statement of the case *La Semaine* makes reply, that in general an architect is at fault if he omits to supervise the works under his charge with due care; if he allows the building to be erected on a bad or yielding soil; if he permits the use of improper materials; if his plans indicate weak or vicious construction; and if he neglects to require the observance of the public laws and regulations, as well as of any conditions or restrictions concerning which his employer has given him notice. Whether the fact that the cost of the construction exceeded the estimate should be regarded as a fault on the part of the architect depends, says *La Semaine*, upon circumstances. If the architect, unknown to the proprietor and without his authority, should bring him into expense, the latter would naturally refuse to pay the cost of the extra work, and the question of responsibility should then be decided; but as the architect has unquestioned authority to order the execution of extra works asked for by the proprietor or arranged with his consent, the fact of its having been paid for without remonstrance was evidence that the additional work in the present instance was carried out by the architect with at least the assent of his client, and in this case he was entitled to commission on the whole cost. For vicious constructions required by the drawings or permitted by the architects, he was certainly responsible, and both he and the contractor were jointly liable for damage caused by building in the beam under the fireplace; but in regard to the sashes and shutters there might be a question as to their superfluous character, and the twenty-three-inch corridors, although unusual, could hardly be classed as constituting a vicious construction, particularly as the proprietor did not notice the inconvenience of them until he had lived in the house for two years.—*The American Architect*.

\$5.50. 

We will send the "Science of Carpentry Made Easy" and the "California Architect and Building News" for one year, for the sum of \$5.50.

A Builder's Foreman.

To begin with, a foreman must be a skillful workman, or it will manifestly be impossible for him to direct those who are placed under his control and guidance. Indeed, unless a foreman be capable of taking his place among a number of workmen, and by quickness of perception, carefulness, and the exhibition of superior manipulative skill, proving to them that he has a perfect mastery in these directions, his authority over them will be minimized. Workmen are appreciative in the highest degree of real talent and knowledge in their leaders; but so, also, they are not slow in exhibiting their contempt for those who merely assume such characteristics. When a foreman has demonstrated his capabilities for laying out work, and in arranging the various processes for completing it, he has done much towards insuring successful results, and he will gain the respect alike of master and man. Further, a good foreman should become thoroughly conversant with the peculiarities of construction and the action of machines and machine tools, of which so many varieties exist, and which are of infinite importance as to economy of time and money. Without such accurate knowledge he could certainly not estimate, with any degree of exactitude, the amount of duty to be obtained from the use of such appliances, nor the approximate cost of the work to be done by them.

In conducting and governing properly the multifarious duties of the workshop or the factory, a ready method of delineating forms and

of thus conveying to others through the medium of the eye his own ideas of pieces of mechanism or of the details of machinery, is a necessary accomplishment for a foreman. By such means he will readily instruct his men, and that in a manner which no mere verbal explanation would make intelligible. Pencil and chalk discreetly used by the foreman thus become one of the most forcible and plain teachers of workmen.

The previous training and experience of the latter prepare them to understand sketches; and thus he who can best produce the latter economizes the time of all concerned, and saves his employers from needless expense.

The power of making diagrams with precision and rapidity is, in fact, an invaluable acquisition for the leader of a staff of mechanics. It is a qualification which, like many others requisite for making a really efficient foreman, can only be gained by constant practice; and we most earnestly advise those young workmen who aspire (as all should do) to come to the front and "take the lead," to miss no opportunity for acquiring it. A fair knowledge of geometry and arithmetic and of the nature of the materials employed in works of construction is simply indispensable. The foreman, too, must be possessed of prompt energy and of a readiness of expedient so as to enable him to grapple successfully with emergencies and overcome practical difficulties that may crop up unexpectedly, as subsidences of foundations, break-downs of machinery, etc.

A duly qualified foreman will find no difficulty in deciding as to the length of time which should be occupied over any detail placed for completion in the hands of a workman under him, for he knows how long it would take him to do it himself. It would be easy to extend our remarks upon the practical essentials of good foremanship, but it seems scarcely desirable to do so; and therefore, with a word or two as to moral requirements, we will conclude. Among these last stand out prominently a love of truth and a total absence of duplicity. Let it be generally known that a foreman is above and beyond acting or speaking otherwise than conscientiously, and his moral power will be great indeed. Faith will then be placed in his judgment; and while working people will, as a rule, repay him with respect and ready obedience, employers will as certainly repose in him the utmost confidence.

Improved Bench Plane.

The improvement consists in a stirrup pivoted to the sides of the plane in such a manner that the cross piece of the stirrup passes through a transverse groove in the under surface of the plane, this groove increasing in height toward the rear of the plane, so that when the plane is drawn backward it will be slightly raised by this stirrup, so that the cutting-edge of the plane iron cannot slide on the board being planed, the object being to prevent dulling the cutting-edge of a plane iron by the backward movements of the plane. The upper figure of the engraving shows the position of the stirrup while the plane is being moved forward, and the lower figure shows the plane as lifted by the stirrup during its backward movement. This invention was recently patented by Mr. Geo. F. Sawyer, of Livingston, Tex.

\$3.50. 

We will send the "California Architect and Building News" for 1883, and one copy of "Palliser's Useful Details," for \$3.50.

Our Illustrations.

Plates 1 and 2 are fully explained under our article on the Steel Square and its uses.

Plates 3 and 4 are the plans and elevation of a handsome city residence. The plan is well worth study. There is no waste room in the house, every inch being utilized. The house can be built on a narrow lot, and therefore explains why the space was so economized. The cost can be made to vary so much that we will merely say, by leaving off the basement, it could be built for from \$7,000 to \$10,000. With the plan as shown, \$3,000 added to the latter figure will be the cost in San Francisco.

Plate 5 is the plan and elevations of a commodious suburban residence. It can be built for about \$7,000. The cut was made by the Mechanical Co., of New York.

Franke's Monuments and Headstones.

This work consists of 40 folio plates and contains 76 designs, giving elevations, plans, and accurately drawn details of moldings and ornamental parts. The geometrical elevations and plans are drawn to scale, and perspective views are introduced to show the general effect when executed and in place. Substantially and elegantly bound in half morocco. Price \$9 per copy (reduced from \$12), postage paid.

We can furnish any book or periodical on Architecture, Building, and Mechanics, published in this or any other country. In fact, we can furnish any kind of book published, on receipt of publisher's price.

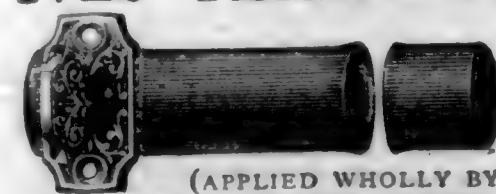
Science of Carpentry.

A work that every mechanic should have. It is designed to make the science and art of carpentry clear, and comparatively easy to all who require information on the subject. Sent post-paid to any address upon receipt of \$5.00.

Indexed Atlas of the World.

But one copy remains of this magnificent work. They are not for sale in any bookstore, and it is but seldom that a copy can be had. This last copy is bound in half-morocco, and will be sent post-paid upon receipt of the price, \$35.

IVES' PATENT DOOR BOLTS.



Sold by all Hardware Dealers.
(APPLIED WHOLLY BY BORING.)
HOBART B. IVES, NEW HAVEN, CONN.
Sole Manufacturer and Patente.

As we predicted a year ago, the introduction of the above celebrated bolts is driving all the poorer quality entirely out of market; and wherever one goes on the Pacific Coast, he will find the Ives patent to be the popular safeguard against the intrusion of burglars. They are for sale by all of our principal hardware dealers.

The Barrel.

A gentleman who has been reading upon the subject says that the invention of the barrel, made of strips of wood, and rendered tight and strong by hoops, finds in history no notice of origin or inventor. Pliny attributes it to the Gauls of the Po, in Lombardy. There is, however, good reason to believe that the barrel was in use before the Gauls reached Italy, perhaps before their existence as a people. In one of the inscriptions copied by Wilkinson from Egyptian monuments may be seen two slaves emptying grain from a wooden-hooped vessel, while a scribe keeps tally and a sweeper stands by to

sweep up the kernels. Close by, a poor victim is undergoing the bastinado, for a short measure or petty theft. The measure is barrel-shaped, precisely like the *kaye* of modern Egypt, and would apparently hold about a peck. The age of this inscription is not indicated.

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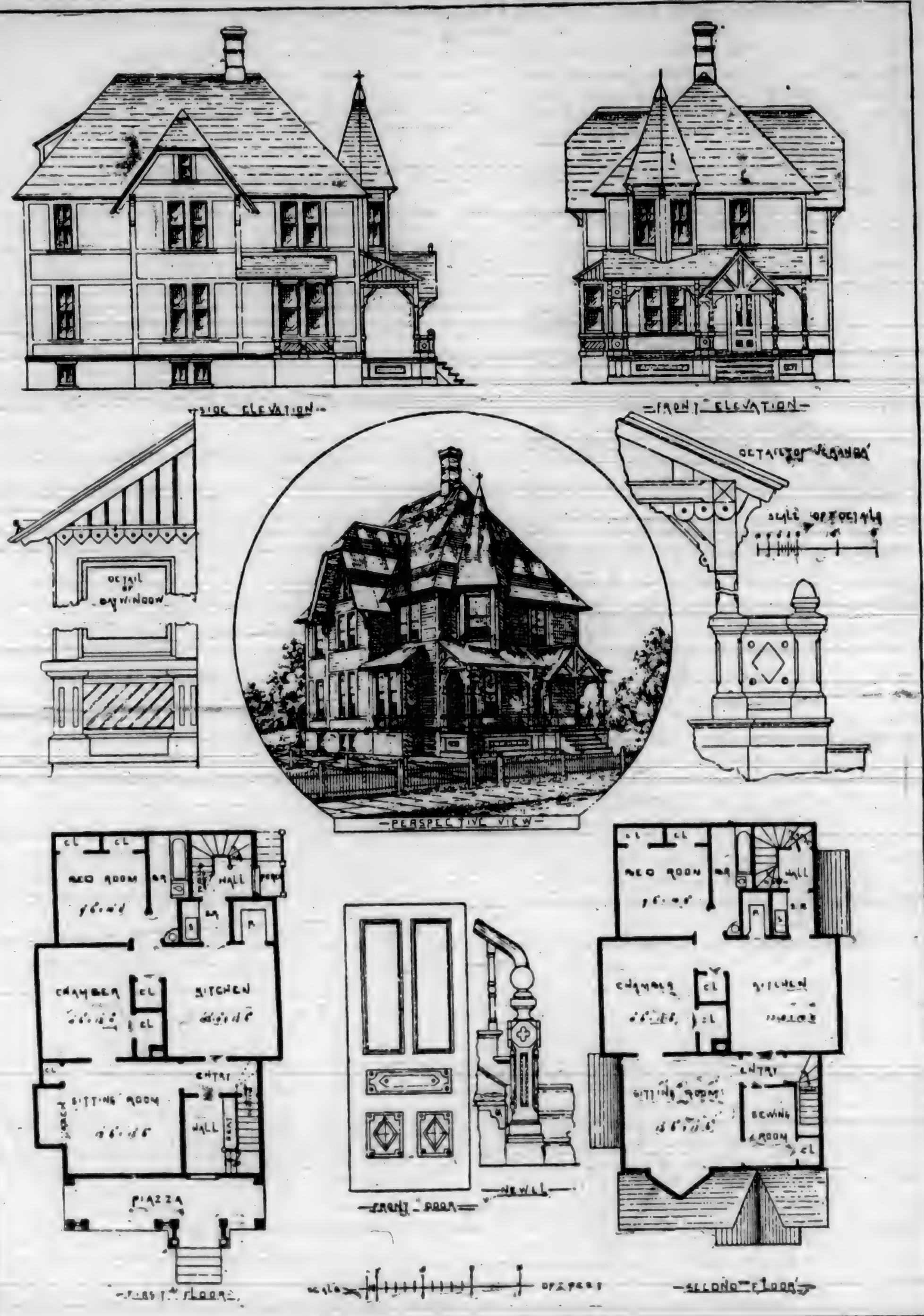
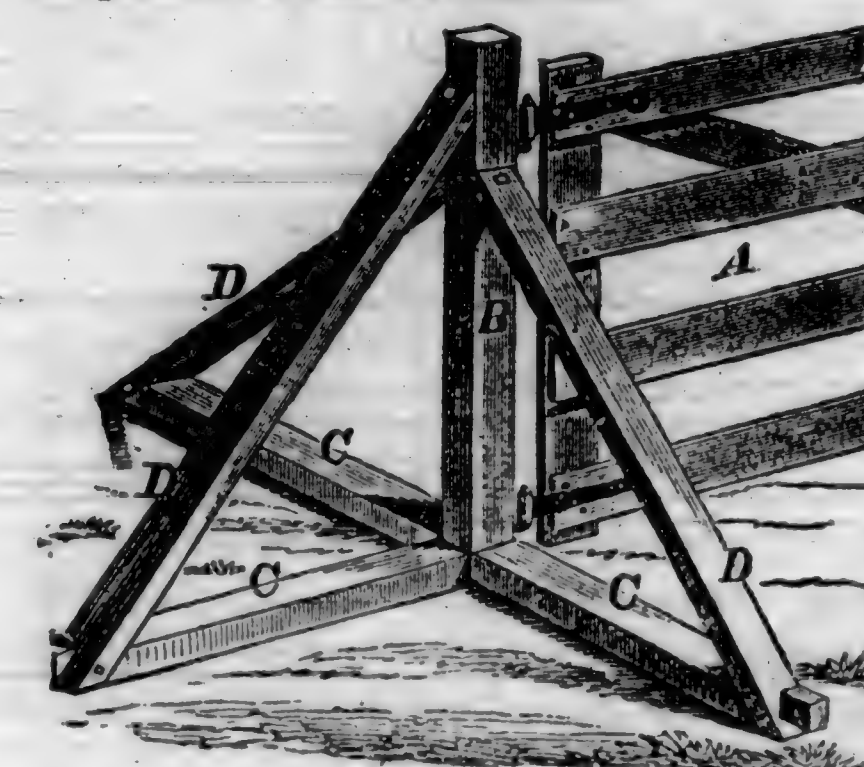


PLATE 5.—PLANS AND ELEVATIONS OF SUBURBAN RESIDENCE.

Improved Gate Post.

Mr. Wm. H. Taylor, of St. Louis, Mo., has lately received letters patent on an improved gate post, which we illustrate in the accompanying cut. The design of the invention is to have supports so constructed that they will prevent all sagging of the gate.

The post B consists of a triangular lever, having a base or sill piece C, and an inclined piece D. The sill piece rests upon the ground, and its inner end abuts against the post. One end of the inclined piece is secured to the post at or near its top, and its other end is secured to the sill piece at or near its outer end.



A weight is placed upon the sill piece between the joint of the two members and the post. In prairie countries the weight may consist of a box filled with dirt. This device may be applied to old posts already in the ground, or to a post when the gate is first swung.

The inclined piece may be secured to the post and to the sill piece in any desired way. One of these supports may be applied to each of the three sides of the post, the gate being swung to the other side, and thus support the post in all directions.

Expert Judges in Competitions.

A correspondent asks us whether any means can be invented "to teach committees who have public buildings in charge that a gratuitous competition without expert judges will not bring them a single design worthy of execution." To this we can reply at once that there is a very effectual means for accomplishing the desired end, and that is, the refusal of reputable architects to enter such competitions. As soon as it is understood here, as it is in other civilized countries, that no architect will respond to any invitation to compete except on the terms recognized by the profession—that the award shall be publicly made by experts of reputation, and that the execution of the building, or other structure, at the usual commission, shall be confided to the winner of the competition—then, and not till then, shall we see the last of the ridiculous, unfair, and disgraceful scrambles which are maintained by the folly and at the expense of those architects, particularly the younger ones, who imagine that they are to obtain some private advantage by degrading themselves and betraying the interests of the profession, for the benefit of persons who, to say the least, will not be rendered more scrupulous in treating them by witnessing their own disloyalty to their fellows. There is in this country plenty of work for all the architects in it to do, at a fair remuneration. No one else can do it, so that they are sure of the employment, and if they choose to do it for less than it is worth, they have only themselves to thank. A beginning has already been made in St. Louis, by an agreement of a large number of architects to have nothing to do with competitions where certain proper con-

ditions—the appointment of expert judges among them—are not complied with. If a similar understanding could be arrived at between the architects of other places, we should soon see a great change in the conduct of competitions, which, instead of artifices for deluding, cheapening, and degrading the profession, would become the recognized and honorable means for introducing the younger architects to lucrative practice, while the established and busy ones, in return for the loyalty of their juniors, would gladly lend their influence in sustaining these against the attempts of astute selfishness to take advantage of their youthful hopefulness and lack of caution.—*American Architect.*

We will send the "California Architect and Building News" for 1883, and one copy of "Palmer's Useful Details," for \$3.50.

Visiting Shops and Learning New Wrinkles.

The worst-conducted and most unprofitable machine-shops are those whose proprietors are chronically averse to adopting any ideas originating in other establishments than their own. In these days of rapid mechanical progress, it is only a question of time as to the rotting out or failure of such concerns. A knowledge of new ideas and improved methods of doing shop-work can usually be obtained, if sought for in the proper direction, but that knowledge is not likely to be pressed upon shop-owners by those originating the improvements, except when they are secured by patents or otherwise, as private property. While the most notable of these new devices and processes are set forth publicly by the technical press, there are a great many valuable ones that are, for obvious reasons, not fully explained (only attention called to them) in print, and that are free to be adopted by any one, without royalty or any other expense than that of putting them into use. To lay hold of these kinks and devices, it is only necessary to visit shops where they are originated or applied. The usual excuse of "no time to get away" ought not to be strong enough to prevent foremen, superintendents, and proprietors from making occasional journeys to other machine-shops, either near by or some hundreds of miles distant, observing how they do work, and comparing general methods and even smaller details.

Hardly a machine-shop in the land could fail to be benefited by the introduction of more or less of the devices brought out in other shops. The best and most successful shops are those that realize this fact and act upon it. They search for new methods for facilitating good work already used elsewhere, as well as originate such methods themselves. A foreman or superintendent could profitably pack his grip-sack, and spend a week in visiting shops every six months, if the knowledge of improved processes brought back each time should enable him to turn out work faster and better than before.

As a rule, machine-shop proprietors are ready and willing to afford visitors every opportunity to see what is going on in their establishments. It is worthy of note that those whose productions have the widest and best reputation are most courteous and obliging in their treatment of visitors, including all who come to acquire new ideas to put into practical use. True, they often furnish their competitors gratis with many useful plans and methods of manufacture, but the general good-will and mechanical reputation thereby created more than repays them for the original ideas so freely imparted. In some of the most highly esteemed machinery establishments in this country, whose names are regarded as synonymous with excellence of pro-

duction, especial pains are taken to escort visitors through the various rooms and departments, and to explain every machine or process of doing work with which the visitor wishes to become acquainted. The time thus taken from work and tendered free to visitors is worth, in a large shop, considerable money every year; but, valuable as it is, the proprietors find it greatly to their pecuniary interest to keep up the custom.

By so doing, a few of them have acquired not only an excellent reputation in every part of our own country, but, as well, in all enlightened countries abroad, the money value of which it would be hard to estimate.

Occasionally a machine-shop has secrets to guard and will not admit visitors, but their number is few, and the secrets almost always leak out.

This is a good season to make a tour among machine-shops, with a note-book and pencil, gathering "points" for practical application.—*American Machinist.*

Usefulness of Trade Journals.

The encouragement of trade journals augurs well for the advancement of manufactures. No matter how skilled may be a workman, his fellow-craftsmen possess secrets of which he is ignorant, and which can, as a rule, only receive their proper dissemination by being published in the specialty or technical papers that are doing so much for the elevation of the American artisans and their numerous callings, in which the public is so intensely interested. Every mechanic who prides himself in his particular line ought to subscribe regularly to a trade journal—one representing most closely the branch of work in which he is engaged. This should be read closely and carefully, and the hints and suggestions thrown out must be noted with the view of giving them practical tests. By pursuing this commendable course, a greater degree of technical skill is acquired at a trifling expense of time and a small outlay of money. Then, too, a knowledge is obtained as to the better class of new text-books appearing from time to time bearing on the exact sciences and applied mechanics. Beside all this, the general news of particular localities as to the progress thereof is an especial feature characterizing these papers, of which sight cannot be lost without detriment to the loser. To be well posted is as much stock in trade with a mechanic as to a merchant or professional man. The trade journal is fast becoming, under wise and careful guidance, as much of a necessity as the daily paper.—*Western Industrial Journal.*

Keep the Cellar Clean.

A great deal of sickness families suffer could be easily traced to the cellar. The cellar not unusually opens into the kitchen; the kitchen is heated and the cellar is not. Following natural laws, the colder air of the cellar will rush to take the place of the warmer and therefore lighter air of the kitchen. This would be well enough if the cellar air was pure, but often it is not; partly decayed vegetables may be there, or rotten wood, etc. The present time is opportune for a thorough cleansing of the cellar. A day should be taken to throw out and carry away all dirt, rotten wood, decayed vegetables, and other accumulations that have gathered there. Brush down the cobwebs, and with a bucket of lime give the walls and ceiling a good coat of whitewash. If a whitewash brush is not at hand, take an old broom that the good wife has worn out, and spread the whitewash on thick and strong. It will sweeten up the air in the cellar, the parlor, and the bedrooms, and it may save the family from the afflictions of fevers, diphtheria, and doctors.—*American Artisan.*

Scarcity of Back Numbers.

Two months ago we put into execution a plan that we had been maturing for some time; viz., the issuing of a mammoth supplement to the CALIFORNIA ARCHITECT AND BUILDING NEWS. Twenty-five thousand have been distributed all over the Pacific Coast. Since the issuing of the supplement we have been more than pleased with the goodly number of new subscriptions that have poured in upon us, the result flowing from a judicious distribution of the mammoth edition of our supplement.

We were hardly prepared, however, for the large demand made upon us for back numbers of the CALIFORNIA ARCHITECT. We would say in all earnestness to those who wish to secure a complete series of this journal that they will have to send in their orders in a very short time, or else we will be unable to fill them. But few copies are left of several dates, notably that of September, 1881. In that number we gave the most complete HISTORY OF THE STEEL SQUARE that has yet been published. Nearly all of our leading journals copied the article, either in full or gave copious extracts from it. This fact alone shows that the time necessary to compose the article was well spent, and of substantial benefit to thousands of readers.

Forward your orders early. Thirty-two copies are all that remains of two different months, and twenty-one copies of the date referred to.

We have but very few bound volumes left. When these are disposed of it will be impossible for us to fill any more orders. We will send, post-paid, to any part of the United States a bound volume of either 1880 or 1881 for \$2.50.

Its Influence for Good.

We do not desire to arrogate to ourselves any more credit than is our rightful due, in connection with the publication of this journal. But it must be clearly evident to every intelligent observer who is familiar with the conditions existing in this city, in connection with building, mechanical, and sanitary matters, prior to and during the first year of this journal's existence, and the very much improved state of affairs at the present time prevailing in the same connection, that a great change has by some means been brought about, better general understandings established, and a common desire created to correct abuses which had grown upon and insinuated themselves into every branch of the building interests. The architectural profession and the mechanical branches have never appeared to better advantage than at the present time, although there are still numerous improvements necessary to complete a reasonably perfected order of things, which we trust will, at least in part, be brought about in time through the columns of this journal.

The reason for this is self-evident. Prior to 1879, the year of its first issue, there had been no publication issued upon this coast in the architectural and building interests; and both the professional and mechanical interests were without any influence calculated to correct and hold in check the bad, or to encourage the better inclined in efforts to build up right and honorable methods of procedure; consequently a business demoralization ensued, and irregularities were as often the rule as the exception.

What we claim is this: that within the past three years, within which time this journal has gained its present enviable position as a representative publication, the members of the profession in this city and throughout the entire coast have been drawn more closely together, and relationships and friendships established which had never before existed; and hundreds of contractors in the various branches have

acknowledged the goodly influence of our humble efforts.

We desire to be prudent and moderate in our claims, and make them a matter of comment at the present time with no more than prudently selfish motives; for neither our own nor the acts of any other human beings are entirely free from a degree of selfishness; but so long as that motive is controlled by fair and right considerations of the interests of others, it is legitimate and commendable. If, then, we have accomplished some good in the past, and rendered ourselves worthy of confidence, why should we not receive that undivided and hearty support which will enable us to accomplish still greater good, and secure to us the available means which will strengthen our hands and embolden our hearts in the work thus far so successfully prosecuted?

It should be borne in mind that whatever is done to create and sustain healthful influences of any character works to the benefit of those who lend the helping hand. And if, by our untiring exertions, we have rendered ourselves worthy of the approval thus far received, and our purse is replenished through our labors, our recompense is well earned and fully due; and none should do otherwise than congratulate us upon the success of the enterprise which returns us a little recompense in coin, and yields so many benefits to our kind readers.

\$4.25. We will send the "California Architect and Building News" for 1883, and one copy of "American Cottage Homes," for \$4.25.

To Build a Chimney that will not Smoke.

The chief point is to make the throat not less than four inches broad and twelve long; then the chimney should be abruptly enlarged so as to double the size, and so continued for one foot or more; then it may be gradually tapered off, as desired. But the inside of the chimney, throughout its whole length to the top, should be plastered very smooth with good mortar, which will harden with age. The area of a chimney should be at least one-half a square foot, and no flues less than sixty square inches. The best shape for a chimney is circular, or many-sided, as giving less friction (brick is the best material, as it is a non-conductor), and the higher above the roof the better.

Whiffs of Sewer-Gas.

A good deal has been said at various times about the terrible effects which may be expected to follow a whiff of offensive gas inhaled in passing a sewer grating in the open street. There are no facts known to medicine which justify the belief that such a whiff would have any effect at all. If stinks could kill, the inhabitants of London would speedily undergo a serious diminution of numbers, and many foreign cities would be left as desolate as the ruins of Palmyra. The high probability is that those sewer-gases which are the most offensive to the nose are the least likely to be deleterious, if only on account of the haste which is made to escape from them, and of the impossibility of their presence being unperceived. That they should be injurious to passers-by, except to the extent of producing nausea or disgust in some delicate person, seems inconceivable, especially when it is considered how largely and how rapidly they become diluted with air as they escape and are thus exposed to the chemical influence of the great purifier, oxygen. A far more subtle enemy to health, whether at home or at the seaside, is to be found in the oftentimes cherished presence of what may be comprehensively called household dirt. The dirt of

an ordinary house, the dirt which may be wiped from the walls, swept off the furniture, and beaten out of the carpets, would be sufficient, if it were powdered in the form of dust over the patients in the surgical wards of a great hospital, to bring all their wounds into a condition which would jeopardize life. It cannot be supposed that such dirt is innocuous when it is breathed or swallowed, and it certainly possesses the property of retaining for long periods the contagious matter given off by various diseases.

Grimshaw on Saws.

A dear, good old friend, clothed in bright, new garments, has found his way to our desk. While engaged in answering our many correspondents, the postman gently deposited a neatly wrapped book on our mass of correspondence, and we dropped our letters in order to give friend Grimshaw's work a true California welcome. Robert Grimshaw has done nobly in producing such a work; and Claxton & Co. of Philadelphia deserve well-merited praise for the remarkably neat and clear style in which they have gotten up this book. It must have taken years of close study and inquiry to enable one to produce such a work as "Grimshaw on Saws." In it are given details of the manufacture of every kind of saws known to the trade; the proper methods of filing, setting, swaging, gumming, etc.; the care and uses of saws; tables of gauges; capacities of saw-mills; lists of saw-patents, and other valuable information. The work contains 280 pages, and is illustrated by 354 cuts. The latter are far superior to those of any other work of a similar character published. We will take pleasure in showing this work to any of our patrons. The price of the book is \$4.00. We will send a copy to any address upon receipt of the price. Every mechanic and millman on the coast should have one in his library.

Curiosity of Tree Growth.

An interesting observation on tree rings is recorded by Prof. Bachelart in *La Nature*. During a visit to the ruins of Palenque, Mexico, in 1859, M. Charnay caused all the trees that hid the facade of one of the pyramids of the place to be cut down. On a second visit in 1880, he cut the trees that had grown since 1859, and he remarked that all of them had a number of concentric circles greatly superior to their age. The oldest could only have been 22 years of age, but on a section of one of them he counted 250 circles. A shrub 18 months old at most, had 18 concentric circles. M. Charnay found the case repeated in every species, and in trees of all sizes. He concluded that in a hot and moist climate, where nature is never at rest, it may produce, not one circle a year, but one a month. The age of a monument has often been calculated from that of trees that have grown on its ruins. For Palenque, M. Laranzar calculated 1,700 years, having counted 1,700 rings in a tree. M. Charnay's observation requires the number to be cut down to 150 or 200 years, making a considerable difference, a matter of 1,500 years. Prof. Bachelart asks whether M. Charnay took account of certain colored rings which some tropical trees present in cross section, and which are to be distinguished from the annual circles.

BUILDER AND WOOD-WORKER, CARPENTRY AND BUILDING, BUILDING.

Either of these journals, in connection with the CALIFORNIA ARCHITECT AND BUILDING NEWS, will be sent to one address for \$2.50 per year.

Give the Boys a Chance.

How many boys who, having chosen a trade and entered into their apprenticeship, have been doomed to remain inferior workmen, because of being denied a fair opportunity of developing the best that was in them, would be hard to estimate. The young apprentice, if he is satisfied with the trade he has chosen, and has ambition to equal if not excel some of his fellow-apprentices, will naturally look for and expect to receive encouragement from some source. He looks up to the older apprentice, to the journeyman, to the superintendent, or to his employer for advice, and in most instances receives a cold reply to his inquiries. The best boys are generally the timid ones; the forward boy, in many instances, not being treated as kindly as the boy who seems to lack self-esteem. There is always a "spark of human kindness" extended to those who seem most dependent on others. And in no place should this generous feeling be so liberally shown as in the machine-shop, where the names of the tools and the nature and perplexing variety of the work to be done would puzzle the mind of a timid boy. Therefore, those having control of either men or boys should use civil and polite language in giving directions, keeping in mind the fact that, should the head get impatient and ill-tempered, every member will be affected in like manner. A boy should receive every encouragement and advice until he has sufficient self-reliance to depend on his own ability to do a job unaided; every chance should be given him to learn all that is requisite to make him a thorough mechanic, as it is as much injury to the reputation of a shop to turn out an inferior workman (a chunker) as it is to turn out an inferior and defective engine or tool. The employer or foreman should not be always watching the apprentice in hopes of detecting him wasting either time or material; for if a boy has an idea in his head which he desires to perfect—whether it be in the shape of a pair of legs made into calipers, a trysquare, in the "truth" of which he has implicit reliance, an accented punch, hammer or tool, or maybe, a valuable shop hint that had escaped your sight—you can rely upon it he will find (not steal) both time and material to do the job to his liking. He is boss of that job, and you may depend upon it.

Thomas F. Hagerty, in the *American Machinist*, says, relative to the last year of his apprenticeship: "The practice at that time was to employ many apprentices and very few journeymen. One of the partners of the firm generally acted as foreman—the reverse of this is the practice of the present day. A task of so many pieces was set before each boy or man as a day's work; all work over that number was paid for by the piece. The tools in use at the time were of the most inferior kind, and each hand had to keep his own lathe and bench tools in order in his own time. Any tool which could be devised to aid in performing the task in less time was eagerly sought for. One part of the work occupied two hours' time every day, which with the proper tool, specially designed for the purpose, could have been done better and with more uniformity in five minutes. I conceived the idea of inventing a tool to do this job, but fearing to receive the usual brutal rebuff from the boss, I set to work to perform the task in my own time. I devoted my spare hours at night to the drawing, and half the dinner-hour every day to the pattern, until it was finished. I had castings made, and the parts finished and ready to put together and try on the first opportunity I could get. The boss came 'nosing around' the boys' bench drawers, and in mine he found the prospective device, which would have given him a monopoly of one branch of his business had not his own meanness prevented it. His discovery embraced a frame and a few small shafts

and screws, two little gooved wheels, and a bifurcated lever and handle. I am charitable enough to believe that he supposed that it was some kind of a toy I was making at the expense of his time and material; but without waiting for an explanation, he began to curse and fret, and finally broke up my device with a hammer, and threw the parts into the scrap heap. I had no redress left me, as to attempt a remonstrance with him would have led to fistieuffs; therefore I had to grin and bear it. I need hardly say that when my apprenticeship time expired I left the shop, and that a rival shop received the benefit of that and many other inventions, which enabled them to manufacture and sell their goods more cheaply than before. Several patents were issued years afterwards to other parties for the application of the principles embodied in my device, for other purposes. This is one of many instances which I could relate where the first efforts of the apprentice to bring out and apply his individual talent was checked by ignorant and unkind rebuffs. Therefore, I say give the boy a chance."—*Western Industrial Journal*.

Any one sending us 5 new subscribers to the "California Architect and Building News," we will give one copy each of "American Cottage Homes" and "Model Homes."

Practical Scientific Research.

There is a growing conviction among thinking men that money is well spent in promoting really practical scientific investigations. The number of obscure points which are daily brought to the attention of busy men is much greater than might be surmised by those not called upon to meet industrial and commercial questions. The busy engineer, mechanic, electrician, and chemist are sure to meet problems of great importance at almost every turn, and many are the regrets that they express that the pressure of necessary routine work renders it impossible for them to study, and perchance solve, some of the questions they are forced to ignore.

The more wide-awake business houses are beginning to see the benefit to be derived from a thorough study of processes for manufacture, from more carefully made machinery, from a more thorough utilization of mechanical and chemical forces previously wasted, and from the positive guaranty which a competent expert can give that the goods they manufacture and sell are of exactly the quality demanded.

But few business firms, however, are willing to go so far as to employ men and furnish facilities for the more elaborate and generally useful investigations; such work has usually been performed by college professors.

Notwithstanding the eminent ability of many of the men who have thus contributed to science, it must be admitted that their results are frequently more or less unsatisfactory. For this there may be several explanations: college professors are often overworked; they are often embarrassed for want of means to procure necessary books and apparatus; and, lastly, they do not, as a rule, mingle freely with the busy practical men to whom industrial and scientific questions are daily being presented. The consequence is that very many scientific professors are devoting themselves to what they term "pure research," and are carrying their theories far beyond the limits of usefulness and common sense. It seems to be true that we must look outside the colleges for a large share of the practical scientific work now waiting to be done.

Much can be accomplished if each well-trained worker will give a small portion of his own time, outside of business hours, to the investigation of some one question which he deems of real importance. Let the work be done without haste, thoroughly, conscientiously, and without regard to preconceived theories, let results be

minutely recorded when obtained, and, finally, let all be carefully digested and printed in some wide-awake journal for which it is appropriate.

The various scientific and trade associations can do much good in the same direction, by setting apart moderate sums of money to be judiciously expended for the promotion of scientific and practical investigation of the various questions presented. Most societies have among their members men who are fully competent to conduct elaborate and useful experiments, and derive therefrom results of real value to all. It is a good sign when such work is encouraged by associations of practical men, and we are glad to note that many societies now have funds, the proceeds of which are employed for the encouragement of original research upon practical questions.—*The Sanitary Engineer*.

Edge Tools.

All cutting and piercing edge tools operate on the principle of the wedge. A brad-awl furnishes an example which all can readily understand. The cutting edge of the awl severs the fibers of wood as the instrument enters, and the particles are compressed into a smaller compass, in the same manner as when a piece of wood is separated by a wedge. A chisel is a wedge in one sense; and an ax, drawing-knife or jack-knife is also a wedge. When a keen-edged razor is made to clip a hair or remove a man's beard, it operates on the principle of the wedge. Every intelligent mechanic understands that when a wedge is dressed out smoothly, it may be driven in with much less force than if its surface were left jagged and rough. The same idea holds good with respect to edge tools. If the cutting edge be ground and whet to as fine an edge as may be practical with a fine gritted whetstone, and if the surface back of the cutting edge be ground smooth and true, and polished neatly, so that one can discern the color of his eyes by means of the polished surface, the tool will enter whatever is to be cut by the application of much less force than if the surfaces were left as rough as they usually are when the tool leaves the grindstone. All edge tools, such as axes, chisels, and planes, that are operated with a crushing instead of a drawing stroke, should be polished neatly clear to the cutting edge, to facilitate their entrance into the substance to be cut.

Damage to Lead Pipes by Rats.

In the cellar of a house in Berlin, a large number of rats had recently taken up their permanent abode. Notwithstanding traps and poison, the vermin could not be got rid of. The brickwork was carefully examined, and a good many holes were discovered, which probably served as nests for the rats or led to the outside soil. All the openings were filled with cement, and the walls of the cellar pointed. The floor, which had hitherto been loose, was laid with bricks and cement. The rats disappeared; but after a short time a wet spot was observed in the brickwork, near where the water supply pipe ascended. On examination, a number of dead rats were found in a space of the cutting made for the pipe, which had not been filled up when the pipe had been moved, and close by, the lead pipe had been gnawed right through. The above may be very easily explained. A family of rats had settled in the cutting; exit had been cut off by the closing up of all the holes; the rats, trying to get out, had attacked the lead pipe as being the softest material in their prison. They gnawed until they had made an opening, when they were drowned by the out-flowing water.—*The Builder*.

Sawn veneers preserve the natural color and grain of the wood better than sliced.

