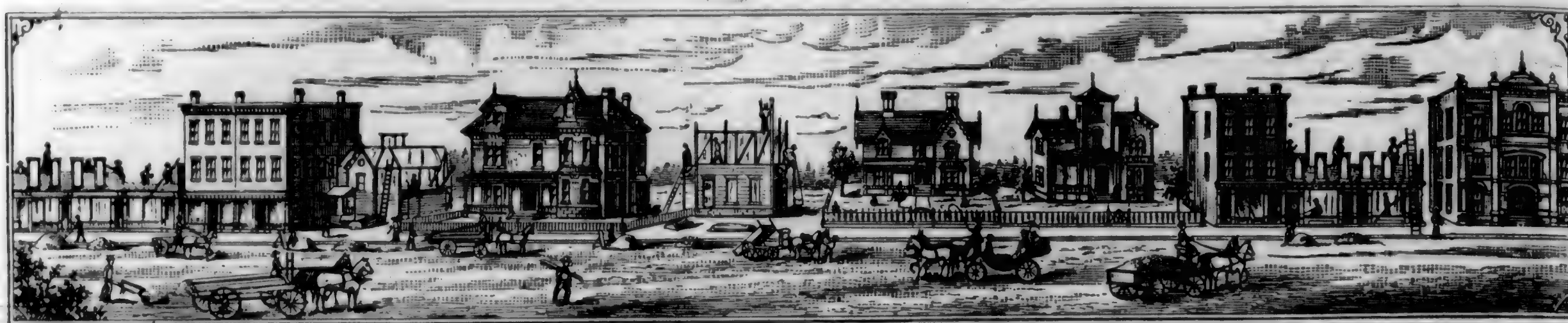




COUNTRY BUILDING INTELLIGENCE

Alameda.

REAL ESTATE AND IMPROVEMENTS.

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

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

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

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

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

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

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

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

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

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

Astoria.

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

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

Auburn.

J. J. Smith is erecting a cozy cottage.

Byron Springs.

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

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

East Oakland.

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

Fresno.

W. H. McKenzie will erect a handsome dwelling.

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

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

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

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

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

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

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

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

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

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

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

Gilroy.

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

Healdsburg.

The Episcopalians are preparing to build a new church.

Los Angeles.

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

Napa.

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

Oakland.

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

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

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

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

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

Pacific Grove.

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

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

Portland, Or.

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

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

Port Hadlock, W. T.

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

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

Redlands.

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

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

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

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

Riverside.

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

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

The Catholics are also preparing to erect a large church.

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

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

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

Colburn & Myers are having erected a brick building.

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

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

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

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

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

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

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

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

Sacramento.

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

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

St. Helena.

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

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

San Jose.

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

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

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

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

J. H. Kohlhaner is building a one-story frame for P. Reen. J. Lenzen & Son, architects. Cost, \$1,500.

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

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

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

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

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

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

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

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

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

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

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

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

San Rafael.

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

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

Santa Cruz.

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

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

Santa Rosa.

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

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

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

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

Seattle.

Many new buildings are going up at this place.

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

Robert Abrams is preparing foundations for a large building.

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

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

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

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

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

SAN FRANCISCO BUILDING NEWS.

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

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

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

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

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

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

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

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

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

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

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

Eddy, No. 1128. Two-story frame.

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

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

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

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

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

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

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

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

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

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

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

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

EACH SUCCESSIVE NUMBER WILL BE COMPLETE IN ITS BUILDING REPORTS.

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

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

V	Valencia , bet. Eighteenth and Nineteenth. Two-story frame. O.—Chas. Meyer. A.—John & Zimmerman. C.—Adam Miller. \$4,500.
W	West Park Avenue , nr. Mission. One-story frame. O.—G. L. Marshall. \$700.
	West Park Avenue , nr. Mission. One-story frame. O.—and B.—G. W. Graham. \$2,000.
	West Park Avenue , nr. Mission. One-story frame. O.—Geo. Crofford. C.—Geo. W. Graham. \$1,000.
	West Avenue , east of Mission. One-story frame. \$800.

RETAIL PRICE LIST

OF

LUMBER.

PINE, FIR, AND SPRUCE.

	Per M ft.
Rough Pine, merchantable to 40 ft. inclusive.	\$20 00
" " " 41 to 50 "	21 00
" " " 51 to 60 "	22 00
" " " 61 to 70 "	23 00
" " " 1x3 and 1x4, Fencing.	21 00
" " " 1x3, 1x4, and 1x6, Fencing, odd lengths.	19 00
" " " second quality	16 00
" " " selected.	24 00
" " " clear except for flooring	29 00
" " " Flooring less than Dressed Flooring.	1 00
Pine Wood.	9 00
Dressed Pine, Flooring, 1x6, No. 1.	32 00
" " " other sizes, No. 1.	34 00
" " " all " No. 2.	27 00
" " " Stepping, No. 1.	40 00
" " " No. 2.	30 00
Ship Timber and Plank, rough, selected.	25 00
" " " selected, planed, 1 side	27 00
" " " " " 2 " average, 40 ft.	29 50
" " " " " 3 " "	32 00
" " " " " 4 " "	34 00
Deck Plank, rough	29 50
" " " dressed, average 35 ft.	34 00
Pickets, rough, B. M.	19 00
Furring, 1x2, per lineal ft.	03
Lath, 1 1/4 ft., per M.	3 50
" " 1 1/2 ft., " "	4 00
Rough dunnage, delivered, per M.	20 00
Spruce dressed shelving, to 14 inches, per M.	35 00
" " " 1/2 inch " "	35 00
" " " wider, per M.	40 00

REDWOOD.

	Per M ft.
Rough Redwood, merchantable.	\$20 00
" " " second quality.	16 00
" " " selected.	24 00
" " " clear.	33 00
" " " common surface.	22 00
" " " 1/2-inch surface.	28 50
" " " No. 1.	33 00
" " " No. 2.	26 00
" " " T. & G., 12 ft. and over, No. 1.	30 00
" " " " " other sizes, No. 1.	30 00
" " " " " 7 to 11 " No. 1.	26 00
" " " " " under 7 " No. 1.	23 00
" " " Rustic, No. 1.	33 00
" " " No. 2.	28 00
" " " T. & G. headed, 12 ft. and over, No. 1.	33 00
" " " " " other sizes " No. 1.	33 00
" " " " " 7 to 11, No. 1.	26 00
" " " " " under 7, No. 1.	23 00
" " " Siding, 1/2 inch	23 50
" " " " "	25 00
Pickets (fancy), 4 feet, B. M.	17 00
" " (rough pointed) "	15 00
" " (square) "	15 00
Battens, 1x3, per lineal ft.	03
Shingles, per M.	3 75
" " " fancy, per M.	3 75
Posts, split.	13
Shakes, split, per M.	9 00
" " " sawed "	11 00

BUSINESS CHANGES.

David Salfeld has moved to 339 Kearny. He has taken a partner; the firm's name is Salfeld & Kohlberg.

E. R. Swain has retired from his profession as architect.

J. J. Clark has moved his office to room 70, St. Ann's Building.

Mr. O. G. Moore has united with Mr. Schulze in a professional capacity, and they will hereafter be found at 325 Montgomery Street.

ITEMS IN REGARD TO BUILDINGS IN THE COUNTRY THANKFULLY RECEIVED.

THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

VOLUME VIII.

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

NUMBER 4.

THE California Architect & Building News.

Established January, 1879.

The official organ of the San Francisco Chapter American Institute of Architects. Published by the SAN FRANCISCO ARCHITECTURAL PUBLISHING CO. No. 240 MONTGOMERY STREET, Rooms 11, 12, 13.

Terms per annum - - - \$2.00 in advance.

Published on the 15th of each Month.

When money is sent for subscriptions, the receipt of a copy of this Journal is an acknowledgment that it has been received. Unless requested we do not send receipts.

OUR ADVERTISING RATES.

Front Cover, Outside, Each Insertion	Per Square \$ 2.50
Back Cover, Outside, Each Insertion	do. 2.00
Page Preceding Reading Matter	do. 1.75
Page Following Reading Matter	do. 1.50
Inside Pages	do. 1.00
Full Page Inside	One Insertion 40.00
Each Subsequent Insertion according to Agreement.	

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

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

No Others Received.

SAN FRANCISCO, CAL., APRIL 15, 1887.

Fate of the Amended Lien Law.

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

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

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

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

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

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

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

Building Record for April.

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

During the month there has been commenced—

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

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DEATH OF LEVI GOODRICH,

Pioneer Architect of Santa Clara County.

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

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

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

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

The Future Cost of Building.

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

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

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

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

The State Booming in Every Part.

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

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

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

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

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

Getting Oil out of a Grindstone.

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

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Mantel Bed, Opened.

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

Waifs from the World of Wood.

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

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

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

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

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

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

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

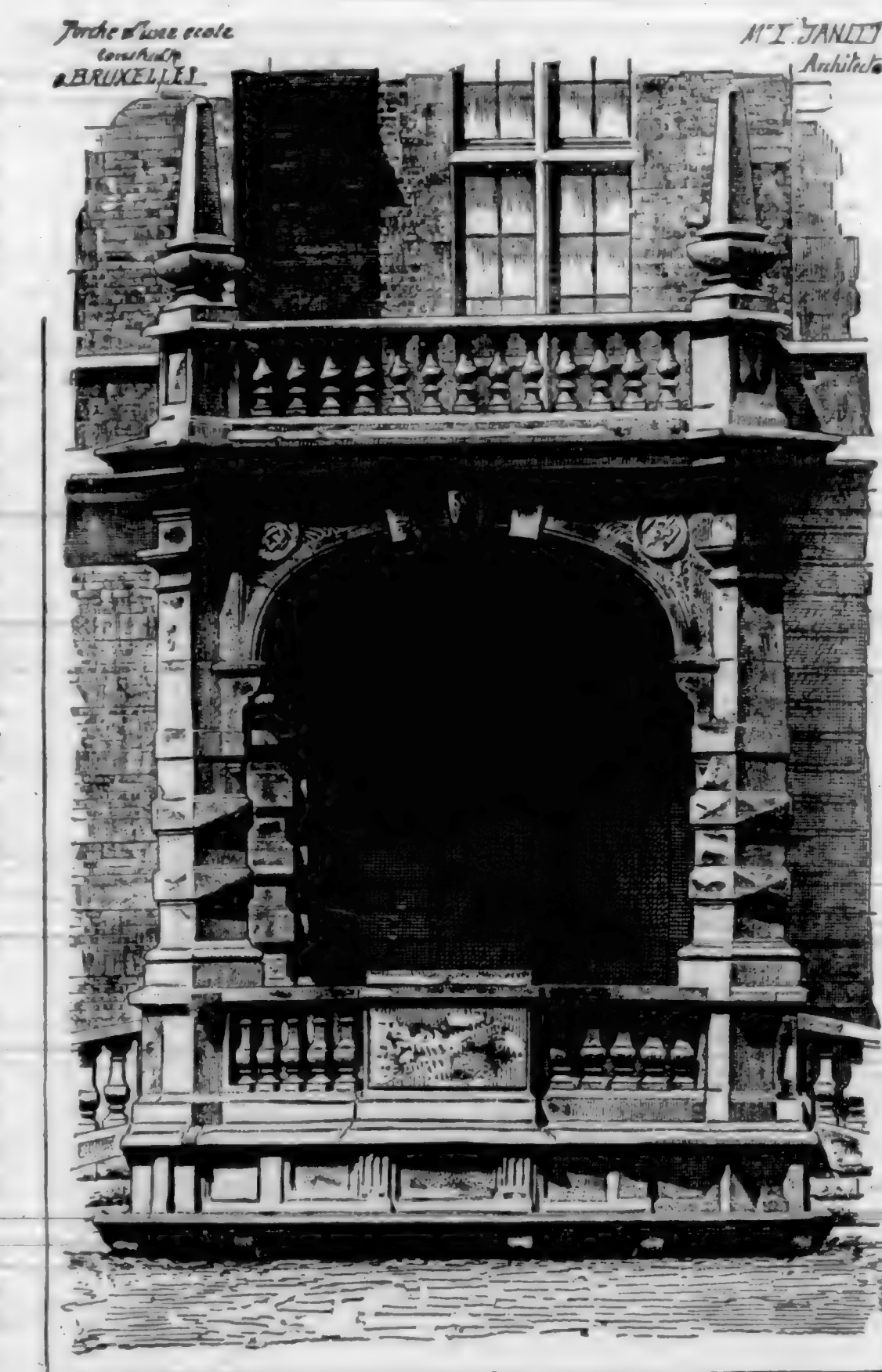
A marine alga of Arctic regions grows at a temperature far below zero, and its spores disappear at higher temperatures. It thus appears that intense cold is necessary to the existence of some forms of vegetable life, together with extreme dryness, and this class of plants includes the cryptogams of red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

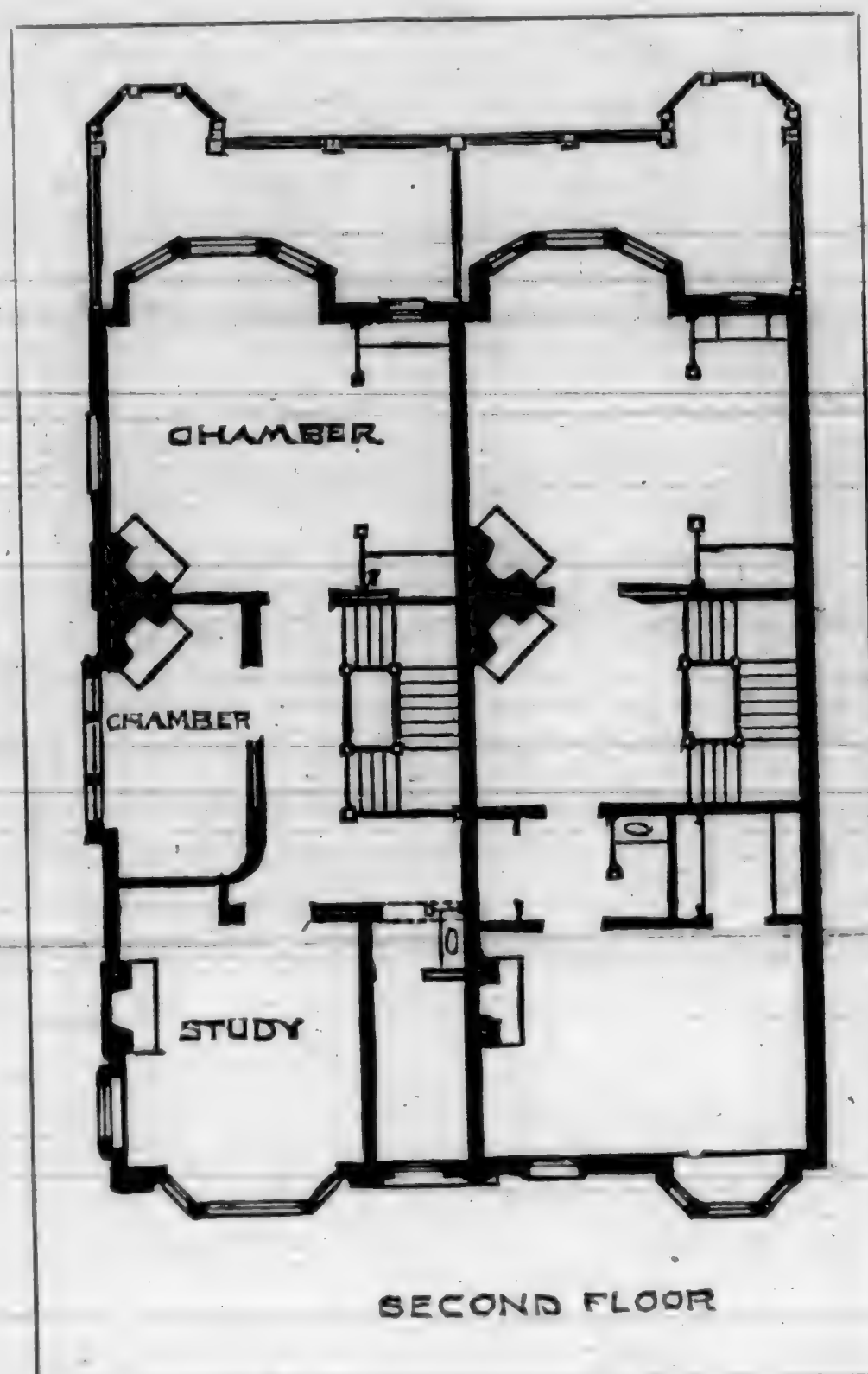
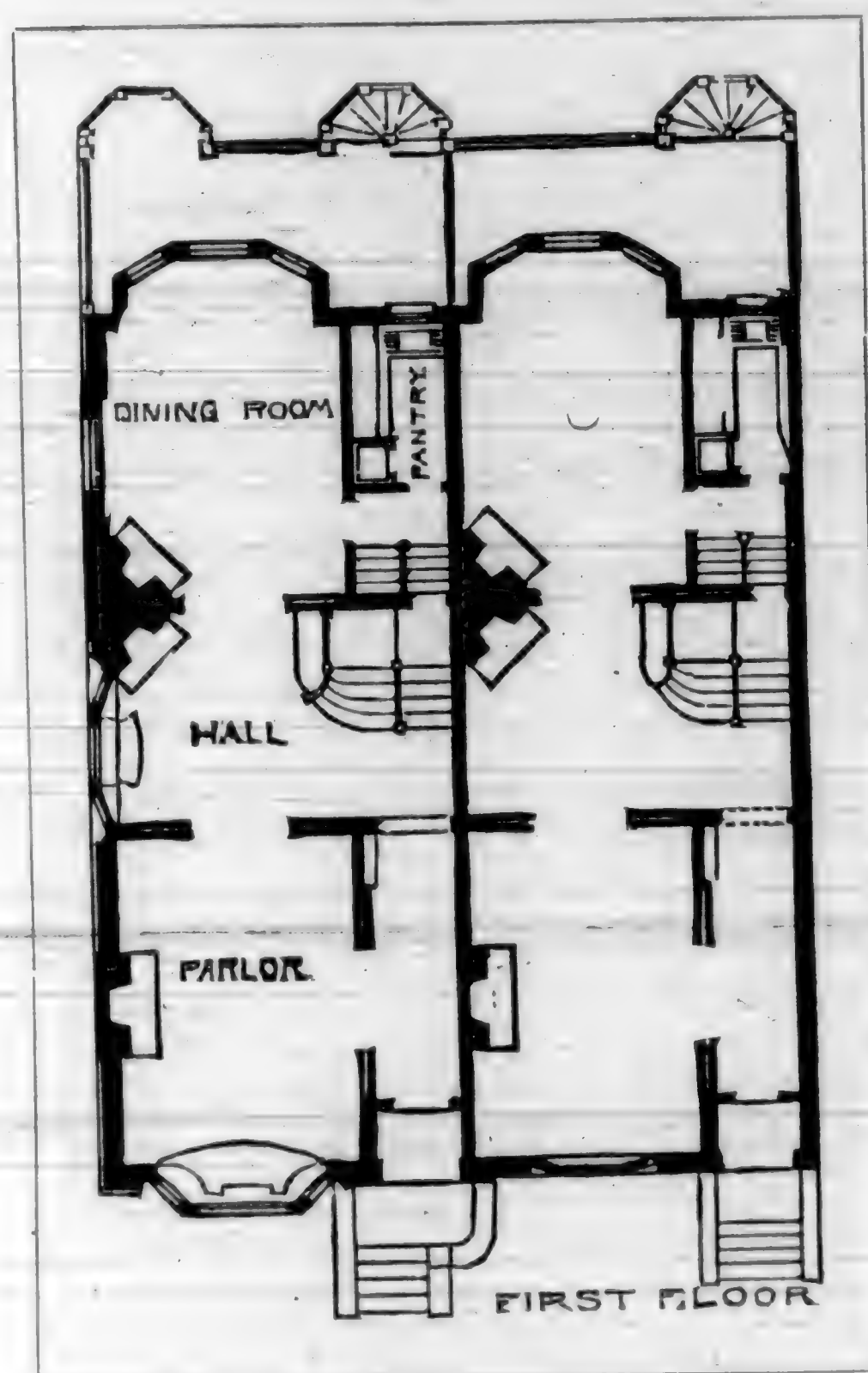
Mahogany is being rapidly introduced into every part of India where it promises to thrive. A single pound of seeds planted in green-houses in the southern districts have yielded between three and four thousand plants. It is thought probable that the world may some day look to India for its mahogany as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

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

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

—Lumber World.





New Books Just Received.

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

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

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

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

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

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

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

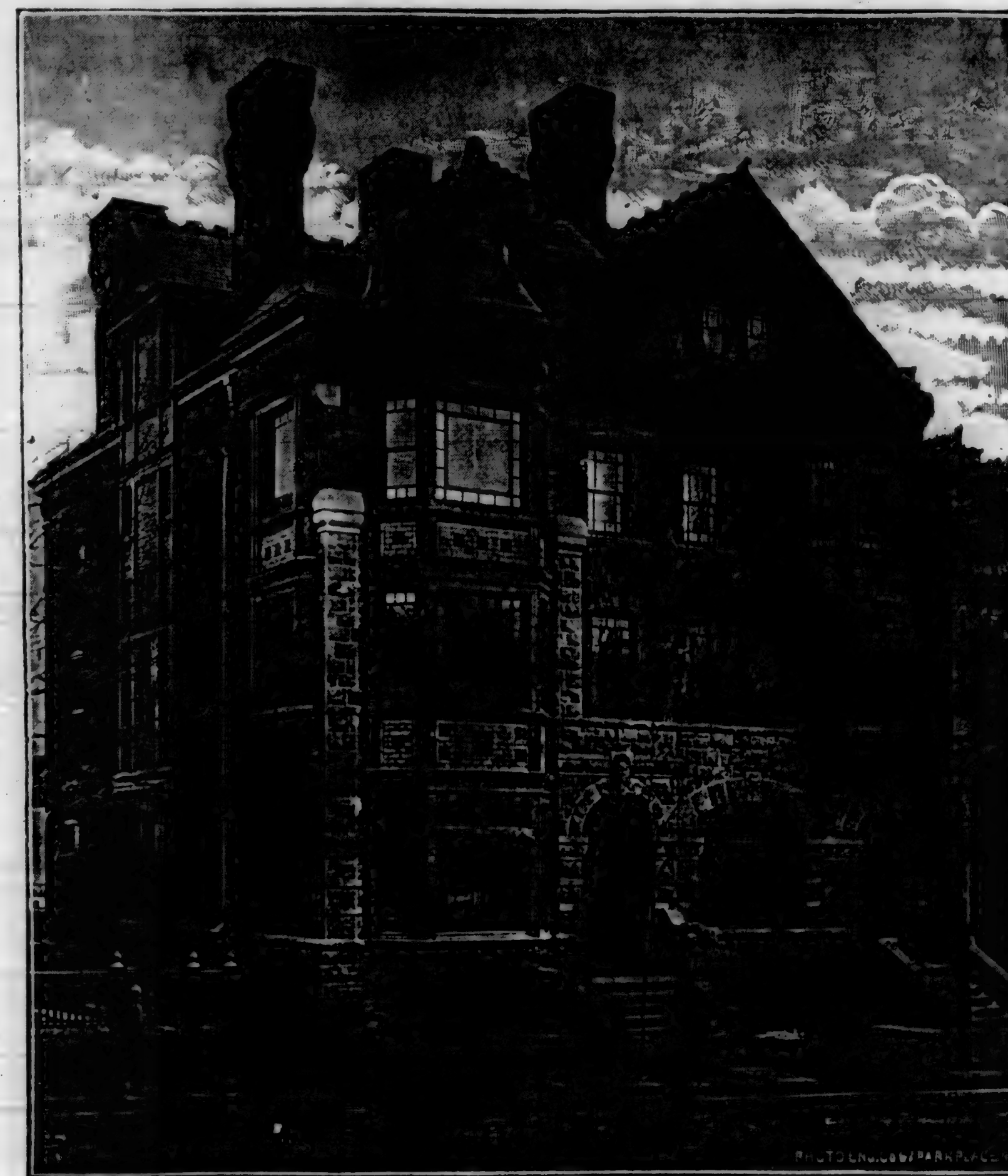
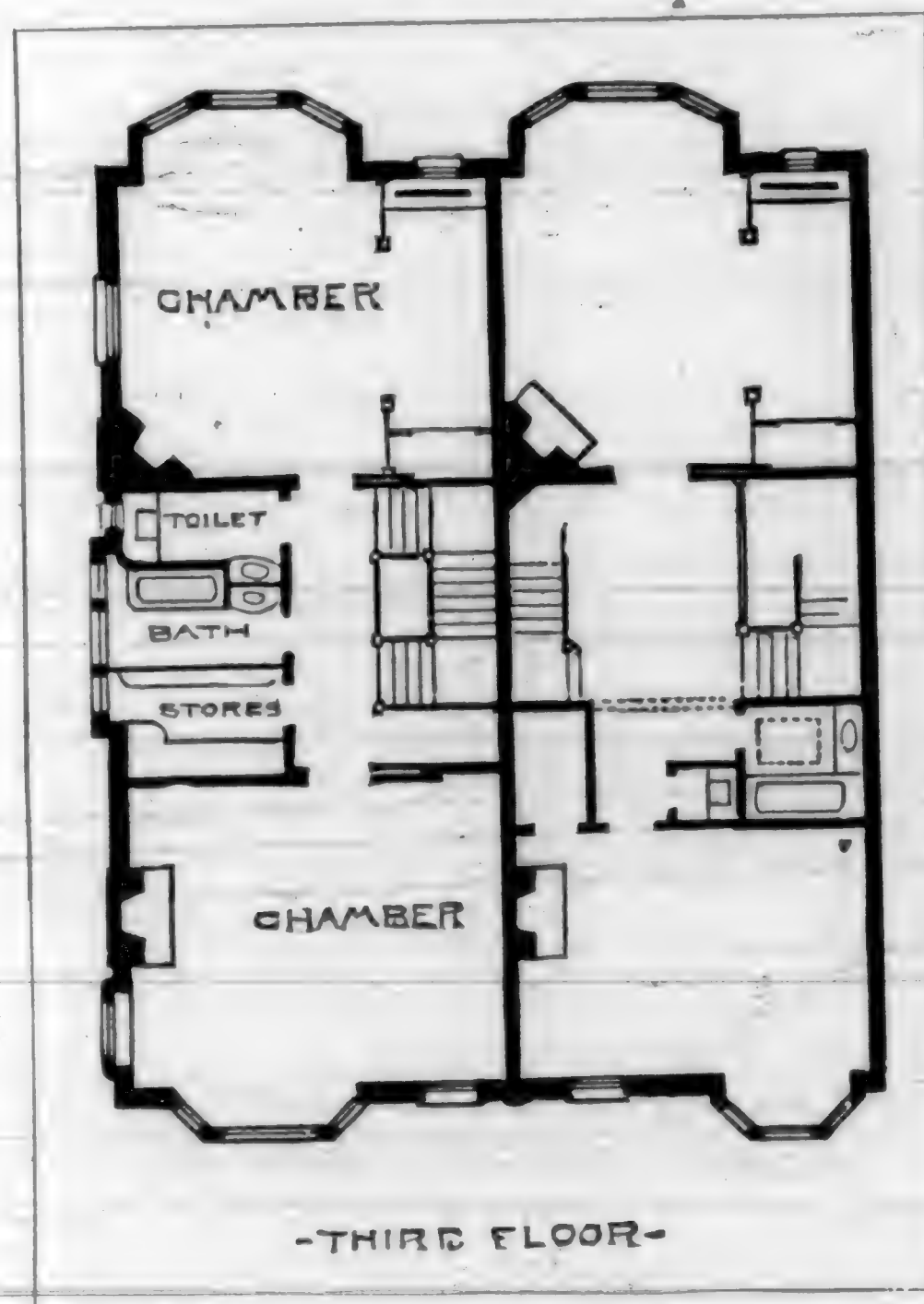
We will send the CALIFORNIA ARCHITECT for one year, free, to purchasers of either of the latter two works.

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

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

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A STYLISH DOUBLE RESIDENCE.

A Stylish Double Residence.

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

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

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

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

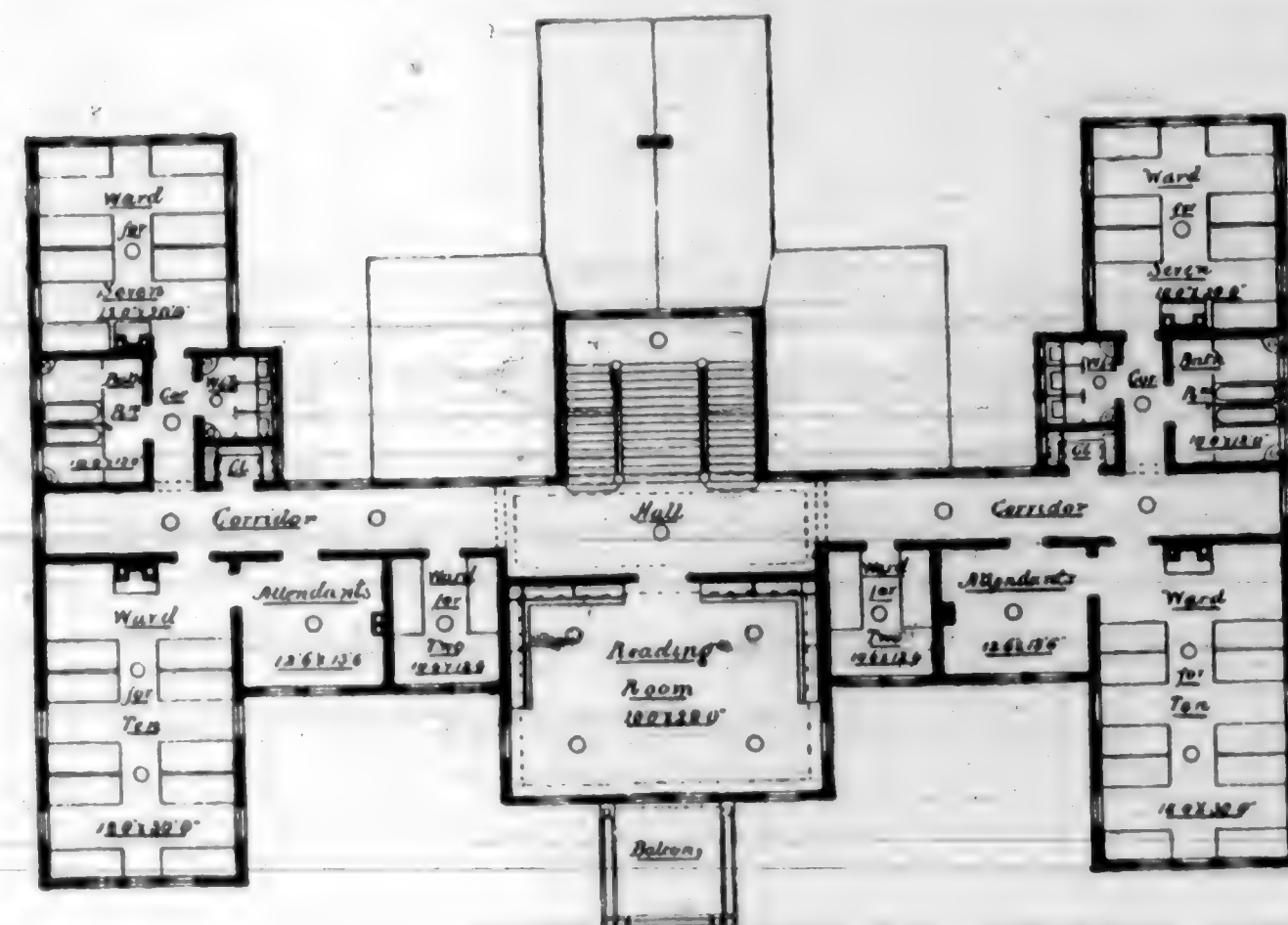
W. C. Taylor, architect, is the designer of the building. We are indebted to J. P. Hayward, of the Real Estate Bulletin, for the use of all cuts in connection with this article.

Introduction of Oil Painting.

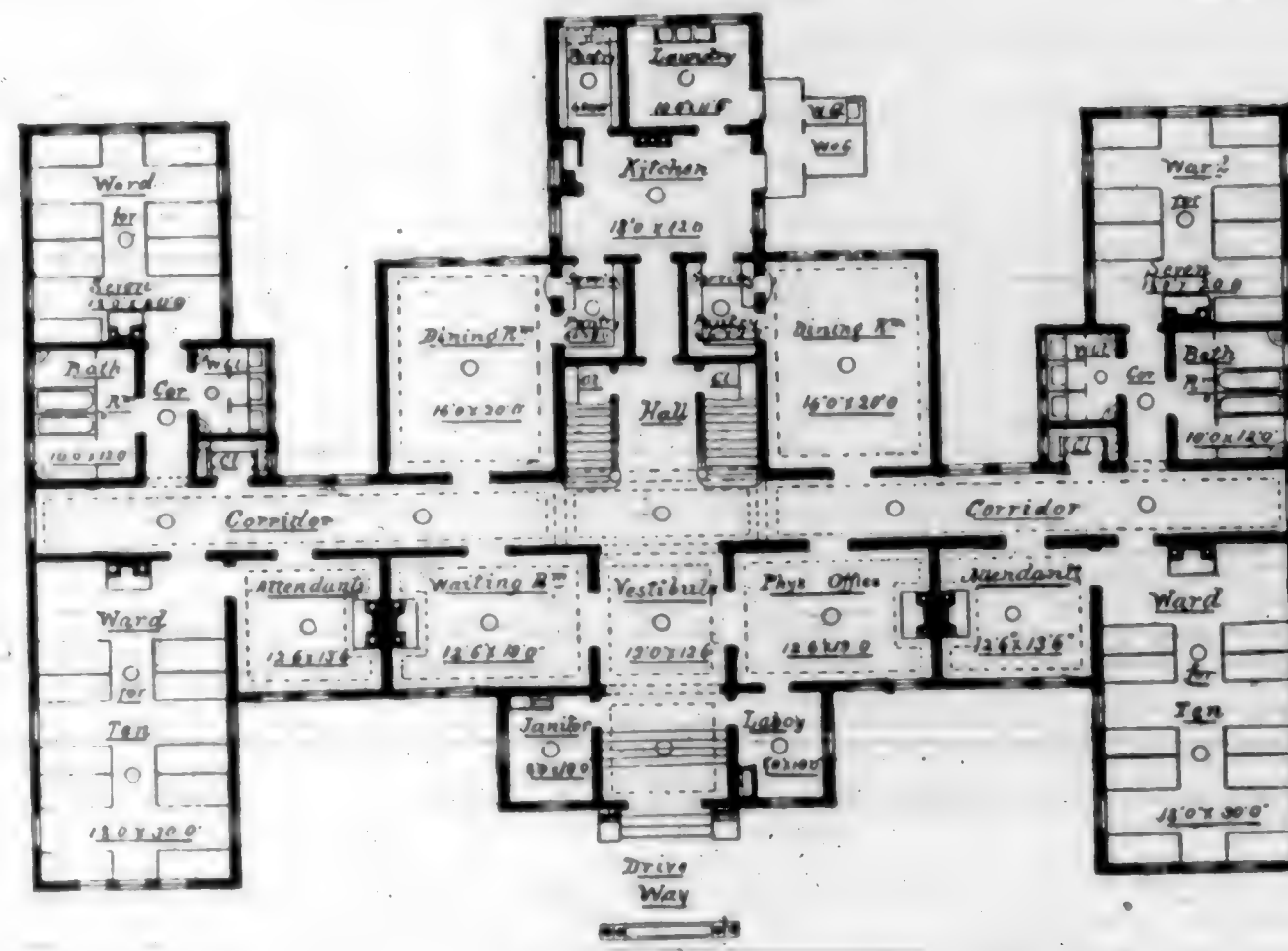
FOLLOWING is a translated extract from the Italian work of Vasari as to the introduction of oil painting: It happened that John of Bruges, pursuing the art in Flanders, and much esteemed in those parts for his great skill, set himself to try different colors; and being a man who delighted in alchemy,

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

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



Second Floor Plan



First Floor Plan

David Salfeld
Architect

PLAN OF COUNTY HOSPITAL

Is It a Curse?

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

Security Against Thieves and Tramps.

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

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

A GIANT MONOPOLY.

A Lumbermen's Organization on a Large Scale.

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

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

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

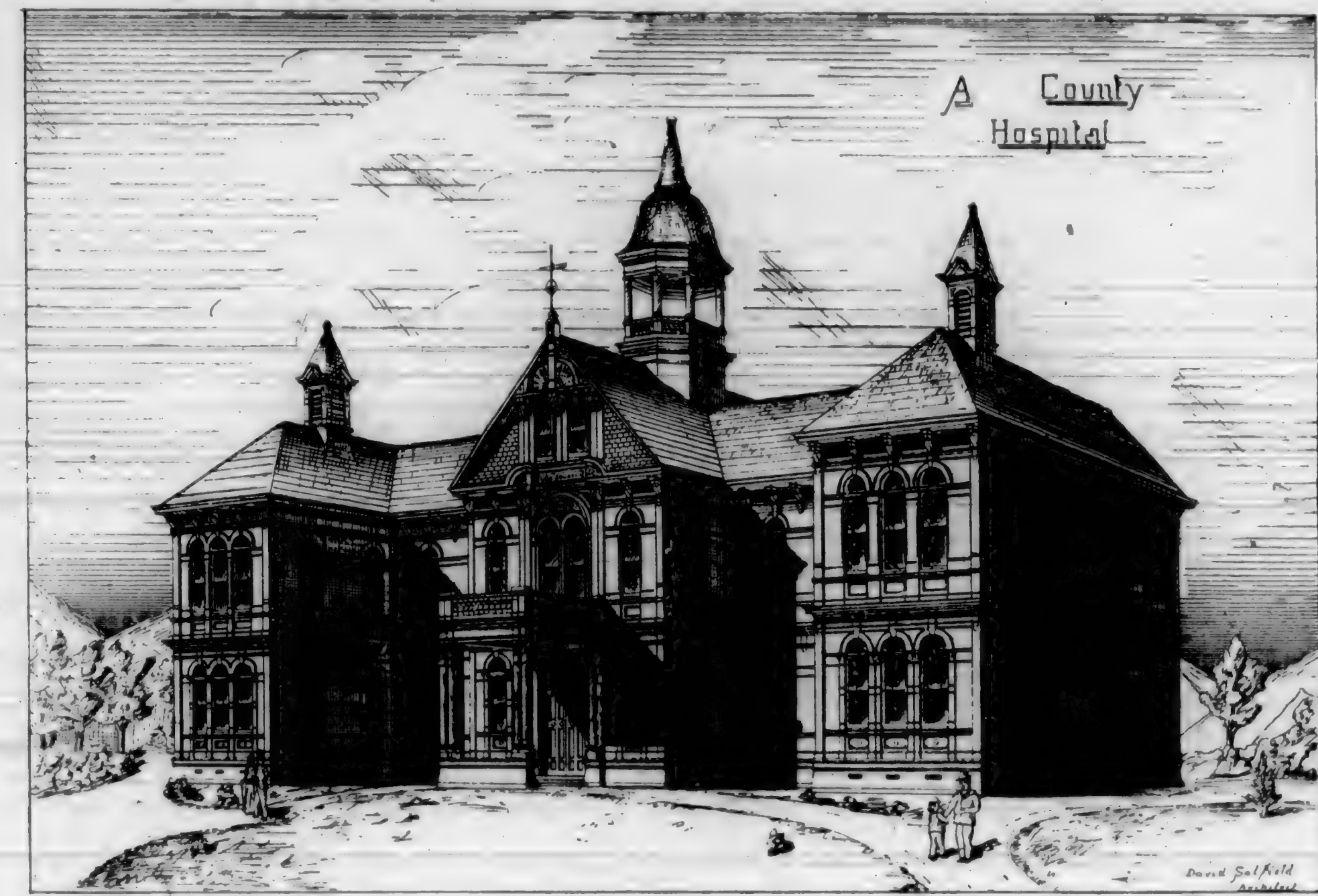
This, however, does not give a proper idea of the value of the trade, and of the importance of the step taken. The total cut of redwood in 1887 was 228,769,251 feet, worth in San Francisco \$5,000,000—reckoned at \$20 per thousand for rough redwood. The price was advanced in 1886 \$3.00 per thousand.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

Scratching Matches on Paint.

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

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

Some Facts about Saws.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ASKED, ANSWERED, AND COMMUNICATED.

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



About Miters.

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

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

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

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

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

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

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

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

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

THE GARLAND TRAP.

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



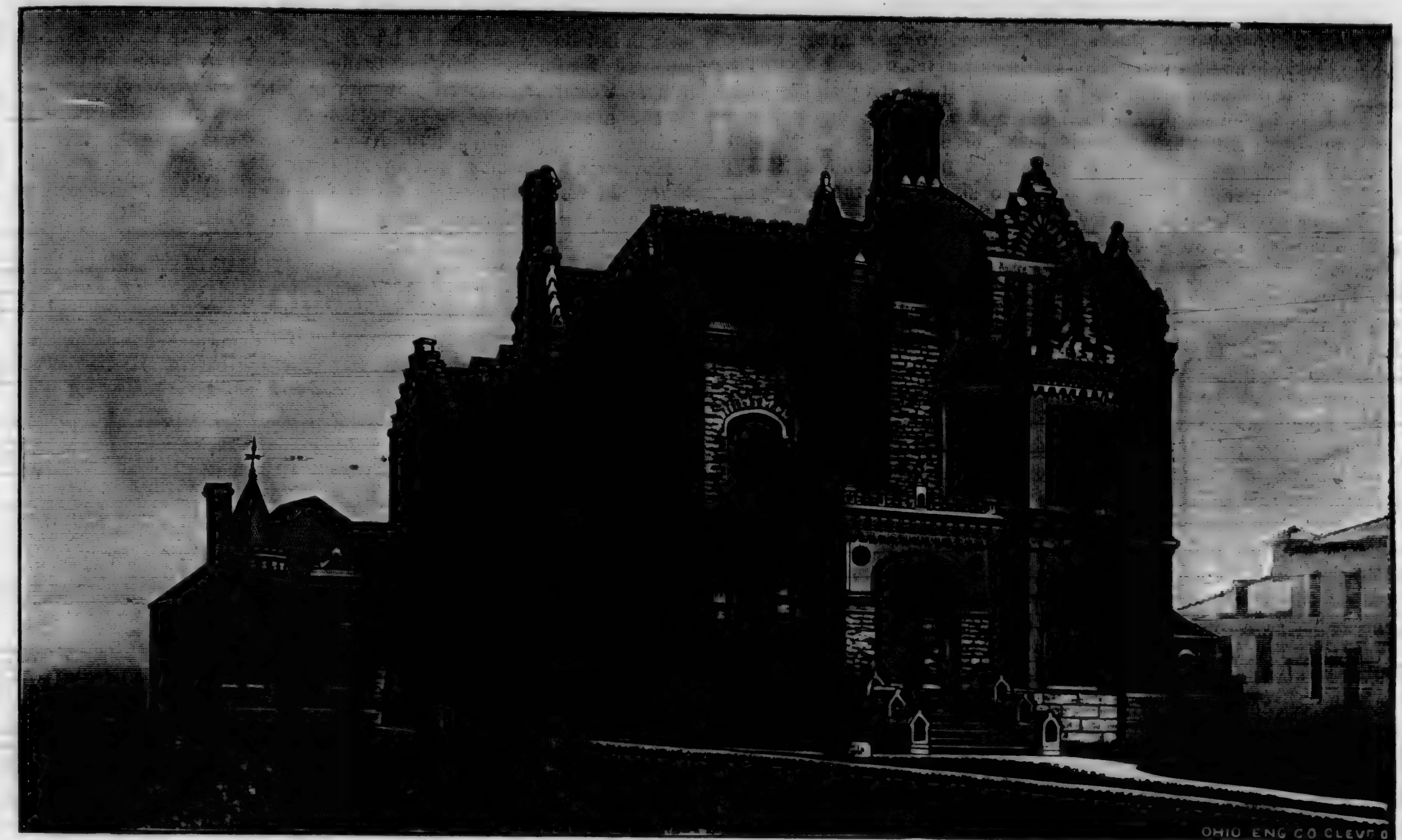
The loaded ball valve F, is slightly heavier than water; it floats up and around the chamber while the water is flowing out, afterwards falling gently into its seat, thereby forming a shut-off against the induction of sewer gas or back water.

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

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

Value of Pictures in Rooms.

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



DESIGN FOR A BUILDING TO BE BUILT OF CLEVELAND STONE.

Tin Roofing Plates.

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

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

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

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

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

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

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

A New Work—"Architectural Studies."

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

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

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

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

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

Carpenters Here and Abroad.

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

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

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

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

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

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

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

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

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

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

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

BUILDING PROPOSALS.

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

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

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

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

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

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

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

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

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

CHARLES M. STRAUSS,

Secretary.

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

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

CONTRACTORS, ATTENTION!

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



COUNTRY

BUILDING INTELLIGENCE

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

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

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

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

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

Alameda.

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

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

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

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

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

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

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

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

R. E. Combs will also erect a building.

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

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

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

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

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

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

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

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

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

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

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

Baumont.

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

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

Berkeley.

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

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

East Riverside.

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

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

Fresno.

Joseph Spinney will erect a dwelling.

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

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

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

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

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

Goldstream, B. C.

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

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

Gridley.

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

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

Helena, Mont.

A \$60,000 club building is proposed.

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

Healdsburg.

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

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

Kingsburg.

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

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

Los Angeles.

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

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

Monterey.

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

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

Napa.

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

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

Oakland.

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

Artisan, for \$5.00.

Builders' Guide, for \$2.00.

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

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

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

Building Superintendence, for \$3.00.

American Cottage Homes, for \$3.00.

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

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

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

Steel Square Problems, for \$1.00.

Workshop Companion, for 35c.

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

Ontario.

The railroad company intend erecting a fine depot building.

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

Oregon Items.

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

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

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

Every Man His Own Mechanic, for \$3.50.

Tredgold's Carpentry, for \$7.50.

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

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

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

Building Superintendence, for \$3.00.

American Cottage Homes, for \$3.00.

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

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

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

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

Shavings and Sawdust, for \$1.50.

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

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

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

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

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

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Mrs. Hewett is erecting a residence.

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

Practical Geometry, for \$1.00.

Pomona.

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

Artistic Homes, for \$3.50.

Modern House Painting, for \$5.00.

Portland.

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

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

Reno, Nev.

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

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Riverside.

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

Hand Railing and Stair Casing, for \$1.50.

Drawing for Carpenters, for \$1.75.

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

Steel Square Problems, for \$1.00.

Workshop Companion, for 35c.

Important building operations will soon be going on extensively in the center of the city.

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

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

Cutting Tools, for \$2.00.

Cumming's Details, for \$5.00.

Sausalito.

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

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

San Luis Obispo.

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

Grimshaw on Saws, for \$4.00.

Mechanics' Geometry, for \$4.00.

Santa Ana.

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

Album of Mantels, for \$8.00.

History of Architecture, for \$15.00.

Seattle, W. T.

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

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

Industrial Drawing for Carpenters, for \$2.00.

Stockton.

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

Practical Perspective, for \$5.00.

Drawing for Carpenters, for \$1.75.

Spokane, W. T.

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

Drawing for Stone Masons, for \$1.50.

Building Construction, for \$1.25.

Selma.

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

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

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

Drawing for Bricklayers, for \$1.50.

Drawing for Cabinet Makers, for \$1.50.

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

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

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

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

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

San Bernardino.

Large swimming baths will be erected.

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

Manual for Furniture Men, for \$1.00.

Common-Sense Church Architecture, for \$1.00.

A machine shop 90x160 will shortly be built.

Artisan, for \$5.00.

Builders' Guide, for \$2.00.

Also a car shop of the same size as above.

Woodward's Farm Homes, for \$1.00.

Woodward's Graperies, for \$1.00.

Sonoma Co.

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

South Riverside.

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

San Jose.

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

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

Building Superintendence, for \$3.00.

American Cottage Homes, for \$3.00.

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

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

Practical Geometry, for \$1.00.

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

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

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

San Diego.

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

Seattle, W. T.

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

SAN FRANCISCO BUILDING NEWS.

A Ash Avenue, cor. Buchanan. Alterations. O.—L. Junker. A.—Salfeld & Kohlberg. C.—F. Weinehl. \$1,300.

B Bush, near Broderick. One-story frame. O.—C. and M. Kerstein. A.—Townsend & Co. C.—J. J. Dunn. \$1,500.

Bryant, nr. Main. One-story frame. \$600.

Broadway cor. Montgomery Ave. Repairs. \$500.

C Castro cor. Twenty-fourth. Two-story frame. O.—J. B. Mahoney. A.—T. J. Welsh. C.—J. McNery. \$7,000.

California, cor. Jones. Two-story, basement and attic, frame. O.—Chas. Crocker. A.—Curtlett & Cuthbertson. Mason—O. E. Brady. \$40,000.

California, bet. Octavia and Laguna. Two-story frame. O.—S. Foorman. A.—Chas. Geddes. C.—A. Jackson. \$2,700.

Chesley, nr. Harrison. Alterations. O.—B. O. Malley. A.—Townsend & Co. C.—J. O'Connor. \$900.

Clementina, nr. Ninth. Two-story frame. A.—J. J. Clark. C.—C. E. Dunshee. \$3,500.

Cliff House. Four-story frame. O.—A. Sutro. A.—Behnd (Phelan Block). Day work. \$30,000.

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

D Dolores, nr. Twenty-ninth. Two-story frame. O.—Weissenduck. C.—R. Bergfeld. \$3,000.

Dolores, near Eighteenth. Two-story frame. O.—McKenna. \$3,000.

E Eddy, nr. Taylor. Four-story brick. O.—M. Rosenbaum. A.—Salfeld & Kohlberg. C.—T. Day. \$75,000.

Eureka, nr. Eighteenth. One-story frame. O.—F. H. Weiniger. A.—M. P. Schetzel. C.—W. Kain. \$1,200.

F Fifth, near Mission. Additions. O.—Mrs. M. Meyer. C.—W. Zehfuss. \$750.

Fifth, near Brannan. Two-story frame. O.—J. Baumberger. C.—Frighthouse. \$2,200.

Fifth, near Brannan. Two-story frame. O.—Teustemacher. \$1,500.

Folsom, bet. Fourth and Fifth. Additions. O.—Mrs. A. Brand. A.—H. Geiffuss. C.—F. Klatt. \$7,000.

Folsom, bet. Fourth and Fifth. Concrete foundations for three-story brick. O.—A. Field. A.—J. E. Wolfe. C.—Granolithic Paving Co. \$3,000.

C Green, nr. Stockton. Repairs. O.—Zeigler. \$1,000.

Guerrero and Seventeenth. Two-story frame. O.—J. McCarthy. A.—W. Schrof. C.—Cormack & Elam. \$7,000.

G Geary, nr. Leavenworth. Additions. O.—T. Ross. \$2,000.

H Haight, bet. Webster and Buchanan. Thirteen two-story frames. O.—J. Nightingale. A.—A. J. Barnett. C.—McCann & Riddell. \$75,000.

Hayes, cor. Baker. Two-story frame. O.—F. Heywood. A.—C. I. Havens. C.—Mahoney Bros. \$20,000.

Howard and Seventeenth. Two-story frame. O.—G. C. F. Schwarz. A.—C. I. Havens. C.—J. G. Adams. \$5,000.

H Haight, bet. Steiner and Pierce. Two-story frame. O.—J. E. Kunkler. A.—Copeland & Banks. C.—W. Pluns. \$5,500.

J Jones, bet. California and Sacramento. Two-story frame. O.—W. E. Shepman. A.—J. P. Chadwick. C.—W. B. Ritchie. \$3,500.

Jessie, bet. Seventeenth and Eighteenth. Two-story frame. O.—J. Graham. A.—T. J. Welsh. C.—Doyle & Son. \$2,700.

Jackson, nr. Montgomery Avenue. Alterations. O.—E. G. Lyons. A.—W. Mooser. C.—J. H. McKay. \$2,700.

Jackson, near Devisadero. Two-story frame. O.—C. W. Randall. A.—J. M. Curtis. C.—Wilson & Son. \$3,500.

K Kearny, nr. Vallejo. Four-story frame. O.—H. Kohler. C.—G. Rocca. \$8,000.

Kearny, cor. Post. Alterations. O.—J. Stanton. A.—H. Geiffuss. C.—P. H. Jackson. \$2,200.

L Leavenworth, bet. Broadway and Vallejo. Additions. O.—Margaret White. A.—Townsend & Wyneken. C.—Dyer & Arnold. \$1,700.

Leavenworth, near Clay. Two-story and basement frame. O.—J. Wolf. A.—H. Geiffuss. C.—W. Pluns. \$8,000.

Leavenworth, No. 808. Additions. O.—Mrs. Allen. A.—J. E. Wolfe. C.—Moore Bros. \$1,100.

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

Ventura.

On the tapis a \$50,000 hotel, a large brick block, and a \$15,000 dwelling for L. J. Rose.

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

Watsonville.

A new saw-mill will be erected near this place.

Mural Painting (new), for \$3.00.

Home Hand-Book, for \$10.00.

Yaquina, Or.

A brick railroad depot will be erected at this place.

Architecture and Building, for \$3.50.

American Cottage Building, for \$3.50.

Yamhill, Or.

A two-story building for the use of the I. O. O. F., is contemplated.

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

Shavings and Sawdust, for \$1.50.

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

Bound Volumes of the year 1886 will be forwarded to any address upon receipt of \$2.50.

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WILLIAMSON, H.....	329 Sutter Street

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OF

LUMBER.

PINE, FIR, AND SPRUCE

	Per M ft.
Rough Pine, merchantable to 40 ft. inclusive.....	\$20 00
" " " 41 to 50 " ".....	21 00
" " " 51 to 60 " ".....	22 00
" " " 61 to 70 " ".....	23 00
" " " 1x3 and 1x4, Fencing.....	21 00
" " 1x3, 1x4, and 1x6, Fencing, odd lengths.....	19 00
" " second quality.....	16 00
" " selected.....	24 00
" " clear except for flooring.....	29 00
" " Flooring less than Dressed Flooring.....	1 00
Fire Wood.....	9 00
Dressed Pine, Flooring, 1x6, No. 1.....	32 00
" " " other sizes, No. 1.....	34 00
" " " all " No. 2.....	27 00
" " Stepping, No. 1.....	40 00
" " No. 2.....	30 00
Ship Timber and Plank, rough, selected.....	25 00
" " " selected, planed, 1 side.....	27 00
" " " " 2 " average, 40 ft.....	29 50
" " " " 3 " ".....	32 00
" " " " 4 " ".....	34 00
Deck Plank, rough.....	29 50
" " dressed average 35 ft.....	34 00
Pickets, rough, B. M.....	19 00
Furring, 1x2, per lineal ft.....	03
Lath, 1 1/4 ft., per M.....	3 50
" 1 1/2 ft., ".....	4 00
Rough dunnage, delivered, per M.....	20 00
Spruce dressed shelving, to 14 inches, per M.....	35 00
" " 1 inch.....	35 00
" " wider, per M.....	40 00

REDWOOD.

	Per M ft.
Rough Redwood, merchantable.....	\$20 00
" " second quality.....	16 00
" " selected.....	24 00
" " clear.....	33 00
" " common surface.....	22 00
" " 1-inch surface.....	28 50
" " No. 1.....	33 00
" " No. 2.....	26 00
" " T & G, 1x6, 12 ft. and over, No. 1.....	30 00
" " " other sizes, No. 1.....	30 00
" " " 7 to 11, No. 1.....	26 00
" " " under 7, No. 1.....	23 00
" " Rustic, No. 1.....	33 00
" " " No. 2.....	28 00
" " T & G, beaded, 12 ft. and over, No. 1.....	33 00
" " " other sizes, No. 1.....	33 00
" " " 7 to 11, No. 1.....	26 00
" " " under 7, No. 1.....	23 00
" " Siding, 1 inch.....	23 50
Pickets (fancy), 4 feet, B. M.....	25 00
" (rough pointed) ".....	17 00
" (square) ".....	15 00
Battens, 1x3, per lineal ft.....	03
Shingles, per M.....	2 00
" fancy, per M.....	3 75
Posts, split.....	13
Shakes, split, per M.....	9 00
" sawed ".....	11 00

THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

VOLUME VIII.

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

NUMBER 5.

THE California Architect & Building News.

Established January, 1879.

The official organ of the San Francisco Chapter American Institute of Architects. Published by the SAN FRANCISCO ARCHITECT-URAL PUBLISHING CO. No. 240 MONTGOMERY STREET, Rooms 11, 12, 13.

Terms per annum - - - \$2.00 in advance.

Published on the 15th of each Month.

When money is sent for subscriptions, the receipt of a copy of this Journal is an acknowledgment that it has been received. Unless requested we do not send receipts.

OUR ADVERTISING RATES.

Front Cover, Outside, Each Insertion	Per Square \$ 2.50
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A Square is One Inch In Depth By Width of Single Column.

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

No Others Received.

SAN FRANCISCO, CAL., MAY 15, 1887.

The Sewerage of San Francisco.

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

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

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

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

Will Present Prosperities Continue.

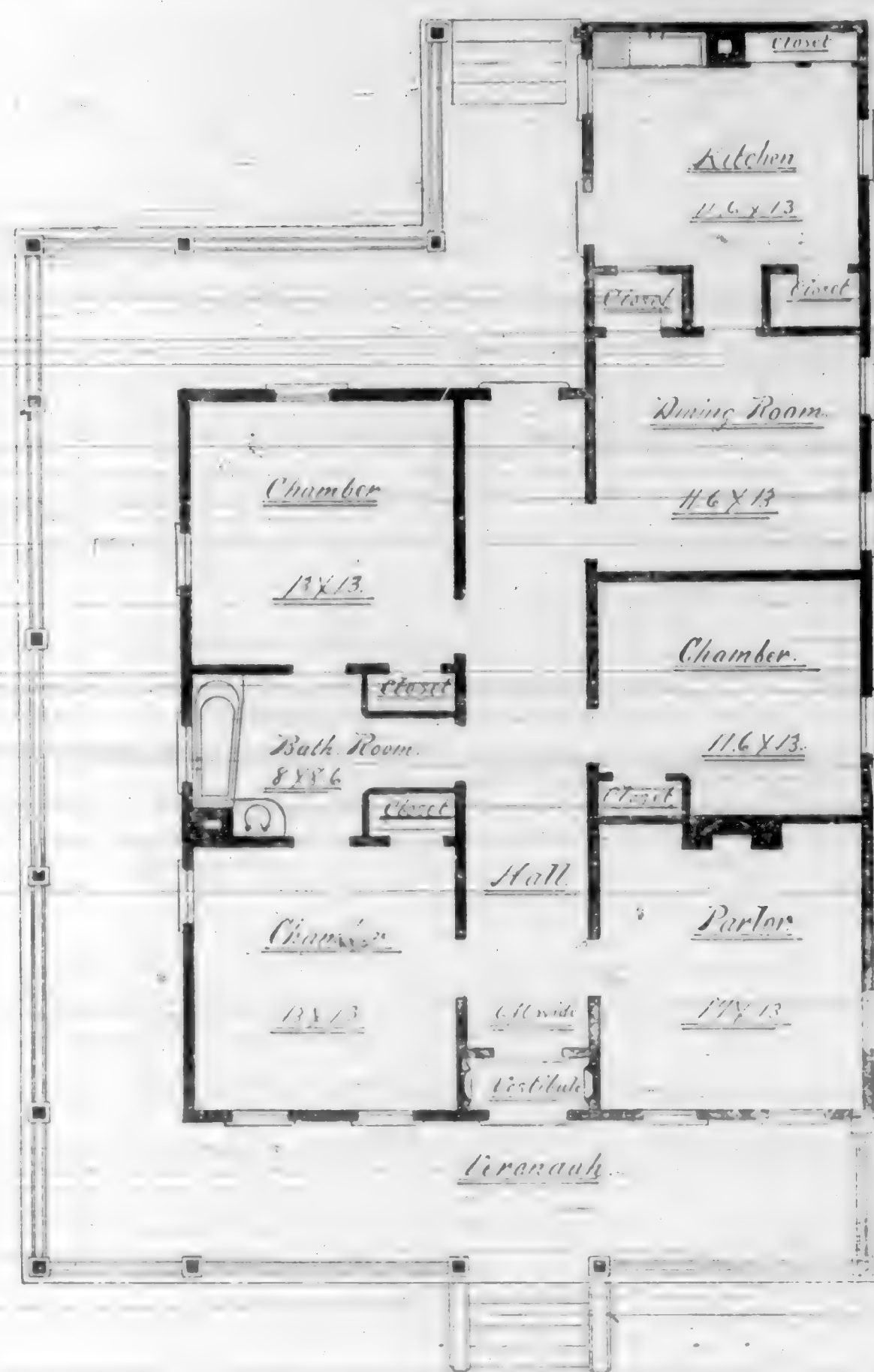
QUESTIONS as to the permanency of the great and wide-spread prosperities which have developed throughout the length and breadth of California, and the Pacific States and Territories generally, during the past few, and especially the last three years, lead some to feel that it is too good a condition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

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

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

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

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



Plan for a Country Dwelling.

THE above plan possesses many qualifications necessary for a convenient country home. The arrangement especially recommends itself to the consideration of those living in our warm valleys. There is a direct ventilation through the house, by means of the hall; the kitchen is conveniently placed so that, if found necessary, the table can be set on the veranda. As shown, there are no extra finishes, the design being to represent a convenient arrangement at a low cost. If necessary, the veranda can be continued all around the house.

Practical Ideas for Builders.

IN building a house there are many things which the builder might suggest to the owner as a convenience that he might not otherwise think of. I find in my business that I am often called upon for advice, and have therefore carefully posted myself on such points as will be of the most service to my patrons. Quite often I have had parties come to me to secure my services in building a house, and not being able to employ an architect, relied upon me for advice in many of the details, and were I not posted in these things I should be at a loss how to answer. If you think your readers will not look upon me as egotistical, I will give a few hints, which no doubt every carpenter knows but does not think of putting to use.

First, then, I never advise my customers to have winding stairs. They are regular men-traps, and nothing large can be carried up or down without knocking off plastering or hurting someone. Straight, continuous stairways cause draughts and loss of heat, and if a child starts to fall at the top it never stops until it falls the whole length. My idea is to have flat landings and right-angled turns. These give a fine effect and are artistic and fashionable. I generally put in a light wall strip of beaded work to protect the plaster while trunks or furniture are being carried up or down. If I can so arrange it in the plans I advise a back stairway, as this is one of the most convenient and useful adjuncts to a dwelling. Stairs should not have over seven-inch raisers, and six-inch would be better. I never plan to have a fire-place come between windows if it is possible to have it in

the blank wall. Open fire-places should be as wide as possible. Great depth is no advantage; in fact, it prevents the warming of those parts of the room on each side of the fire-place. If there is any tendency to chimneys not drawing, or drawing the wrong way, there should be a whirling cowl, or else a triangular hood of brick or flat stone.

The flues should have large man-holes in them, in the attic, so that large openings can be made in them to draw off hot air in summer. These holes may be covered with sheet iron in winter. I made my attic cool and comfortable by this means, after a servant had given me warning that the upper room was too hot to live in.

A bay-window is not a very expensive thing, all considered, and it sometimes makes a room just commodious and pretty which otherwise would have been cramped and ugly. It gives a good chance to decorate; you can put a lambrequin or curtain across it, and seats in it, and busts at the side, and plants at the back, and a bird cage in the arch, and a fancy stand in the middle; or you can put sash across it and make a little conservatory of it. It is a good place to work or loaf in. While I do not believe in making a house look as though it had been vaccinated for bay-windows, and had taken splendidly, one or two often redeem an otherwise thoroughly ugly, unhomelike and inconvenient house.

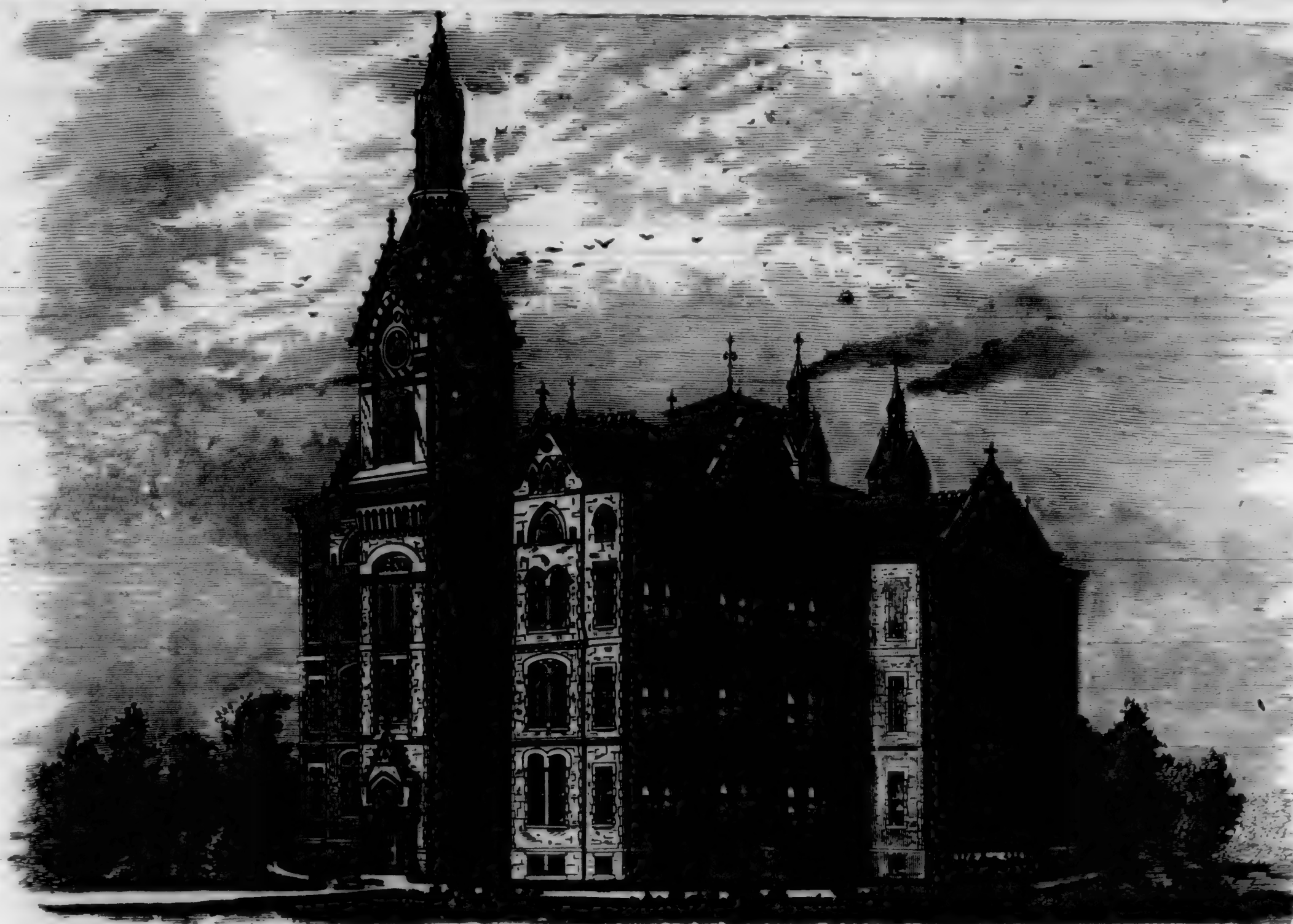
I have a few more little hints that I will try to give in a future article if your readers find this acceptable.—J. C. G., in *American Builder*.

White Efflorescence on Walls.

MANY untenable theories have been propounded relative to the efflorescence frequently breaking out on walls, and causing much annoyance to the painter where there have been given coats of color by the defacement that ensues. Should the various saline particles in a dequiescent state which lead to its formation have found lodgment in the walls of a building, they will assert themselves exteriorly unless the pores of the wall be hermetically sealed. The efflorescence is caused by the fixed alkalies, potash and soda, crystallizing on the surface of the wall. This unsightly efflorescence will totally or partially appear and disappear from time to time. The conditions under which this occurs are worthy of note. The changes are found to correspond closely with changes of temperature and of dryness and humidity of the atmosphere. The ordinary mode for reducing the efflorescence when it makes its appearance, is roughly to brush off the crystals, but what is wanted is their absolute prevention. The potash in the bricks, the true germinating cause, owes its existence to the putrefaction of animal and vegetable substances in the clay out of which the bricks are made. The potash on making its way to the surface absorbs nitrogen from the atmosphere, and thus nitrate of potash, or saltpetre, is produced. Some dampness, however, in the bricks, such even as may be occasioned by rain, is necessary to bring out the potash, evaporation from internal or external heat following on, the existing dampness being the means of exudation. The efflorescence is gradually formed, and after it has become sufficiently thick it is crystallized by the nitrogen of the atmosphere, and is at once rendered visible. The molecules come out under the influence, as we have stated, of successive weak solutions of potash and dampness, and when the successive depositions of this watery solution are sufficiently strong, crystallization follows. Evaporation is thus essential to the production of the efflorescence, and could evaporation be prevented it would cease. The eminent French chemists, MM. Thenard and D'Arlet, have shown that the best way of preventing the access of any damp from the bricks, or preventing any damp that may have found lodgment exuding, is to lay on the surface a preparation of wax and lithargized oil. This is so effective in closing the minutest pores that even when applied to stucco that has afterwards been painted in oil colors, the composition is found to have penetrated so deeply and had such a hardening influence that no infiltration of water from wall or roof could have any effect. The preparation is equally applicable to wood, which, when saturated with it, will not permit of the exudation of damp.—*Painter's Magazine*.

Modern Cottages.

BY J. H. Kirby. This new work contains 125 illustrations of cottages, dwellings, and miscellaneous work. The cuts illustrating the work are of more than ordinary merit. The author devotes considerable space to "Hints on the Practical Construction of Dwelling Houses." This work will recommend itself to the consideration of those desiring a well-planned house. Copies may be obtained at this office.



DESIGN FOR A HIGH SCHOOL BUILDING TO BE BUILT OF STONE.

Worth Thinking About.

DO you think, because you are a mechanic, blacksmith, or moulder, that it is necessary to carry the marks of your trade on your clothes when your day's work is done? Is there anything particularly edifying to the friends you meet in the streets, male and female, in the sight of dirt-begrimed clothes and skin? We do not believe that there is, and we do not believe that any persons ever yet advanced their interests by neglecting to keep the selves tidy. Let the mechanic who has been in the habit of carrying his "trade-mark" about with him wherever he goes—taking a general pride in his general untidiness—just stop and think, and run over in his mind the list of his fellow-workmen who have been, as he thinks, especially fortunate in securing promotons and better positions; and if his memory serve him rightly, he will remember that those were the chaps who were always neat about their persons, and who used to be so particular in taking care of their tools never caring to lend them. These were the men who used to be dubbed "old women," "fads," etc.; they are now the men who have won positions for themselves and know how to maintain them. It does not make a man any the worse mechanic for being neat in his person; and, argue as you will, the world as it goes has a greater respect for a clean mechanic than it has for a dirty one.

How to Mark Tools.

MUCH trouble can often be saved by marking tools with their owner's name, which can easily be done in the following manner: Coat over the tools a thin layer of wax or hard tallow, by first warming the steel and rubbing on the wax warm, until it flows, and let it cool. When hard, mark your name through the wax with a graver, and apply aqua-fortis (nitric acid); after a few moments, wash off the acid thoroughly with water, warm the metal enough to melt the wax, and wipe it off with a soft rag. The letters will be found etched into the steel.

The measuring of a candle power of a light is accomplished by comparing the shadow cast by a rod in the light of a standard candle with the shadow cast by the light to be tested. By moving the latter toward or away from the rod, a point will be reached at which the shadow cast by both lights will be of the same intensity. The intensity of the two lights is directly proportional to the squares of their distances from the shadow, i. e., suppose the light to be tested is three times the distance of the candle, its illuminating power is nine times as great.

Large Trees.

THE following extract is going the rounds of the press and will serve to show the ideas of some people as to the size of our trees:—

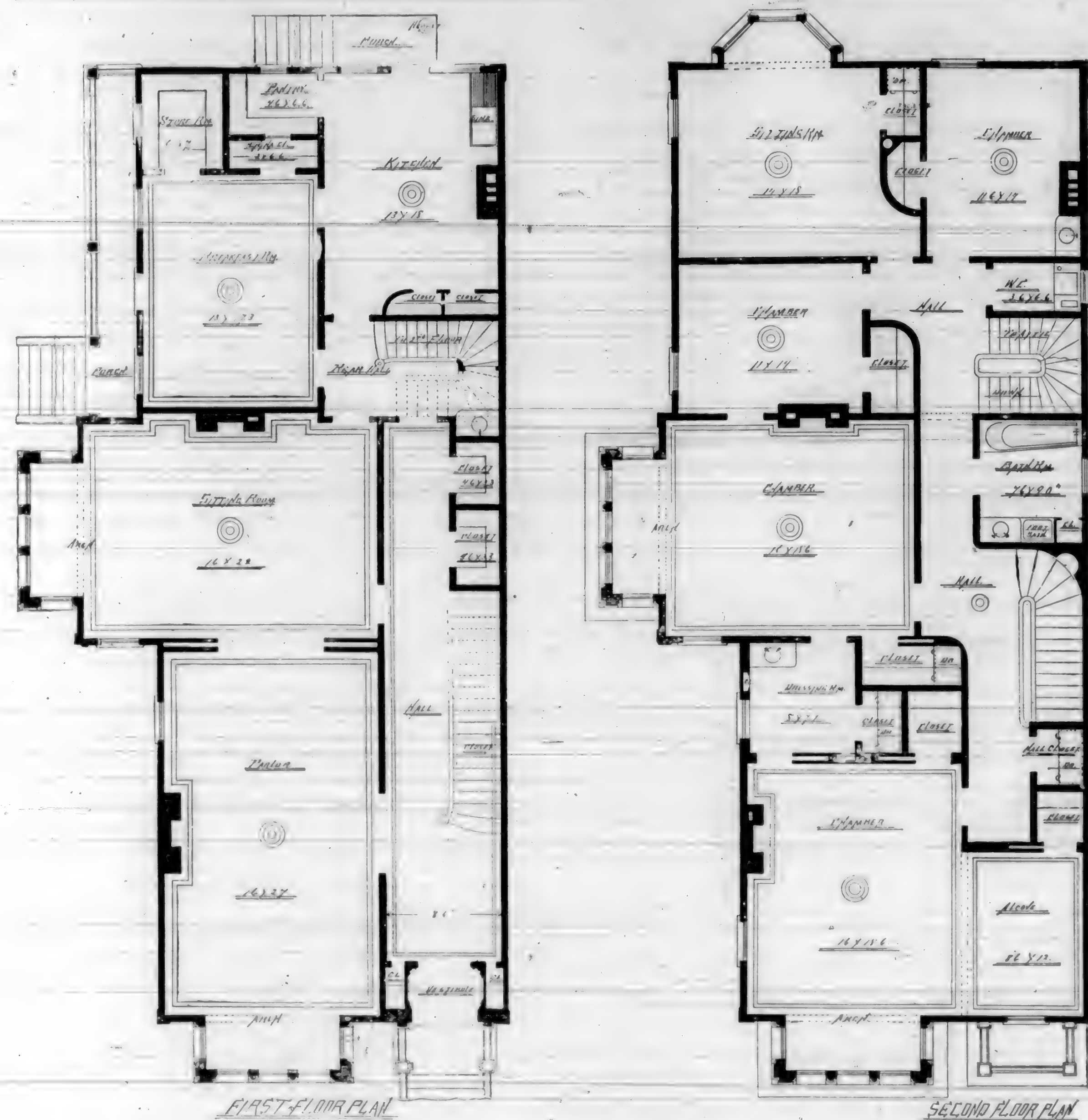
"So you have been out in California?" I inquired of old Dan Whiting, the other day. "See anything of those big trees that we read so much about?"

"Wall, I ruther guess, yes," said Dan. "Saw a holler tree there you could drive a team of horses through. One afternoon me and Sam Washburn, we started to chop down the biggest durn tree you ever see. We are pretty slick wood-choppers, us two, but we worked like beavers at that there tree for nigh onto two weeks. All day long fur fourteen days we kept a-choppin', and Sam he kinder felt like givin' th' thing up as a bad job, but I coaxed him, and told him it wudn't take more'n another week to get through the tree, but I lied like thunder. Anyway, we went to work on th' fifteenth day as usual. 'Long 'bout ten o'clock I got pretty tired, and stopped a bit to rest. While I stood there leanin' on my axe handle, a big chip came a-flyin' from around the tree and took me straight in th' face. It was sort of funny proceedin', so I jest took a walk and looked onto th' other side o' th' tree, and there b'gosh what 'spose I found! There were two big fellers, both old wood-choppers, a-workin' away with their axes on th' other side of our tree. I said, 'Howdy,' and they stopped work. Them two duffers had been choppin' away thar on our tree fur nigh two months, and were only half through!"

"They do have good-sized trees out thar, stranger, that's a fact."

DEATH UNDER THE HOUSE. Death lurks under the house in early spring, in the shape of decaying and moldy vegetables in the cellar, and the decomposing remains of weeds and fungi which developed the preceding season in the damp, dark, unventilated space beneath that portion of the house not included in the cellar. Killed by the winter's frost, this decomposable matter is ready to send forth the pestiferous gases and disease-producing germs which cause some of the common maladies incident to spring. Clear away the filth from these oft-neglected places, and save suffering and doctors' bills.

A MANUFACTURER out West informs us, and wishes to inform the American public, that his patent buzz saw has just captured the finger of scorn, and that it will never again be pointed at anyone.—Puck.



PLANS FOR A COMMODIOUS CITY DWELLING.

Plans for a Commodious City Dwelling.

THE plans shown are well worthy the attention of those seeking a comfortable city residence. Sizes of rooms are distinctly marked. Any information in regard to the plan will be furnished inquirers by addressing this office.

Folding Gates and Guards.

A PERFECT SECURITY AGAINST THIEVES AND TRAMPS.

THE perfect and beautiful device, as fully illustrated on page vii of this issue, recommends itself at once to the careful consideration of those who would have their stores and homes perfectly secure against tramps and thieves. These gates and guards are manufactured to order in San Francisco, to fit and fill any desired opening. They are ornamental in design, and apply equally as well to store windows, vestibules, stables, elevator wells, etc.

As a sanitary device they are superb, permitting the opening of doors and windows, and the free circulation of air through buildings.

Full information in regard to the above can be obtained by applying either personally or by letter to E. J. Robinson, Manager, 109 California St., San Francisco, or to the Secretary of the Company, J. P. Le Count.

It seems that a lawyer is something of a carpenter. He can file a bill, split a hair, chop logic, dovetail an argument, make an entry, get up a case, frame an indictment, empanel a jury, put them in a box, nail a witness, hammer a judge, bore a court and chisel a client.—*Exchange*. Furthermore, he can saw the air, jamb the books down, cut up a witness, screw money out of the victim, floor an opponent, spout nonsense, shelve an enemy, lumber up his speech with Latin, set men at loggerheads, veneer a falsehood with plausibility, rip up the code, ex-plain knotty points, varnish a story, plank down solid law, board his bill out, table an object, pigeon-hole a case, mould the opinion of a juror, paint the other side blacker than it is, polish off another lawyer, post an ignorant witness, prop up a bad argument, and plaster a judge all over with taffy.

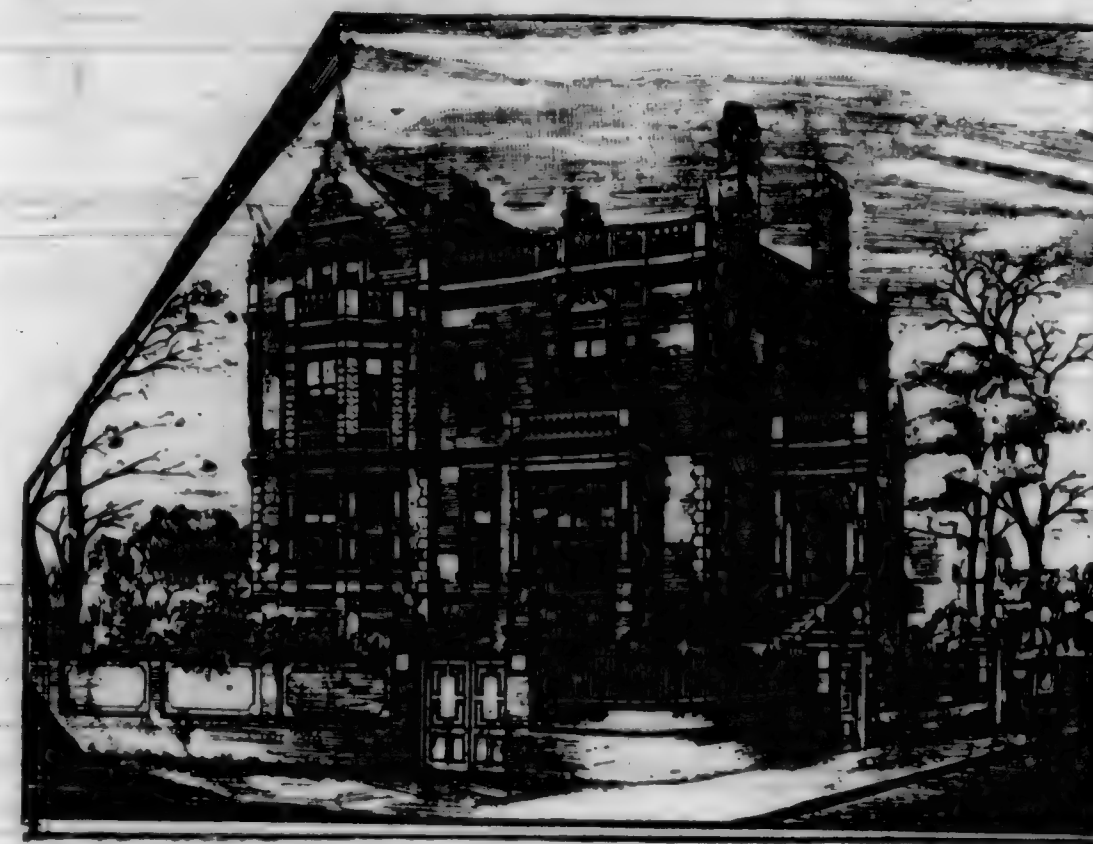
WE note an unusual number of patents for stove-pipe dampers. Dampers don't amount to much. What is wanted is a device that will make every end of every length smaller than any other end of any other length.—*Machinist*.

CONTRACTORS, ATTENTION!

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

Dwelling Houses.

THE increasing interest in the subject of architecture shown by the daily press is the most promising sign that we as a nation are progressing in art development. In a word to our exchanges, we urged in our last issue that editors of newspapers give more attention to architecture, and to sanitary and



safe construction, not, however, overlooking the aesthetical side of the subject, which, of necessity, is of slower growth than the more practical features to which special attention was called. We are pleased to republish an editorial which appeared recently in the Des Moines Leader. The subject, "Dwelling Houses," is one in which the people are interested, and the writer handles his subject well. He says:—

"Few people realize how great is the public importance of the study of style in buildings. With it a community or country may be made permanently beautiful, or for the want of it eternally disfigured. We do not wish to ride any hobby and follow out the train of thought to the question of the good and evil effects of to-day's architecture on the minds and morals of to-morrow's 'rising generation.' Running everything into morals and religion is as bad as running it into politics. Beauty and business will suffice for present considerations. We all know that a town or county characterized by pretty houses is all the prettier for it, and especially in the case of the town, will profit by it in a business way and in its own upbuilding.

"Hence we can hardly say too much, if what we say is right and true, about style in building houses. Not that we ought to look out and always be 'stylish.' As a rule stylish people are those who know the least about style. The highest art is to conceal all art." And this leads us to the particular subject of our homily.

"Last fall we called attention to the fact that the light and flimsy in architecture was passing away, and the heavy and substantial was taking its place. This movement has developed into real and rapid revolution. It almost takes one's breath. We expected that something about as heavy as the old Greek styles would be reached before long. But already they have been left away behind.

"Nothing will ever be prettier than the Greek. But one forgotten consideration must be recalled and kept constantly in mind. The Greek styles which we admire were all public building styles. In fact, they were temple styles. We cannot adopt them in our temples, because our temples are fixedly Gothic. We may and do adopt them in our other public buildings, and there they look pretty. But even in Athens it was against the law to finish private dwellings in the high styles of architecture.

"You cannot make a Greek porch fit nicely on a modern residence. You may get a certain very pretty effect, but still it is not the effect you want. Ink looks pretty on paper but not on the baby's face, no matter how artistically it is applied.

"It is not because the Greek is too heavy. It is as light as wicker beside the dwelling styles we have. The column has developed into a great pillar of stone or brick, arched perhaps to its neighboring pillar. The balustrade is a brick or stone wall. The roof of the porch is a continuation of the roof of the house, from which the gable cornice is gone. Great heavy shutters swing from the outside of square, old-fashioned windows. The chimney is an immense pile, and looms up in grim prominence.

"Everything is as modest as it is heavy. There is no strutting, no boasting, no lowering. The house bows and invites, though it does not smile. It is not severe. It is substantial and hearty.

We are afraid it is almost ugly. Its countenance is shaggy and solid as some kind-hearted old Scotchman's, or his whole-souled dog's.

"And yet, after all, there is a beauty in it. Of course we have described the extreme, and it is an extreme from which there is likely to be a recession. Fortunately we are likely to have mingled together the extremes in both directions, and a great variety of means between them. After all, variety is the spice of life. Even the extremes may be so proportioned and toned that the art in them will be concealed.

"We speak of these things because the building season is on, and our architects, builders, and home seekers need to be looking out for these things. Our advice to all is the same as it has been,—not to be caught with a style which is so much in the fashion to-day that it will be antiquated to-morrow. Build a house that will always look pretty, no matter how much fashions may change. But it is profitable and possible in a house, which lasts long and is always for sale.

"Of course the very heavy is most appropriate to stone and least to wood, brick coming in between. But porch, and modesty, and cordiality, and substantiality are proper and will be durable in all. And as to the weight it depends on where it appears. Let it be remembered that we are building for a generation which will have more sense and better taste, and be able to detect at a glance these things which we can't appreciate until we have studied them. And the more money you put into a house, and the more lasting you build it, the more careful you must be to make it please that coming generation. Let us see if we can do as well in our dwellings as the Greeks did in their temples—challenge the admiration of 2,000 years to come.

"But then we don't need to do that. Our climate would long since have destroyed the Greek masterpieces, as it is crumbling the Obelisk. Still times and tastes, as well as weather, change more rapidly here than in the Orient."

PRELIMINARY ANNOUNCEMENT.

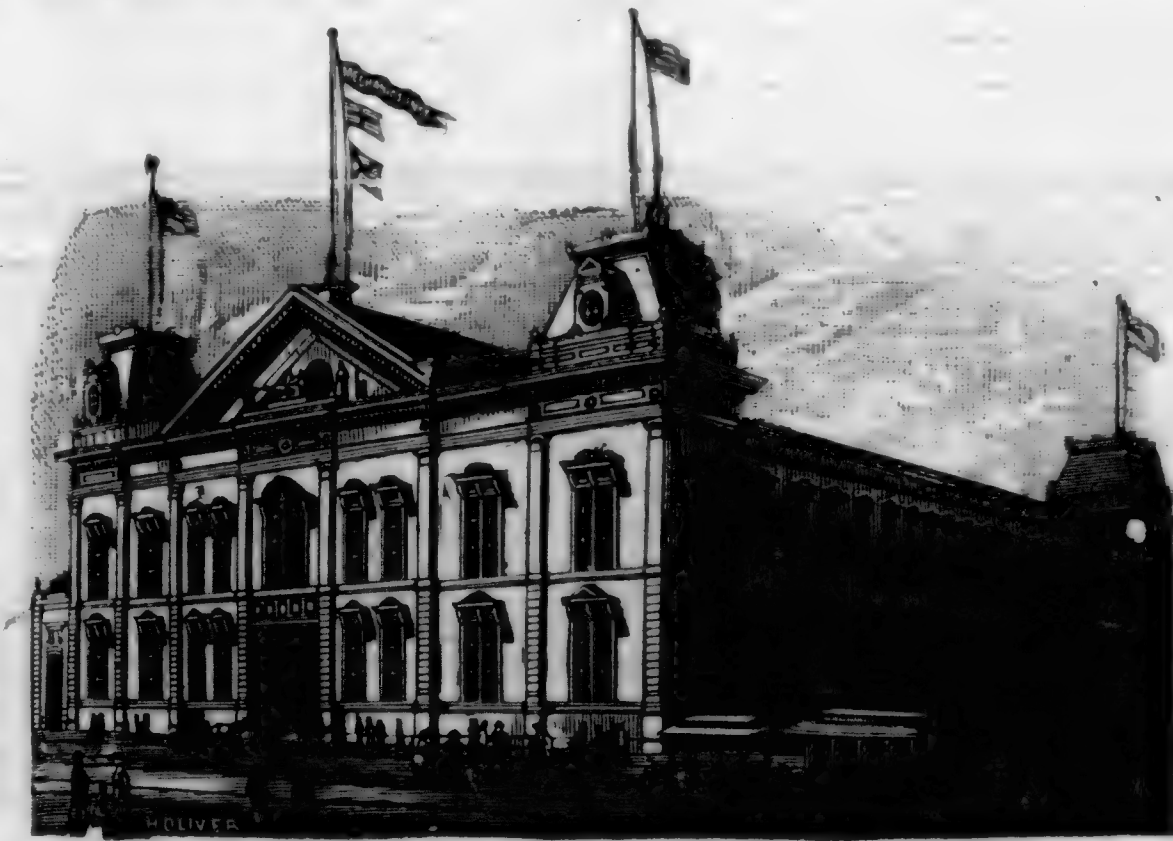
Twenty-Second Industrial Exhibition

Mechanics' Institute of San Francisco.

THE Board of Trustees of the MECHANICS' INSTITUTE take pleasure in announcing that the TWENTY-SECOND INDUSTRIAL EXPOSITION of the Society will open in its spacious Exhibition Building, bounded by Larkin, Hayes, Polk and Grove Streets, on Thursday, September 1st, 1887, and will close on Saturday Evening, October 8th, 1887, thus keeping open continuously to the public for the period of one month and eight days.

The great popularity of these exhibitions in the past is the best guarantee of their merit, and of their usefulness in the future, and it may be truly said, that their profit to the exhibitor is in equal measure to their instruction to the visitor.

No better means of advertising useful articles can be conceived than a daily opportunity, under pleasant circumstances, and in the midst of a vast and orderly crowd of inquiring people, of personally displaying and explaining the merits of one's inventions and productions.



The Exhibition Building is complete in all its appointments. No Charge is made to exhibitors for space. Steam power and water furnished free. In addition to gas, powerful electric lights will be used at night.

Arrangements are being made to secure art exhibits, pictures, statuary, etc., of unusual merit.

Engagements have already been entered into with leading manufacturers, which ensure an unusual exhibition of notable inventions, mining and other industrial machinery in actual operation, and a complete display of the finished products of our California workshops.

A Grand Orchestra of skilled musicians, including many specialists and solo performers from the East and Europe, giving Grand Concerts each afternoon and evening under the direction of the celebrated Frederick N. Innes, has been contracted for at great expense, and will make the coming Fair memorable in the musical annals of the State.

For space or any further information, apply at the office of the Institute, No. 31 Post Street, S. F.

FACTS

About the Manufacture and Relative Value of Roofing Plates, and about the Laying of a Good Roof.

MANUFACTURE.—Roofing Plates, which are made of either steel or iron, are coated with a mixture of lead and tin, by two methods. The original method was by dipping the crude iron or steel plates into a mixture of tin and lead and allowing the sheets to absorb all the metal coating that was possible, and it is by the same process that the "Gilbertson's Old Method" is made to-day. The other process, by which the majority of Roofing Plates are made, is known as the "Patent Roller Process," by which the plates are put into a bath of tin and lead, and are passed through rolls, the pressure of which leaves on the iron or steel a thickness of coating that determines the value of the Roofing Plate. These rolls can be so adjusted as to leave a good amount of coating on the plate, such as the "Camaret" has, or an ordinary coating, or a very scant one. Hence the only actual difference between the "Camaret" and the "Gilbertson's Old Method" is that the latter plate has the heavier coating of metal.

Misleading Terms.—There are at the present time certain brands of Roofing Plates in the market, styled "Double-Coated," "Re-Dipped," "Double-Dipped," etc., etc., all of which terms are, however, incorrect and misleading, as it is impossible for any plate to take more metal than adheres to it by the first dipping, if left in the bath of tin and lead a requisite length of time, and no plate can have its coating increased in thickness by being re-dipped.

Assorting.—The value of a plate does not entirely depend upon the material and coating, but upon the care used in assorting, or picking out the defective sheets from the good ones. There arise in the manufacture of all Roofing Plates, imperfect sheets, such as sheets with blisters, or with broken corners, etc., which are called "Wasters." These are packed by themselves, the IC plates being marked "ICW" and the IX plates "IXW." The perfect plates are designated by the manufacturers as "Primes," while the imperfect sheets are called "Wasters," and the latter are sold at considerably less than the Prime Plates.

Sizes.—There are two sizes of Roofing Plates made, 28"x20" and 14"x20". The larger size is mostly used, from the fact that it requires less seams on the roof, and consequently cheapens the cost of putting on. There is a size 10"x20", now used for gutters and leader pipe.

Thicknesses.—There are only two thicknesses of Roofing Plates made, IC or No. 29 gauge, which represents in weight 8 ounces to the square foot, and IX or No. 27 gauge, which equals in weight 10 ounces to the square foot.

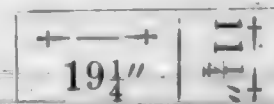
The IC plates are used to a far greater extent than the IX, from the fact that they are less expensive. For the very best roofs, however, IX Plates are preferable, the extra thickness being worth more than the extra cost.

Weights.—The old standard net weight per box IC 14x20 Roofing Plates was 112 lbs.—1 lb. per sheet—but this became reduced by competition and the desire for cheapness to 108 lbs., which is to-day the standard net weight. Indeed some tin plates are being brought out weighing very little more than 95 lbs. per box.

The standard weight of IX 14x20 Roofing Plates is 28 lbs. over that of IC 14x20, and 20x28 plates of course weigh just twice as much as 14x20.

Stamping.—Every sheet of the "Gilbertson's Old Method" and "Camaret" is now being stamped, not only with the name of the brand, but also the thickness—IC or IX; and as a further protection for these plates, every box of both brands contains a slip bearing our guarantee and the name of the assorter.

Laying the Roof.—14"x20" plates. Many claim that a better roof can be made of 14x20 tin than 20x28. The cost of laying a roof of the smaller size will amount to 25 to 30 per cent. more than the cost of 20x28 size, owing to the greater number of seams, and hence more tin, solder, cleats, and work are necessary in laying. Locality has much to do with use of the two different sizes. The 14x20 tin can be laid in two ways. The most desirable way (and that which makes the best roof) is by laying the sheets the 14-inch way, thus:



In order to lay the tin this way more cleats are of course necessary than by laying the sheets of 14x20 the 20-inch way, as well as more solder, nails and labor.

The above represents the net surface when laid the 14-inch way.

Laying the Roof.—20"x28" plates.



The above represents the net surface when laid the 20-inch way.

If two roofers figure to lay a roof of 20x28, and one lays it the 20-inch way, he cannot lay it as cheaply as the one who would lay it the 28 inch way, but at the same time he can make the better roof.

Advantages of Standing Seams.—Standing seams allow a greater amount of expansion and contraction than the flat seams, as the flat seams being soldered, make the entire roof practically a solid sheet.

For a steep roof the tin should be put on with a standing groove and with the cross seams put together with a double lock. A cheaper way is to double lock the seams and put white lead into the joints instead of soldering; but we would recommend that the cross seams be locked and well soldered.

Soldering.—We recommend the use of resin only as a flux in soldering, although some roofers use diluted chloride of zinc. "Half and Half" Solder (a mixture of half tin and half lead) is the mixture most suitable for roofing purposes.

Painting the Roof.—An excellent paint for the purpose is composed of 10 lbs. Venetian Red, 1 lb. Red Lead, 1 gallon Pure Linseed Oil.

The substitution of benzine or fish oils for the pure linseed oil should not be allowed.

The roof will last longer and be less liable to rust if painted on the under surface before laying. It is a good plan to put one or two layers of felt paper under the tin to serve as a cushion for same, and to deaden the noise made by the rain falling on the tin.

A year after the first coating the roof should be painted again, and then a good roof will only require painting once in four years.

A roof of first-class material well soldered and properly laid should last forty years.

Suggestions to Those Specifying Tin Roofing.—In the light of the facts herein stated, we would suggest to architects and others desiring the very best quality of tin roofing that when they specify "Gilbertson's Old Method," or "Camaret" guaranteed brands, they should insert the full name of the brand in the specification and should require that every sheet be stamped not only with the name of the brand but also the thickness IC or IX.

TO PREVENT SCREWS FROM RUSTING.—It is well known that iron screws are very liable to rust, more especially when they are placed in damp situations. When they are employed to join parts of machinery, they often become so tightly fixed that they can only be withdrawn with considerable trouble, a fracture sometimes resulting. In order to avoid this inconvenience, screws are generally oiled before being put in their places, but this is found to be insufficient. According to the *Moniteur Industrielle*, mixture of oil and graphite will effectually prevent screws becoming fixed, and, moreover, protect them for years against rust. The mixture facilitates tightening up, is an excellent lubricant, and reduces the friction of the screw in its socket.

CONTRACTORS, ATTENTION!

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

The "Universal Tinker and Amateur's Assistant."

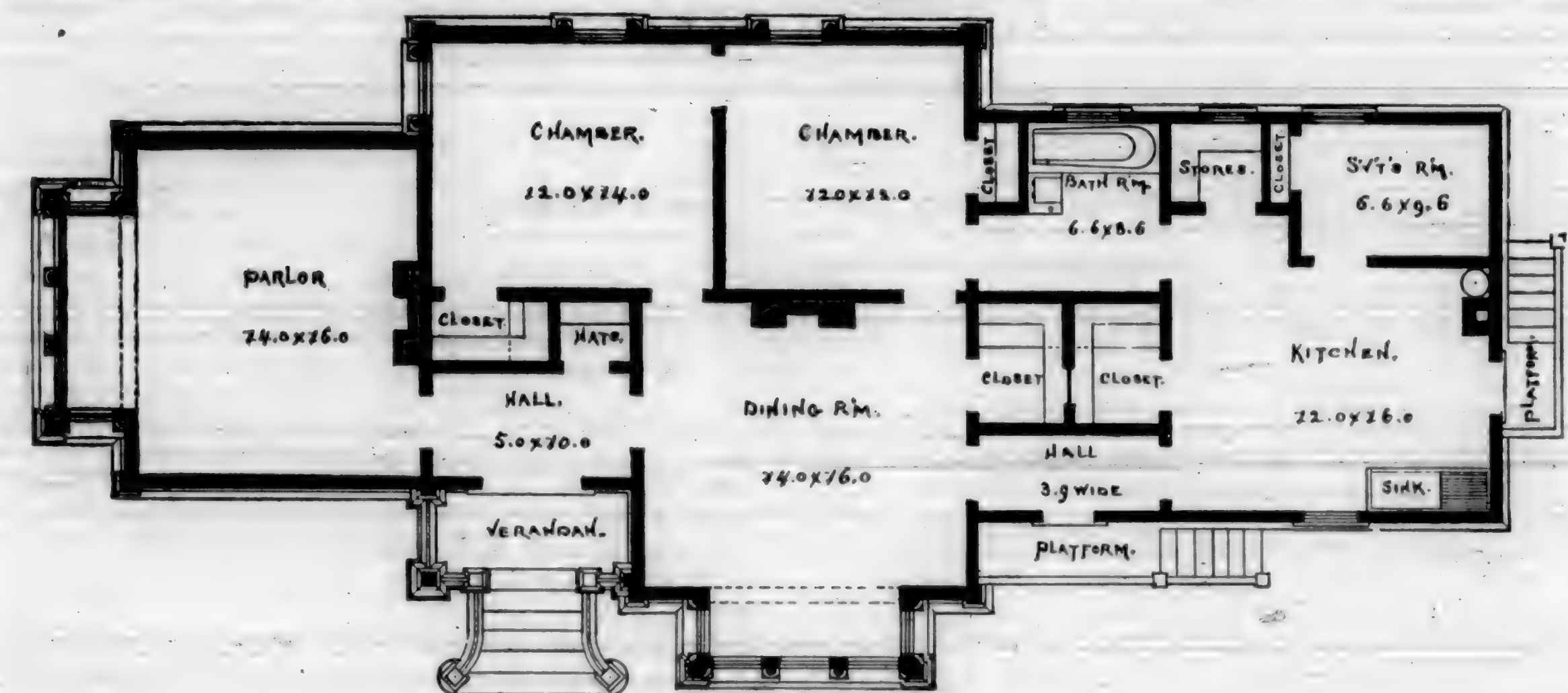
THIS is the title of a new monthly journal to be issued about the 1st of July, 1887.

The new journal is not intended to take the place of the valuable juvenile papers or magazines that are now so popular among our young folks; it is rather intended for young men and women than for boys and children. It will not be a "story-teller" unless the story told has a mechanical or scientific application. It will not be a "picture book," yet it will be illustrated with diagrams, designs and working drawings, and a sprinkling of illustrations of new tools, new amateur machines, new and old devices for doing work, and engravings of finished amateur effort.

The *Universal Tinker* will not confine itself to constructive work, but will take up every subject that may be brought before it and that may be dealt with from an amateur's standpoint.

It is intended at first to make it a sixteen-page journal, but may be enlarged or reduced as circumstances may warrant. The price will be \$1.00 per year, payable in advance, but if at the end of the year we are encouraged to enlarge or further improve the *Universal Tinker* we shall increase the price to two or three dollars a year.

Any further information will be cheerfully furnished by addressing the proprietors, Hodgson & Bertrand, 294 Broadway, New York City, N. Y.



PLAN FOR A COMFORTABLE COUNTRY DWELLING

Plan for a Comfortable Country Dwelling.

THE above plan is very complete in all those little details that go to make a home in the country truly pleasant. Access to all the rooms is very conveniently arranged. The parlor is situated away from the living portion of the house. Every room is abundantly supplied with windows and closet room. The kitchen and its apartments will recommend themselves to the consideration of every thrifty housewife. Sizes of all the rooms are very distinctly marked.

Suggestions to Country Builders.

CHAS. HARDY, in the *National Builder*, says: Travel and intimate observation in the States of Illinois and Missouri reveal the fact that very few carpenters and contractors have made much pecuniary headway. Indeed it would hardly be erroneous to state that for the amount of business done few branches of trade have less profit to show.

The cause of this is probably to be found in the fact that, although nominally wages appear to be satisfactory, yet the average reduced by the inevitable interruption to work that the winter season brings with it, during which any small surplus is consumed. Contracts, too, are of short duration, and especially in the smaller cities the interval between two contracts is a long one. A system of letting contracts by bids or competition, however fair it may be in theory, still works very unjustly where many of the bidders make no accurate, thorough and itemized estimate. It is common, extremely common, to hear a country bidder say that his employes have earned more than himself on a job, or had he to pay wages he would have been money out of pocket at its completion; and that to avoid this, he had worked it out him-

self alone, at a remuneration which left him only starvation wages or even worse. This is of course not intentional.

Very few indeed have any system which enables them to see day by day what is the result that a given job is showing. At the best this is discovered at the end of the season. It is no wonder that they underestimate; for underestimation is the natural consequence of over eagerness to obtain a contract, unchecked by a thorough and accurate fore-estimate of the result.

Underestimating means working for nothing and forcing others to do the same; it means impoverishment and poor work. The contractor has himself and his family to maintain, and the temptation is great to get out by doing poor work. I would suggest that every contractor purchase an account book large enough to enter, line by line, upon a single page every item of his estimate, giving quantity, price and labor for each item. Let him leave opposite to this page a blank page, on which he may enter on the corresponding line opposite the actual amount purchased, and the actual amount paid, together with the actual amount of labor expended upon the item, and he will thus be able to see the result of his contract.

Were such a system adopted it would never be abandoned. An estimate, if clear and explicit, would be gone over twenty times, with the result that the contractor would become expert in estimating, and a mistake once made would never be repeated.

There is an advantage in taking the items in a certain order

and pre-erving that order. It is impossible to exaggerate the good effects of a system which enables the tradesman to know day by day exactly how he stands.

Every contractor has an interest in his competitor's knowing how to estimate correctly. It does not need many underestimators to ruin a business for a season.

Carpenters are far too apt to imagine that all that is wanted to make a successful contractor is to be a good mechanic. This is a great mistake. The country contractor should be a good business man, and have a constant clear insight into his business. His business is not like that of a merchant where he is constantly selling the same articles in small quantities at a steady profit to the same customers. With the contractor each new contract is on a new basis, with a new customer in one large amount, composed of varying quantities, at various prices; and it is evident that it must require vastly more care and forethought to conduct his business successfully than one that is steadier. He is also entitled to a profit upon the labor he employs and pays for. He should also estimate the risk of damage to the building while in course of construction.

Prudence and wise precaution are not a waste of time and trouble, and if not exercised when called for, the consequence will assuredly have to be borne in loss and anxiety.

A COAT of coach varnish will keep sap from striking through painted work.

CONTRACTORS, ATTENTION!

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



ELEVATION.

A Country or Village Residence.

THE above engravings represent the floor plan and perspective view of a country or village residence, also suitable for the city, are beautiful in design, and illustrate the advantages and necessity of employing an architect, by their well-proportioned, neat and graceful elevations, and compact, convenient, and well-arranged plans.

This building was erected in Santa Cruz, Cal., furnishing a home for one of its most prominent citizens. In reality the building has a pleasing, graceful appearance, so desirable in villages or country homes. As you approach the building the heavy, projecting cornices and gables, with neat brackets, fancy shingling, and ornamental finials; the bay-windows with chamfered pilasters and carved brackets, surmounted by graceful and spacious balconies; the large porch with turned columns, and balusters, and the front door with raised panels and ornamental glass transoms, etc., cause you to stop and admire the architecture before you enter. Upon entering the building you find yourself in a large hall with a beautiful flight of platform stairs leading to the second story, and inclosed by black walnut newels, railings, and balusters. On the right is a door communicating with the parlor, and in front, one with the dining-room. The parlor and sitting-room are separated by large, paneled, sliding doors, which can be thrown open, making a very large and beautiful apartment. In the center of the ceiling of the rooms are decorated center-pieces, and the parlor, sitting, and dining-rooms have moulded cornices of plaster of Paris.

The kitchen is provided with a large pantry, in which is a slide to pass dishes, food, etc., into the dining-room; it also has a large closet with shelves and drawers for linen, towels, etc.

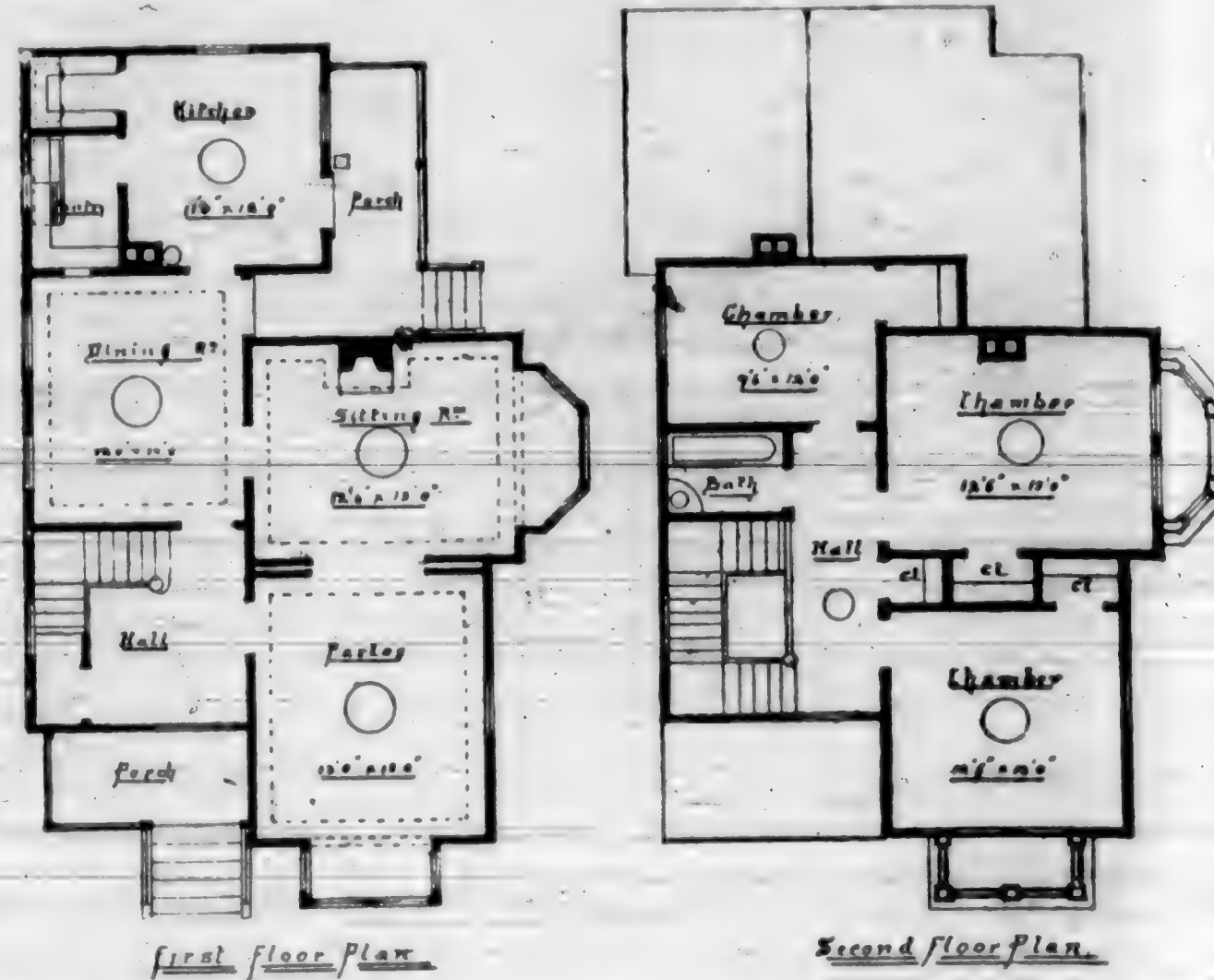
The rear porch is inclosed by a neat railing, and for convenience a slop hopper is placed near the kitchen door.

This design is a most desirable one for any family wishing the conveniences and pleasures of a model home. Any information desired will be promptly forwarded by addressing David Salfield, architect, 216 Kearny Street, San Francisco, Cal.

Black Walnut.

BLACK walnut has been extensively used, the New York *Herald* remarks, in making furniture for nearly fifty years. The demand for it, however, is on the increase. The forests of the North have been pretty well cleared out, and now the Southerners are looking forward to a chance in the market. Tennessee and Arkansas lead the van. Black walnut timber has been cut in almost incredible quantities in both these States, and land-owners have reaped a rich harvest. Next comes the States further south. They have immense tracts of timber-land covered, not only with the walnut tree, but also with the best woods required in carriage building. It is suggested by the New Orleans *Picayune* that the time is not far distant when Northern capital will be invested in manufactories on the edge of Southern forests and the banks of Southern streams. To which the *Herald* replies: "Our neighbor may rest assured that if there is money in it Northern cash will meet Southern enterprise half way."—*Scientific American*.

An exchange refers to it as a singular fact that bricklaying is one of the parts of skilled labor that invention has never interfered with. Bricks are laid one by one to-day as they were in Egypt and Babylon four thousand years ago. It might also have added that bricks are put into the hat in about the same way as in the time of Noah.



NEVER paint a kitchen floor—oil and stain it.

WHITE marble mantels are again coming into favor.

THE pressure of wind on a slanting roof is equal to twenty pounds to a square foot.

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

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

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

NEWLY plastered walls and newly laid shingles should not be painted for six months. Shrinkage will then be over.

SINKS for kitchens are now made of iron enameled, porcelain, soap-stone and crockery-ware; 20x40 is the best size.

CEMENT concrete four inches thick troweled down and finished with a coat of Portland cement makes the best cellar bottom.

THE cause of many incipient fires is the faulty construction of chimney flues. Always see that they are thoroughly plastered inside.

THERE is no absolute need of painting zinc work, for exposing it to the atmosphere has the effect of coating it with a thick film of oxide which protects it from the future action of the air as effectually as paint.

A MIXTURE of cork, silica, and lime is coming into use in Germany as a building material. It has the advantage of keeping out heat and cold, and is also claimed to be an excellent preventive of dampness and deadener of sound. It is substantial, light, and durable, and seems to be especially adapted for ceiling and wall lining.

ARTISTIC TILES AND MANTELS.

ONE of the most artistic displays in Tiling, Mantels, Brass goods, etc., can be found in the rooms of E. A. Pattison & Co., 308 Stockton St., San Francisco. The design in tiling entitled "Cupid among the Roses," is worthy of particular mention. This firm is the sole Pacific Coast Agent for the Perth Amboy Terra Cotta Co. A large and well selected line of wooden and iron mantels is kept constantly on hand, and the prices are such as to command the attention of those about building. The floors of Messrs. Pattison & Co's warerooms are covered with Tile and Parquette flooring of the most beautiful and artistic designs, and should be examined before purchases are made elsewhere. Special personal attention is given to furnishing designs and estimates for all work connected with the tasteful arrangement of everything connected with Mantels and Tiling. This firm also makes a specialty of stained glass. Write or call for information as per address mentioned.

COUNTRY
BUILDING INTELLIGENCE

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

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

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

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

Alameda.

William Neal is building two neat cottages on the corner of Clinton Avenue and Oak Street. They will contain four and five rooms respectively, and will cost about \$1,500 each.

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

Practical Geometry, for \$1.00.

A small cottage has been erected on Clinton Avenue, near Oak Street by J. H. Young. He intends enlarging it in a few weeks.

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

Fresno.

J. L. Smith, the contractor, is building a very neat and attractive family residence for himself, on the extreme northern portion of I Street. The main building is 17x28, with a front extension 12x10, two stories in height. The estimated cost is \$1,250.

Building Superintendence, for \$3.00.

American Cottage Homes, for \$3.00.

Webster Brothers, of the City Drug Store, have decided to build a one-story brick building immediately south of the buildings recently completed by J. M. Braly, on I Street. It will front twenty-two feet on I Street, and be eighty-five feet deep, and will be fitted up in first-class shape.

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

A. Wilheimer has made arrangements to erect a brick building opposite the old city hall building, on I Street. It will be 22x85 feet in size, one story, and will have a fine plate glass front.

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

Geo. L. Bradley has purchased the lots formerly occupied by the dwelling of R. H. Fleming, on I Street, and will erect a substantial brick building thereon.

Steel Square Problems, for \$1.00.

Workshop Companion, for 35c.

In addition to the above the following parties will build: S. H. Williams, C. L. Purring, C. H. Sweet, Wm. Faymonville, Mrs. Bedford, and others.

Building Superintendence, for \$3.00.

American Cottage Homes, for \$3.00.

Kingsburg.

Mr. Landrum Smith will commence building in May.

Grimshaw on Saws, for \$4.00.

Mechanics' Geometry, for \$4.00.

Modesto.

In a few weeks Messrs. Wood & Turner will erect a commodious building.

Artistic Homes, for \$3.50.

Modern House Painting, for \$5.00.

The Modesto Bank has decided to build a fine two-story brick building.

Cutting Tools, for \$1.50.

Cummings' Details, for \$5.00.

Mrs. Parker is about to build a fine dwelling.

Cutting Tools, for \$1.50.

Home Hand-Book, for \$10.00.

Oregon Items.

It is probable that another immense warehouse and dock will be built on the river front between the Albina sawmill and the O. R. & N. docks this summer.

Practical Perspective, for \$5.00.

Woodwards' Country Homes, for \$1.50.

Merges & Vosper have let the contract to Buxton & Sparks for construction of two cottages on Russell Street near the corner of Kirby.

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Charles Schmid, of Portland, is having a two-story frame store built on the east side of Helm Street, just south of the Tivoli saloon. F. Miller is the contractor.

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Artistic Homes, for \$3.50.

Modern House Painting, for \$5.00.

The old central school building on the southeastern corner of Sixth and Alder Streets, Portland, will be remodeled, at a cost of \$3,000, as a hotel.

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

Shavings and Sawdust, for \$1.50.

John M. Pittenger, of Albina, will build a fine residence.

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

Work on the new paper mill at La Camas has been commenced, a force of men now clearing away the debris of the old mill.

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

Wm. M. Wisdom, of Portland, has purchased a piece of ground in the Belmont Park at Mount Tabor, and he will erect a dwelling-house thereon. Others contemplate making similar purchase and improvement.

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

Practical Geometry, for \$1.00.

The Orphan's Aid Society of Salem intends to build a home for children in that city. It will cost about \$15,000, and be modeled after that of Portland.

Artistic Homes, for \$3.50.

Modern House Painting, for \$5.00.

The women of the Portland church congregations have raised about \$1,000 for the new Y. M. C. A. building.

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

A new Catholic school is to be built in Pendleton.

Science of Carpentry, for \$4.00.

Universal Assistant, for \$2.50.

Bids have been received for construction of W. S. Ladd's four-story brick, in Portland, on the southeast corner of Front and Morrison Streets. The entire cost will be \$60,000.

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

Dr. S. E. Josephi intends to build a private sanitarium in Portland costing about \$10,000.

Every Man His Own Mechanic, for \$3.50.

Tredgold's Carpentry, for \$7.50.

N. K. West is having a two-story brick store erected on the corner of Fourth and N Streets, Portland.

Builders' Companion, for \$1.50.

Builders' Work, for \$5.00.

Buxton & Sparks have commenced construction of two frame cottages on the northeast corner of Russell and Borthwick Streets, for Merges & Vosper, of Hillsboro, Oregon. Mr. Merges will also build, in a short time, a handsome residence.

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

Petaluma.

Capt. John Henry is building a warehouse.
American House Carpenter, \$5.00.
Cutting Tools, for \$2.00.

San Jose.

One mile from town, two-story frame with barn. Owner, R. Wiltz; architect, Theodore Lenzen; contractor, J. D. Stewart; cost, \$5,000.

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

On First Street. Mr. Farrington is adding \$3,000 in improvements on his brick building. Theodore Lenzen, architect.

Album of Mantels, for \$8.00.

History of Architecture, for \$15.00.

Mr. Kelly is building a frame cottage. Cost, \$2,500. Theodore Lenzen, architect.

Practical Perspective, for \$5.00.

Woodward's Country Homes, for \$1.50.

G. J. Koenig is building a \$2,500 house. Theodore Lenzen, architect.

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

J. W. Lyndon, Los Gatos, Queen Anne cottage. \$8,000. G. W. Page, architect.

Shavings and Sawdust, for \$1.50.

American Cottage Building, for \$3.50.

Mr. Johnson, East San Jose. \$1,700 cottage. Jacob Lenzen & Son, architects.

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

Practical Geometry, for \$1.00.

Mrs. Winchester, Los Gatos Road, Eastlake house, \$2,400. Robert Summers, builder.

American House Carpenter, for \$5.00.

Cutting Tools, for \$2.00.

E. O. Smith, Eastlake house on First Street, \$8,000.

Building Superintendence, for \$3.00.

American Cottage Homes, for \$3.00.

C. J. Martin, extensive improvements on Hamer House.

Album of Mantels, for \$8.00.

Architects' Companion, for \$2.50.

Snook Hotel, Southern Pacific depot, \$4,000, Russel Bros., builders.

Woodward's Farm Homes, for \$1.00.

Woodward's Graperies, for \$1.00.

SAN FRANCISCO BUILDING NEWS.**B**

Broadway, bet. Van Ness Avenue and Franklin. Frameschool building.

O.—P. Birmingham.

A.—T. J. Welsh.

C.—Bateman Bros.

Broderick and Washington. Two-story frame.

O.—C. E. Hempel.

C.—C. S. Waterbury.

Bush, bet. Powell and Mason. Additions.

O.—G. Hageman.

A.—B. E. Henriksen.

C.—Moore Bros.

C

Clipper, near Noe. Frame dwelling.

O.—Mrs. A. Keppler.

C.—G. Houston.

\$1,400.

California, cor. Pierce. Five two-story frames.

O.—James Whartenby.

A.—Moore & Schulze.

C.—R. Smilie.

\$25,000.

California, bet. Kearny and

Montgomery. Four-story brick.

O.—Abby M. Parrott.

A.—Pissis & Moore.

Masons—Riley & Loane.

Carpenter—W. M. Fletcher.

\$75,000.

Clementina, bet. Fourth and Fifth.

Two-story frame.

O.—Alex Donaldson.

A.—M. J. Welsh.

C.—J. J. Dunn.

\$3,500.

D

Devisadero, near Geary. Two-story frame.

O.—J. F. McComie.

\$4,500.

Dolores, near Twenty-eighth. Two-story frame.

O.—Flanagan.

\$3,000.

Dolores, near Twenty-sixth. Two-story frame.

O.—R. Bergfeld.

\$4,000.

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

O.—R. Bergfeld.

\$3,000.

Devisadero, near California. Two-story frame.

O.—Duncan.

A.—W. F. Smith.

C.—J. V. Hussey.

\$7,000.

Devisadero, near Eddy. One three-story frame and two two-story frames.

O.—J. W. McDonald.

A.—T. J. Welsh.

\$12,000.

E

Eddy, cor. Glasgow. Additions. \$500.

Ellis, bet. Taylor and Jones. Two-story frame.

O.—A. Smith.

A.—H. D. Mitchell.

\$7,000.

F

Fifth, cor. Bluxome. One-story brick building.

O.—F. L. Whitney.

C.—Mahoney Bros.

\$5,000.

Folsom, bet. Fourth and Fifth.

Three-story brick building.

O.—A. Field.

A.—J. E. Wolfe.

Mason—E. R. Shain.

Carpenter—Moore Bros.

\$40,000.

Fourth, near Louise. Additions.

\$500.

Steel Square Problems, for \$1.00.
Workshop Companion, for 35c.

There are now thirty-three hotels building in Los Angeles County, ranging in price from \$30,000 to \$600,000.

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

Helena, Montana, is having a boom. Buildings are being put up on every hand, and thousands of dollars invested.

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

The Tacoma Warehouse Company intends building a wharf and large warehouse.

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

R. P. Hastings will build in Green Valley, Cal.

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

S. E. Holden will erect a large brick building in Napa.

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

The gas company in Santa Rosa are adding large improvements to their works.

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

G. M. Haller will erect a row of stores in Seattle.

Practical Perspective, for \$5.00.
Drawing for Carpenters, for \$1.75.

In Ventura, L. J. Rose has let the contract for a \$60,000 hotel building to Mr. D. Perry, of San Francisco.

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

In this city a new story is talked of on the Merchants' Exchange.

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

A large building will be erected on Folsom and Twenty-sixth Streets for a Polytechnic School.

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

In Pasadena, C. H. Richardson is building a \$7,000 residence.

Cutting Tools, for \$2.00.
Cumming's Details, for \$5.00.

Fell, near Fillmore. Frame building.
O.—H. S. Murphy.

A.—M. Balczynski.

C.—R. O. Chandler.

\$5,500.

Fillmore, bet. Fell and Oak. Two-story frame.

O.—J. Flood.

A.—T. J. Welsh.

C.—J. W. Smith.

\$8,000.

C

Green, near Buchanan. Two-story frame.

O.—J. Hulach.

C.—A. P. Payson.

\$4,500.

Green, near Laguna. One-story frame.

\$1,200.

Geary, bet. Jones and Leavenworth.

One two-story and one three-story frame.

O.—A. Koenig.

A.—P. R. Schmidt.

C.—R. Smilie.

\$46,000.

Green, near Buchanan. One-story frame.

O.—Wm. Reston.

A.—Miller & Armitage.

C.—C. Christie.

\$1,800.

Golden Gate Avenue and Webster.

Two two-story frames.

O.—E. C. Quere.

A.—T. J. Welsh.

C.—S. S. Greene.

\$13,000.

Golden Gate Avenue, cor. Broderick.

Two-story frame.

O.—J. W. Keer.

A.—Percy & Hamilton.

C.—Ingerson & Gore.

\$8,000.

Grove, bet. Broderick and Baker.

Two-story frame.

O.—McGrough.

\$4,000.

H**Howard**, bet. Fourth and Fifth.

Three-story frame.

O.—Ellen McKernan.

A.—J. I. Clark.

C.—J. G. Adams.

\$12,000.

Hayes and Baker. Two-story, attic and basement.

O.—F. Heyward.

A.—C. I. Havens.

C.—Mahoney Bros.

\$20,000.

Hayes and Devisadero. Two-story frame.

O.—Miss E. W. Luecke.

A.—Moore & Schulz.

C.—J. T. Grant.

\$5,000.

Harrison, bet. Ninth and Tenth.

Two two-story frames.

O.—Anna Mangles.

A.—M. P. Schetzel.

C.—B. Dryer.

\$6,500.

Hyde, bet. Post and Sutter. Three-story frame.

O.—Mrs. Conolin.

A.—M. Balczynski.

C.—R. O. Chandler.

\$7,000.

Howard, near Twenty-fourth. Two two-story frames.

O.—Margaret P. Jennings.

C.—George Neuston.

\$4,500.

Haight, bet. Steinar and Pierce.

Two-story frame.

O.—P. Laherty.

Cost, \$6,000.

J**Jackson**, near Franklin. Additions.

O.—J. D. Fry.

A.—Copeland & Banks.

Day Work.

\$1,500.

Jackson, near Devisadero. Two-story frame.

O.—A. S. Brackett.

C.—Wilson & Son.

\$5,000.

King, near Third. Brick building.
O.—A. Hayward.

A.—Percy & Hamilton.

Mason—J. McCarthy.

Carpenter—C. W. Kinsman.

\$12,000.

M

Montgomery and California. Alterations and additions.

O.—Mrs. A. M. Parrott.

A.—Pissis & Moore.

\$15,000.

McAllister, near Lyon. Two-story frame.

O.—Thos. McDonough.

A.—W. C. Hoagland.

C.—J. F. Easley.

\$3,800.

Montgomery Avenue, bet. Filbert and Greenwich. Two-story frame.

O.—M. Sichel.

A.—P. R. Schmidt.

C.—P. Griffin.

\$7,500.

Montgomery Avenue, near Union.

Two-story frame.

O.—J. M. Orjabin.

A.—Miller & Armitage.

C.—L. Neissman.

\$7,500.

Market, near Ninth. Two-story frame.

O.—T. Henwright.

C.—Burns.

\$3,000.

Mission, near Eleventh. Additions.

O.—Mrs. M. Frederick.

A.—P. R. Schmidt.

\$2,100.

Market, near Fifth. Three-story brick.

O.—E. J. Baldwin.

A.—A. Bennett.

\$75,000.

Market and Jones. Additions.

O.—Murphy estate.

A.—T. J. Welsh.

Carpenter—J. L. Binet.

\$90,000.

O