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by short strong flanges on either side. By this method the whole surface of the metal girder is covered with a non-conducting material which has entirely no liability to crack or break under the most severe difference of temperature. The short flanges on either side reduce the liability of cracking or breaking to a minimum, and the additional thickness affords additional solidity without much increase of weight, and greater ability to resist the action of heat and water. In Fig. 4, Mr. Gates showed how the terra cotta could be

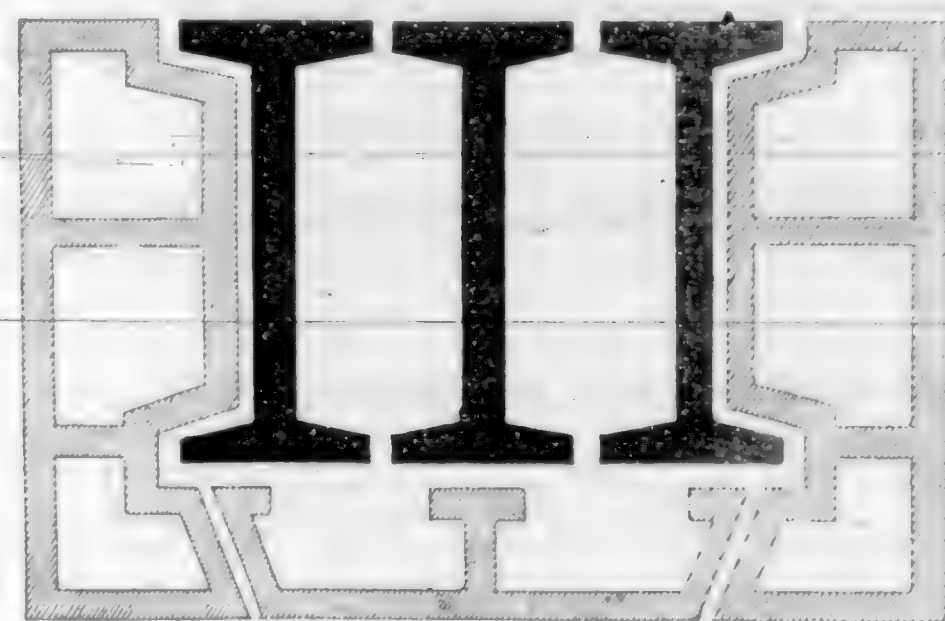


Fig. 4.

used in a double capacity, as a fireproofing protection and as an exterior finish when such girders are used projecting from exterior walls—mouldings can be added at pleasure. Care must be taken in dimensions and shapes in order that the side flanges shall securely hold the soffit tile so that it cannot escape or be knocked out by a stream of water. The floor arches should be very substantial, and what is known as "porous and end construction" is recommended. The laying of the terra cotta is very essential. Common lime mortar should be discarded as unfit for the purpose and Portland cement mortar should be used, adding only sufficient lime mortar to make it work freely under the trowel. Every joint should be filled with mortar over the entire surface and the tile crowded close together. In putting in the key, unless it fits closely, slabs of tile covered by cement mortar should be forced into the joints. It is very essential that these tile floors should be very rigid, as by so doing they prevent the lateral movement of the building not only in case of fire but as against high winds. If this work is well done they will take up a material portion of the wind

pressure even in a building of moderate dimensions. In most of the fires that have occurred in fireproof buildings very serious damage has been done to the floor arches by sealing off of the lower web, necessitating the replacing of the floors at an expense even greater than first cost. Concrete on top of the floor arches should be of good quality. Soft coal cinders should not be used. Crushed slag of the blast furnace is far better; it is full of air cells, and being produced at very high temperature is not affected by any heat likely to obtain. This concrete should not be inferior to that used in sidewalks, and when practicable should form the floor so as to avoid wood floors. The column protection, is another detail that should receive the most careful attention, for the columns are the main supports of all that are above, and if a single one should fall it brings down all there is directly above it, and the loss is necessarily very serious.

At the Fair building the columns are doubly protected, see Fig. 5, so that should the outer layer of terra cotta be

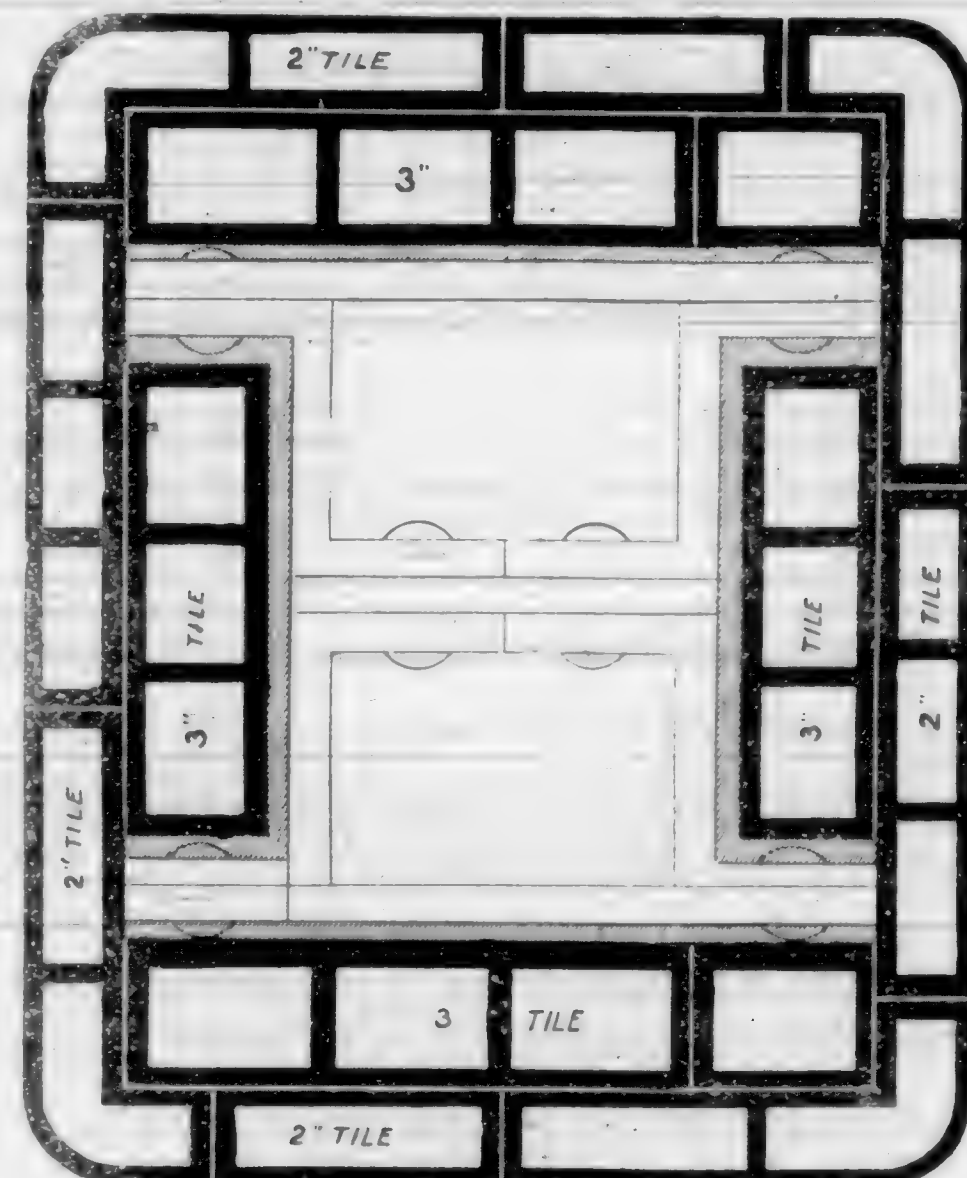


Fig. 5.

knocked off the column would be sufficiently protected by the second layer, which would be sufficient to resist the heat and prevent any serious injury to the column. For round columns there can easily be two layers; the inner one should be bound on firmly by wires or wire netting, which, lying close against the terra cotta, is itself protected. That this is the case can easily be shown by tying a piece of sewing cotton tight around a lead bullet and holding it in the flame of a candle; the lead will melt before the string burns off. The Chicago city ordinances demand in case of buildings devoted to the sale, storage or manufacture of merchandise, the covering of columns shall be of brick not less than 8 inches thick; if of hollow tile these coverings shall be in two consecutive layers each not less than 2½ inches thick; if of porous terra cotta it shall consist of at least two layers, each not less than two inches thick, each course breaking joints and to be so anchored and bonded in itself as to form an independent and staple structure. If this is carried out in a proper manner the protection is all that is necessary.

To be continued.

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SUBSTANTIAL—The parts are made to carry three times the weight of doors of the size given.

ONE PACKAGE—We pack the hangers fully assembled and ready to attach in one package, including all bolts and screws necessary.

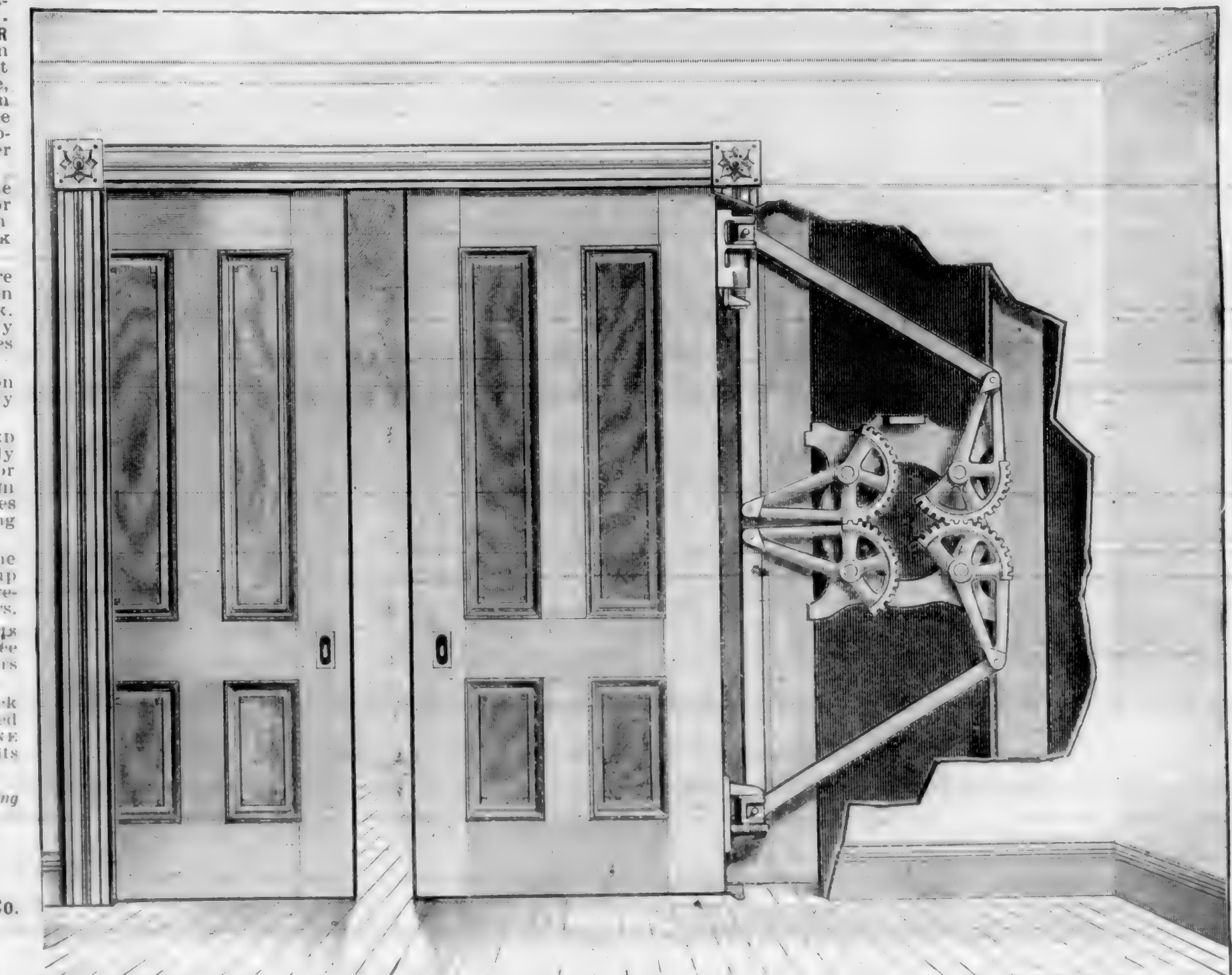
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For fire-proofing and deadening

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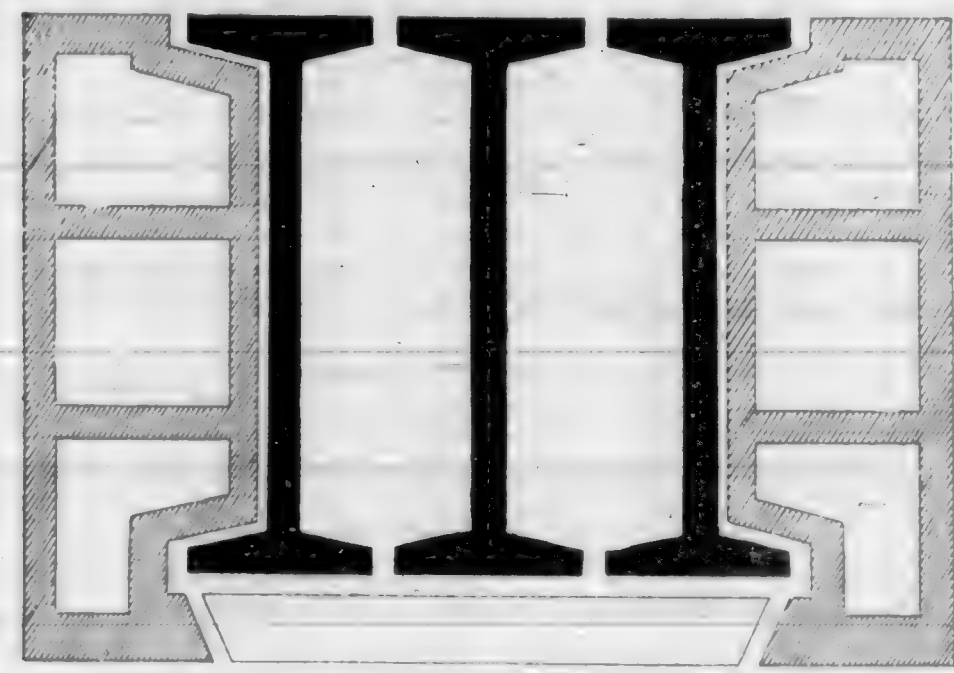


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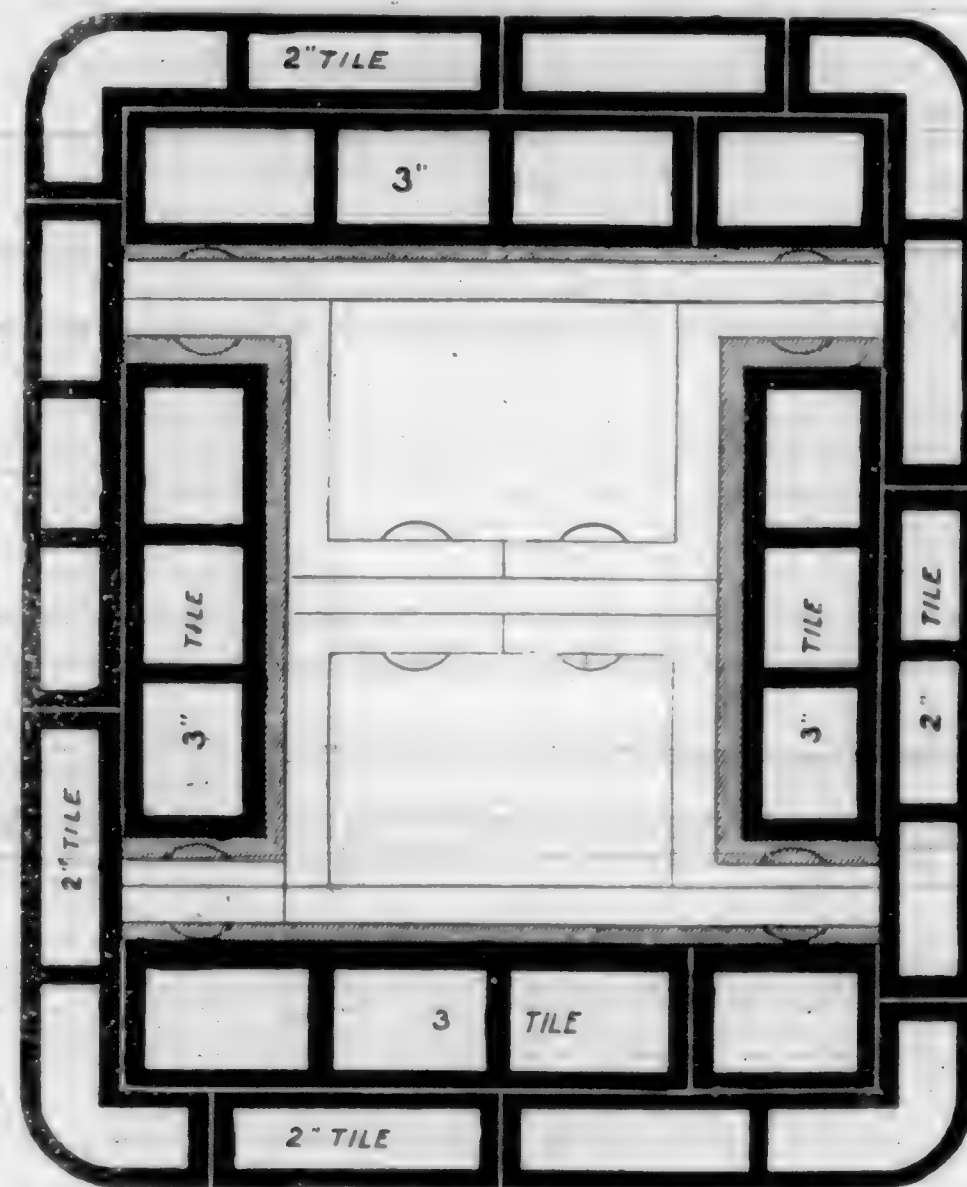


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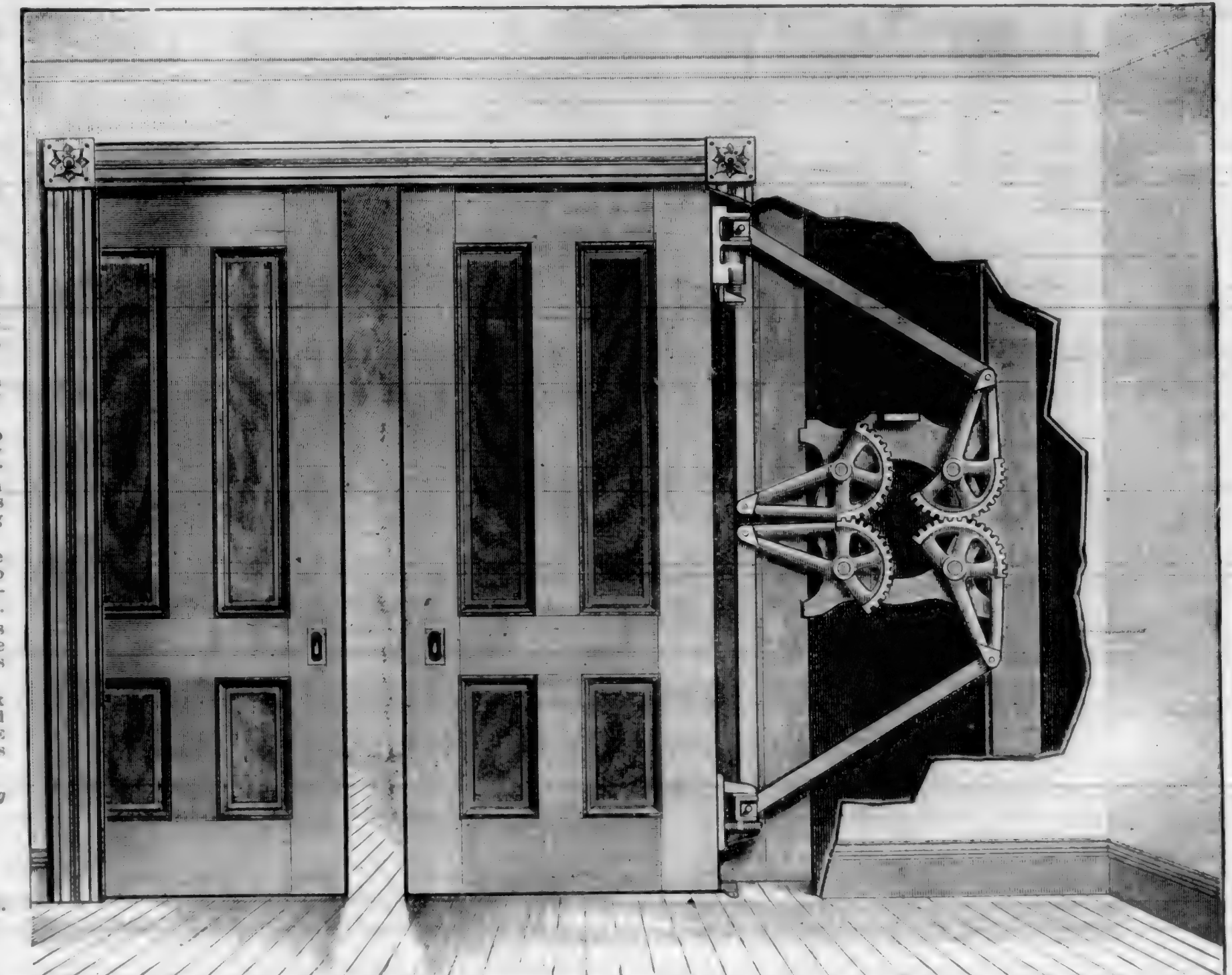
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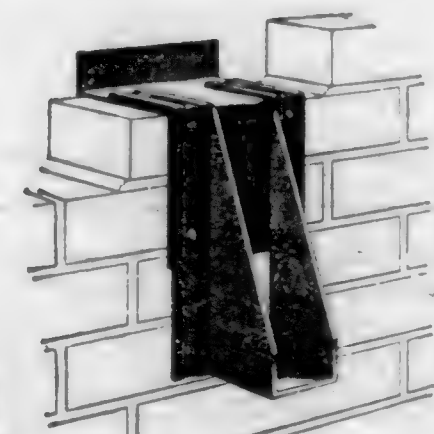
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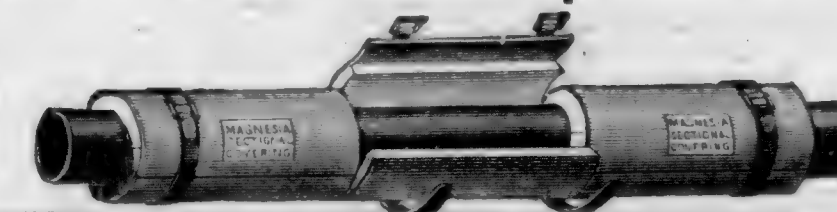
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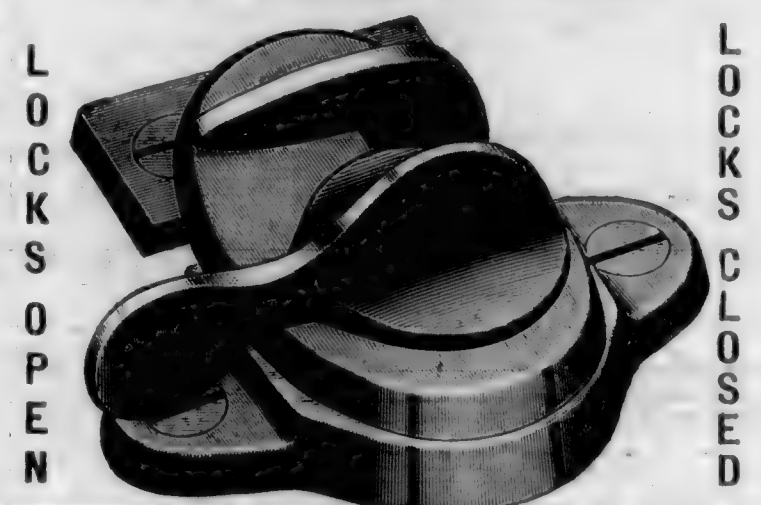
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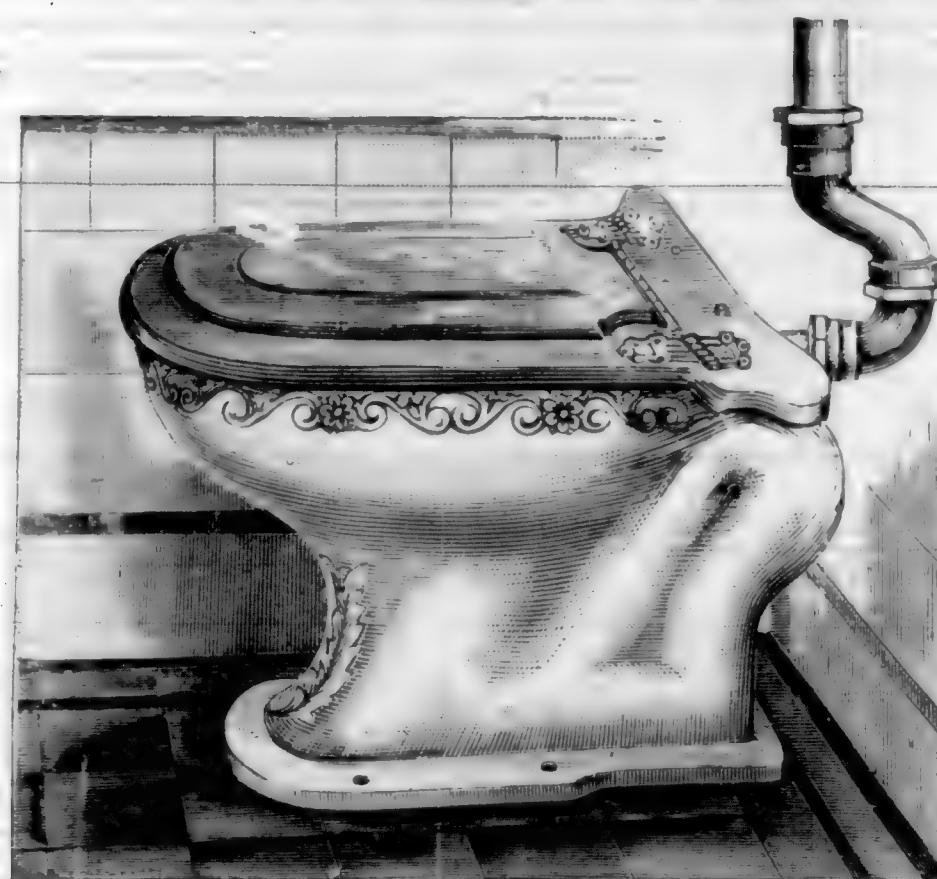
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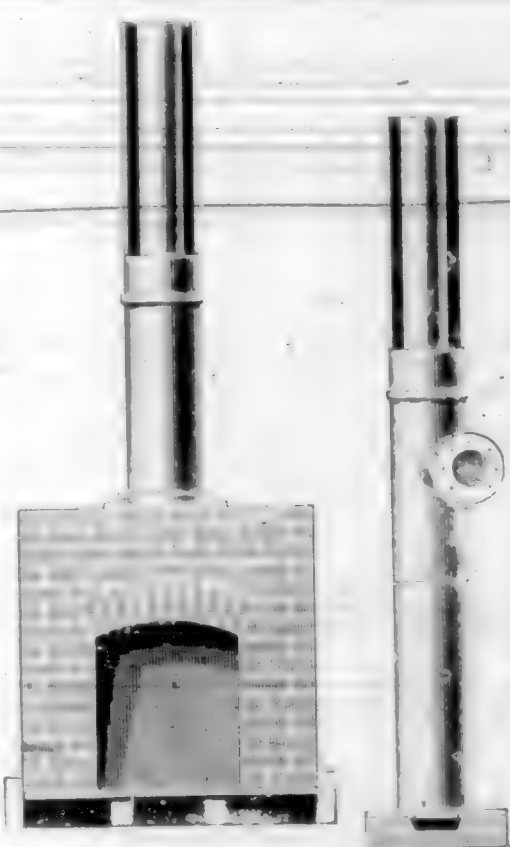
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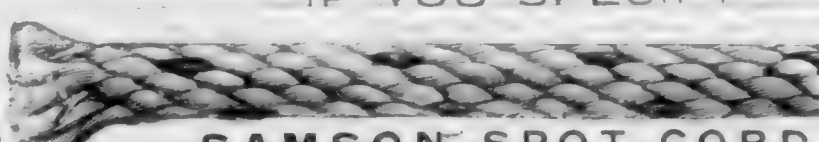
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THE CALIFORNIA ARCHITECT AND BUILDING NEWS

\$3.00 PER YEAR

VOLUME XIX, No. 5.

MAY, 1898.

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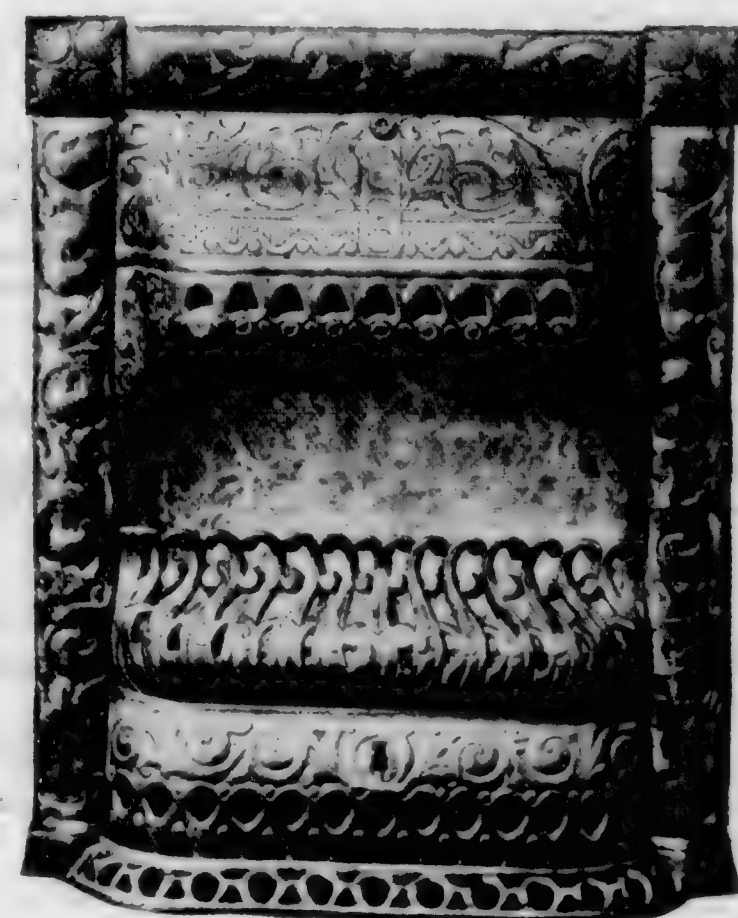
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THE CALIFORNIA ARCHITECT AND BUILDING NEWS.

BUILDING NEWS.

Bartlett near 23d. To build; owner, Marie C. Kratz; c. H. R. Schmuckert; cost \$9750.

Bernice near 12th. Two-story frame, 4 flats; o. Charles Fleischer and wife Kate; n. W. H. Wharf; c. Carl A. Holm; signed, April 27; filed, April 28; cost \$3925.

Beulah near Shrader. Cottage; o. Martin Schmitt; c. W. W. Rednall; signed and filed, 12; cost \$2308.

Bush and Jones. To build; o. Frederick Tillman, Jr., trustee estate of Claus Mangels; a. Hermann & Swain; c. Peterson & Persen; signed, May 10; filed, May 11; cost \$1708.

May 12; cost \$2915. Sewerage, plumbing and gas fitting; c. Ickelheimer Bros; signed, May 10; filed, May 12; cost \$1782. Painting, etc; c. W. T. Beck; cost \$1400.

Bush near Kearny. Alteration; o. S. H. Seymour; J. W. Murphy; c. William Little; signed, May 2; filed, May 3; cost \$2300.

Bush near Sansome. Cast iron work; o. Murphy, Grant & Co's building; o. Murphy, Grant & Co; a. F. S. Van Trees; c. Mahoney Bros; sub-c. Judson Mfg. Co; signed, April 28; filed, April 29; cost \$322. Painting, varnishing, papering, etc; c. F. A. Jennings; cost \$1708.

BUILDING NEWS.

Central Ave. near Clay. Alterations and additions; o. The Homeopathic Sanitarium; a. Havens & Toepke; c. Z. O. Field; signed and filed, April 29; cost \$3480.

Clara near 5th. To build; o. May L. Blake; a. W. Koenig; c. I. W. Coburn; signed, April 14; filed, April 18; cost \$2327.

Cole near Frederick. Cottage; o. S. Z. Dolliver; c. John Stierlein; cost \$3000.

Davis and Jackson. Partitions, etc; owner, John G. Gibson; a. James E. Wolfe; cost \$750. Plumbing, etc; c. J. P. Groom; cost \$500.

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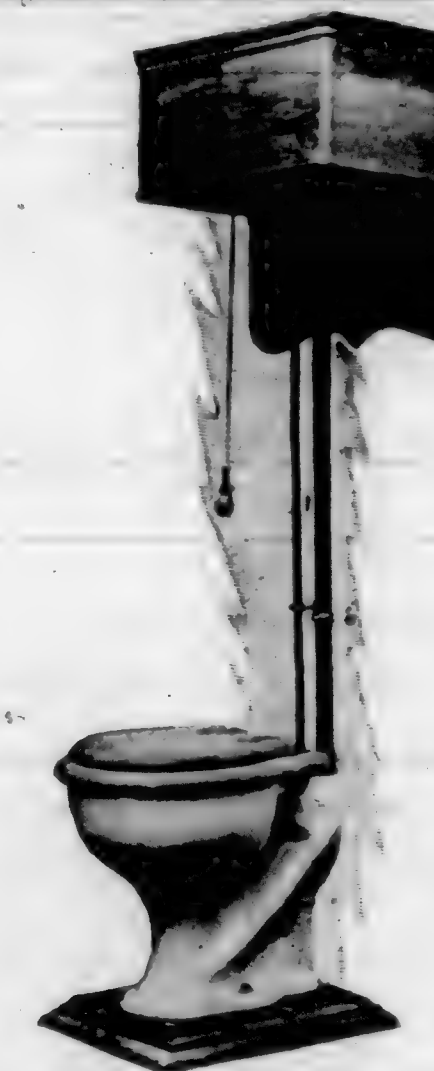
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BUILDING NEWS.

Devisadero near Eddy. To build; o. J. F. Dunn; a. Havens & Toepke; c. D. B. Munroe; signed and filed, April 14; cost \$540.

Devisadero near Fulton. Plumbing, etc.; o. Ellen A. Fife; a. N. Blaisdell; c. Peter Crichton; signed and filed, April 30; cost \$16,791.

Devisadero near Fulton. Painting, graining, etc.; a. N. Blaisdell; c. Kuss & Storz; signed, May 5; filed, May 9; cost \$1500.

Eddy and Mason. Alterations to build; o. A. W. Wilson; a. Shea & Shea; c. I. W. Coburn; signed, April 12; filed, April 19; cost \$1946.

Eddy and Jones. Alterations and additions; signed April 23; filed, April 25; cost \$8156.

Eddy and Powell. Lathing, plastering, etc.; o. William Rogen; a. Havens & Toepke; c. J. J. Morehouse; signed, April 26; filed, April 28; cost \$1491.

Ellis and Cohen. Three-story frame; o. John Blaney; a. F. B. Wood; c. C. E. Sheibley; signed, April 12; filed, April 21; cost \$8400.

Front and Broadway. Repairs, etc.; o. American Biscuit Co.; mason work; c. T. Butler; carpentry; Campbell & Pettus; a. Wright & Sanders; cost \$5000.

Fell near Lott. Plumbing, gas fitting, etc.; o. Mrs. Elizabeth A. McCord; a. E. R. Swain; c. Duffey Bros; signed, April 14; filed, April 16; cost \$1035.

Geary and Jones. Plumbing, etc.; o. Ruby A. Root; a. C. A. Meussdorfer; c. T. K. Heimer Bros; signed, April 20; filed, April 21; cost \$1923.

Guerrero near 10th. To build; o. John and Nellie Donnelly; a. C. N. Jones; c. J. A. Cotter; signed, April 15; filed, March 18; cost \$3240.

Jackson near Pierce. Carpentry work, etc.; o. Mrs. Camilla Sansone; a. Safford & Kohlberg; signed, April 16; filed, April 30; cost \$9455.

Jackson and Lyon. To build; o. David Dangers; a. Newson & Meyers; c. Campbell & Pettus; signed, April 6; filed, April 16; cost \$5945.

Jackson near Pierce. Plumbing, etc.; o. Mrs. Camilla Sanson; a. Safford & Kohlberg; c. W. F. Wilson; signed, April 12; filed, April 18; cost \$1511. Excavations, brick work, etc.; c. F. Wagner; cost \$1148.

BUILDING NEWS.

Kearny and Washington. Suspension floors for Hall of Justice and morgue; a. Shea & Shea; c. Western Expanded Metal and Fire Proofing Company; signed, Feb. 3; filed, April 28; cost \$19,650.

Kearny and Morton. Wrought and cast iron work, etc.; o. M. A. Guist & Co.; a. Hermann & Swain; c. J. A. Wilson; signed, May 4; filed, May 4; cost \$4740.

Lombard near Gough. Cottage; o. Henry L. Bricewedel and wife; a. H. Hess; c. Hilmyer & Upham; signed, April 19; filed, April 22; cost \$1759.

Lombard near Gough. Cottage; o. Anton Johnson; a. T. P. Ross; c. Chas. Lundberg; signed and filed, April 23; cost \$1300.

Market and Powell. Elevators for hotel; o. E. J. Baldwin; c. W. L. Holman; signed, April 16; filed, April 20; cost \$8673.

Morton near Stockton. Trenches, artificial stone, etc., for 6-story brick; o. V. Menesini; a. C. R. Wilson; c. H. M. Peterson & Co; signed, April 20; filed, April 21; cost \$2100. Lathing, plastering, etc.; c. Frank Cochran; cost \$914. Painting, graining, varnishing, etc.; c. J. A. Mohr; cost \$650.

North Point street near Larkin. To build; o. George McLain; c. Vaughn & Chadwick; signed and filed, April 27; cost \$2205.

Nineteenth and Mission. Excavation, brick work, etc., for 4-story brick; o. Youth's Directory; a. Chas. J. I. Devlin; c. Thomas Butler; signed, April 6; filed, April 14; cost \$20,991. Carpentry, mill work, etc.; c. J. W. Smith; c. \$17,380. Plumbing, gas fitting and drainage; c. G. C. Sweeney; cost \$5577. Lathing, plastering and cementing; c. Martin Carriek; cost \$2876. Painting, graining, etc.; c. J. F. Sullivan; cost \$1875.

Page near Laguna. To build; o. Louis Friedlander; a. C. H. Hasty; c. Wilson & Long; signed, May 9; filed, May 10; cost \$3400.

Paraguay near St. Johns. Cottage; o. Henry Pfeiffer and Marion Pfeiffer; a. J. W. Johnson; c. Marcuse & Rummel; signed, April 29; filed, April 22; cost \$1300.

Powell and Eddy. Brick work, etc.; o. Wm. Rogen; a. Havens & Toepke; c. John Furness; signed, April 4; filed, April 16; cost \$10,650. Gas fitting, plumbing, etc.; c. Duffey Bros; cost \$1800. Decorative plaster work; c. J. P. McMurry; cost \$2400. Concrete flooring, etc.; c. Mangrum & Otter; cost \$6620.

BUILDING NEWS.

Sacramento and Larkin. Brick work, carpentry etc., for five flats and two stores; o. Mrs. F. de Laviere per J. S. Perini, attorney; signed, May 11; filed, May 3; cost \$7300. Plumbing, gas fitting, sewerage, etc.; c. E. Kraus; cost \$1200. Painting, graining, etc.; c. G. A. Petterson; cost \$625.

Scott near Geary. Repairs to Girl's High School; o. Board of Education of S. F.; a. T. J. Welsh; c. Daniel Sherrin & sons; cost \$1600.

Second and Mission. Plumbing work, etc.; o. Wells Fargo & Co.; a. Percy & Hamilton; c. W. F. Wilson; signed, April 13; filed, April 18; cost \$16,856. Elevator work; c. Fraser Electric Elevator Co; signed, April 13; filed, April 18; cost \$15,500.

Second and Mission. Marble work, etc.; o. Wells Fargo & Co.; a. Percy & Hamilton; c. Duffey Bros; signed, April 9; filed, April 18; cost \$23,000.

Shipley near 6th. Alterations and additions; o. Gus Harshill; a. Safford & Kohlberg; c. J. V. Hull; signed and filed, May 12; cost \$3153.

Sixth Ave. near California. To build; o. Felix Marcuse; c. Marcuse & Rummel; signed and filed, April 29; cost \$9000.

Steuart near Mission. Excavations, etc., for 3-story brick; o. John F. Boyd; a. McDougall Bros; c. H. Stettin; signed and filed, May 6; cost \$7680.

Sutter near Mason. Electric elevator; o. Maude L. Bertschman and Blanch B. Morton; a. Oscar Haupt; c. W. L. Holman; cost \$1525.

Turk near Taylor. Alterations and additions; o. James D. Phelan; a. Curlett & McLaw; c. A. H. Wilhelm; signed, April 18; filed, April 19; cost \$6173.

Twelfth Ave. near Clement. To build; owner and contractor, D. Taylor; cost \$2000.

Washington near Mason. Demolitions, and all work except mantels and gas fixtures; o. L. Brizzolara; a. E. Deplerre; c. P. A. Antonelli; signed, April 18; filed, April 19; cost \$3900.

Washington near Spruce. Two-story frame; o. Dr. J. Mora Moss; a. Sam'l Newson and F. H. Myer; c. Depew & Brooks; signed, May 14; filed, May 16; cost \$2750.

Webster near Post. To build; o. Mrs. Dora Decker; a. W. J. Culbertson; c. D. Currie; signed, April 22; filed, May 4; cost \$1480.

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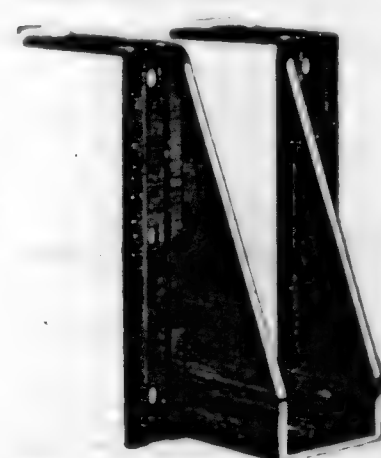
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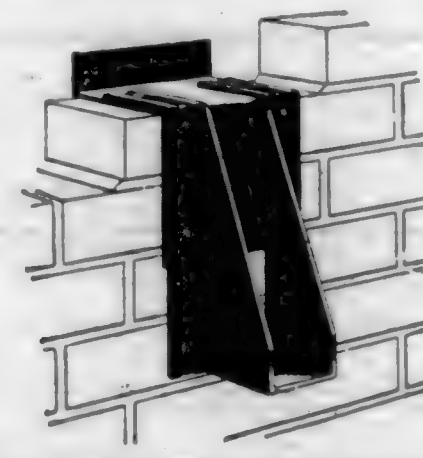
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ARCHITECTS

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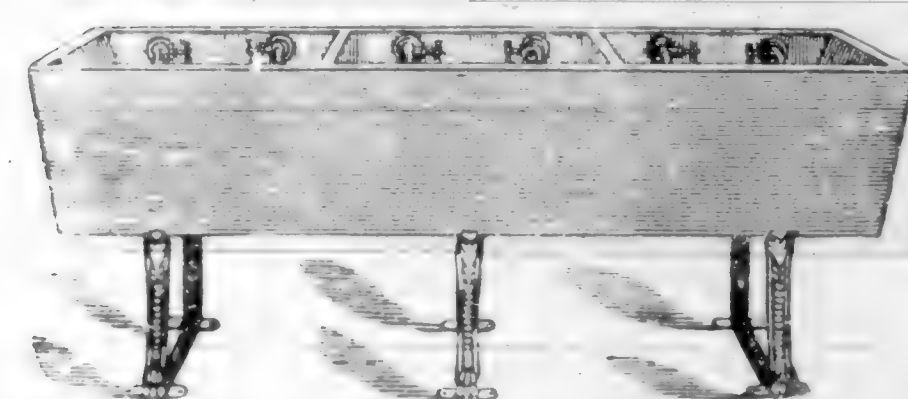
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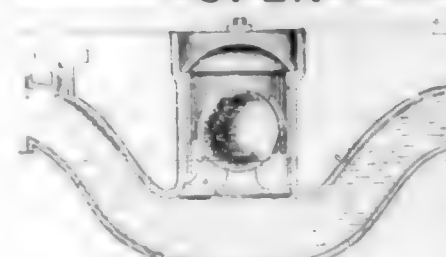
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BUILDING NEWS.

ALAMEDA

Santa Clara Ave. near Lafayette. To build: o. Cullen Bryant; a. A. Sutton; c. J. O. Field; signed, April 25; filed, April 26; cost \$6250. Plumbing and heating apparatus; c. Datzel & Moller; signed, April 25; filed, April 27; cost \$904.

ARIZONA

John Ivancovich contemplates erecting a brick building with stone foundation, adjoining the A. O. C. W. hall, at Tucson. It will be 75x85 feet, with iron and plate-glass front.

ANAHEIM

N. B. Mitchell of Pasadena is reported as having plans for a hotel building which he is contemplating building upon his property here.

A high school will be the next enterprise to be started in Anaheim. The people have grown tired of sending their boys and girls to Santa Ana and Fullerton.

AZUSA

Six buildings were burned here last week, involving a loss of \$10,000.

BANNING

Mr. M. L. Bridge is expected soon from Los Angeles to build the foundations for the new residence of Charles M. Morris, and to complete the work of plastering, etc., on the new cottage being built for Dr. King.

FRUITVALE

Spring Tract. Cottage; o. Elizabeth L. Murison; a. W. G. Bugbee; c. A. C. Soule; signed May 5; filed, May 5; cost \$1580.

BUILDING NEWS.

EL MONTE

Architects Smith & Elder have prepared plans for a frame store building 30x70 feet, for E. L. Dobson, to be built at El Monte. The same architect has plans for a cottage, for George Slack, to be built at the same place, by day's work.

OAKLAND

Eleventh and 6th Ave. Alterations and additions; o. C. H. King; a. W. J. Mathews; c. C. Christensen; signed, May 5; filed, May 6; cost \$1800.

Webster street, No. 1376. Alterations and additions; o. Ann M. Laidlaw; a. W. M. Campbell; c. F. Eskilson; signed, April 2; filed, April 26; cost \$1255.

Hillside Ave. To build; o. J. H. and Julia L. Borraelough; a. D. F. Oliver; c. H. E. Wharton; signed and filed, April 6; cost \$9257.

Myrtle near 12th. To build; o. Adolph Phil; a. A. W. Smith; c. W. E. and J. C. S. Whelan; signed, April 1; filed, April 19; cost \$9299.

Eleventh and 6th Ave. Alterations and additions; o. Harriett A. Braun; a. M. G. Bugbee; c. A. C. Soule; signed, May 5; filed, May 7; cost \$890.

CLAREMONT

As a result of raising \$92,000, since January, Dr. Piersons of Chicago gives \$20,000 for a science hall for Pomona college. The hall is to be 60x90 feet, will face Holmes hall on Warren avenue. There will be three floors: the lower floor given to mathematics, the second to biology and the third to chemistry and physics. Steps are being taken which will result also in the erection and equipment of a gymnasium.

RIVERSIDE

The supervisors of Riverside county have decided to erect the hospital building, to take the place of the

one burned, on the old site at San Jacinto, and will call for bids as soon as plans can be adjusted. The building is to be completed by July 1.

The county clerk has been instructed to advertise for bids for supplying the county with suitable lands and buildings for county hospital purposes, to take the place of the building destroyed by fire.

Work on the new passenger depot is progressing. The outer walls are of pressed brick and present a very pleasing effect. The building will cost when completed \$10,000.

PASADENA

It is reported that a Mr. Neumeister, formerly of Chicago, will erect an ice plant here. Work on Hotel Green annex goes steadily on. The decorative architecture begins to show up splendidly.

Ellis Hakes, of Illinois, has purchased a fine building site near the La Pintoresca. He contemplates erecting a home on the property shortly.

Architects Locke & Munsel are preparing plans for the remodeling of the Raymond residence, on Columbia street, Pasadena, which has been purchased by C. W. Smith, president of the Los Angeles and Pasadena Electric Company. The same architects have been instructed by E. S. Chamberlain of Des Moines, Iowa, who is charmed with the Southern California style of architecture, to prepare plans for a handsome brick and stone residence to be erected in that city.

Architect C. W. Buchanan is preparing plans for a nine-room modern residence for D. A. Davis, to be erected on North Moline avenue.

Continued on page 4.



THE CALIFORNIA ARCHITECT AND BUILDING NEWS

\$3.00 PER YEAR

PUBLISHED ABOUT THE 20th OF EACH MONTH

BY E. H. BYRRELL LESSEE, PUBLISHER.

OFFICE 408 CALIFORNIA ST. SAN FRANCISCO CAL.

ESTABLISHED IN 1879 NOW IN THE NINETEENTH YEAR. INCORPORATED 1889

VOLUME XIX.

MAY 20th, 1898.

NUMBER 5.

A MONTHLY JOURNAL DEVOTED TO THE ARCHITECTURAL INTERESTS OF THE PACIFIC COAST.



ARCHITECTS will examine with interest the illustrations of tile arch construction in the highest office building in the world, which are shown on another page of this issue.

The *Engineering News*, to whom we are indebted for the article, has further information that similar defects can be seen in the tile floor construction of several buildings now going up in New York City.

That paper in its editorial comments on existing methods of building inspection, emphasizes the fact that competent authority has assured the Editor that these are merely ordinary examples of tile floor construction, such as can be found in odd corners around any first-class fire-proof building in that city.

As to tests and the extravagant claims which have characterized tile floor manufacturers' statements, the *News*

pays its respects very neatly in the following paragraph:

"Suppose we accept this view of the case, that tile construction of this sort is common, or at least frequent in fire-proof buildings. If this be true, then it follows that our knowledge of the strength of such floors is to say the least very imperfect; for all the tests which have been made of the strength of such floors have been made on arches carefully constructed with sound and symmetrical blocks, properly bonded with mortar. That such construction as is shown in our photographs is far weaker than floors built like the test arches, no one would think of denying. Perhaps it is still strong enough for safety; that is a matter which we shall not attempt to decide; the point of importance is that tile floor arches are just as capable of being built in a careless and defective manner, not contemplated by their design, as any other sort of engineering construction; and in view of some of the extravagant claims which have been made for tile floors, we believe, is well worth establishing."

FIRE-PROOF BUILDINGS AND LOW INSURANCE RATES.

800 BUILDINGS OF THIS CHARACTER IN NEW YORK
CITY VALUED IN THE AGGREGATE AT NEARLY
\$200,000,000.



HAT is termed a fire-proof structure is very different from the so-called fire-proof building of twenty years ago. While it is still true that the absolutely fire-proof building scarcely exists, the modern steel-framed building constructed throughout of incombustible materials is practically fire-proof.

This statement is supported by the test of several fires, and by remarkable concessions in rates by fire underwriters.

Salvage on the fire-proof buildings themselves has always been exceedingly large, the walls and steel framework being only slightly damaged in the fiercest fire, and scarcely entitled to a claim for loss as the result of any ordinary blaze. This can not always be said, however, of the combustible contents; for a degree of heat and amount of water not seriously affecting the building may destroy goods and furniture.

Fire underwriters have carefully studied the risk of the modern fire-proof building. They have employed experts and have accumulated statistics to determine the character of the new risk from their point of view; and they are now satisfied it is a safe risk.

Competition for fire-proof risks has recently been very keen among New York underwriters. This is partly due, it is true, to the recent suspension of rates in the Metropolitan district; but it is mainly due to the fact that the underwriters believe that large losses need not be feared among so-called fire-proof buildings. Rates have been amazingly low. We submit a few examples:

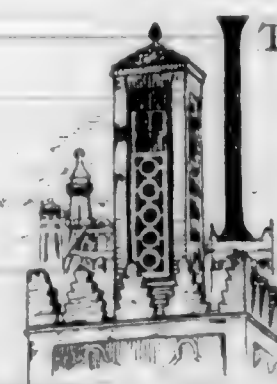
Lord's Court was written at five cents for three years. The Central National Bank building and the fire-proof Arnold Constable building were written at ten cents for five years. Large lines are carried. On one thirty-two storied steel skeleton building classed as one of the several hundred New York fire-proofs, nine companies wrote \$675,000 in sums ranging from \$50,000 to \$200,000. The total premium for five years was only \$675, and it is understood that the broker who placed the risk got twenty-five per cent of this small sum.

The underwriters are not gambling. There are about 800 fire-proof buildings in New York City, valued in the aggregate at nearly \$200,000,000. At an average rate of fifteen cents for five years this fire-proof business would produce \$300,000 in premiums. As the total destruction of any of these buildings is impossible, the damages to a large number of them could hardly be severe enough to wipe out all profit even at this low premium rate. We may therefore assume as a fact that low rates will continue to be the rule on these superior risks, even after a new rating by a tariff association.

This low rate experience in New York supports one of the strongest arguments urged by architects and builders in behalf of first-class buildings. The difference in insurance rates justifies the construction of first-class buildings of the modern fire-proof type.

AN EXPLANATION THAT EXPLAINS.

OR HOW TO EFFECT PROGRESS EITHER FORWARD OR
BACKWARD.



IT IS NOW an open question in building circles as to which building will be first completed and opened for the use of a patient and long suffering public. The Hall of Justice or the new Post-Office. With the former the contractors have been somewhat given to experiments in vast fields of enterprising development of new industries—such as opening up stone quarries and establishing brick yards, in out of the way nooks only known to themselves. These enterprises while laudable and in every way worthy of commendation, take much time and money. Of the former, the now famous firm of brothers, possess or at least act as if they were possessed, of unlimited quantities; of the latter, if dame rumor is to be believed, the Harbor Commissioners have awarded them liberal portions for their now practically completed work on the Ferry Depot.

It is just possible, however, that their supply of the former will be curtailed. More certain things than their grip on continuous extensions have "gang'd aft aglee." The term of office of indulgent supervisors, for instance, will expire one of these days. Then what?

The stone quarry riddle has been eliminated from the case by the firm position taken by the architects—Messrs. Shea & Shea—in standing by their specifications and Colusa stone—now all in place.

The expanded metal people too are about out of the way, having completed the first three stories and are now well on with the fourth.

The brick—just plain ordinary pressed brick, ah! there's the rub—can the contractors plead successfully to the powers that be that they are up against a pressed brick combine, then by working up the old, old story, of self preservation being the first law of nature, gain time enough from this board and the next, to bring to a conclusion this last new enterprise of theirs, viz.:—The pressed brick works they are said to have established at Stockton.

This about disposes of the Hall of Justice, and it gives much "the best of it" to the New Post Office building's chances, now under pretty fair headway. The daily papers may retard progress somewhat, in their efforts to assist the marble quarry men for the revenue there is in it. But this is doubtful; and the money could be far better expended at some of the unopened marble quarries in the State. In that quarter there would be a possibility of seeing the color of it again. As things stand now, a lobby at Washington with log rolling tendencies; many small but beautiful exhibits of speculative marble possibilities; with the purchased support of the said daily newspapers, constituted about all the stock in trade that has been thus far brought forward to induce the Treasury Department officials, to seriously consider California marble as a structural possibility.

The Supervising Architects office at Washington has kept the local superintendent, Mr. Roberts, quite busy, for some time back, visiting stone quarries, marble quarries and marble locations. This is all right and should be quite satisfactory to all concerned; but, and what a large but that is, there will be no delay from this time forth, and what is

more, the department ruled a long time ago, that "the opening up and development of quarries, had no part in the functions of Government.



THE USE OF STONE IN SKELETON CONSTRUCTION.

E. MCL. LONG IN STONE.

CONTINUED FROM APRIL NUMBER.



SINCE the architectural lines of every building are somewhat different the spandrel beams must be designed, or rather modified, to meet the special cases, and in order to arrive at the most substantial results the architect and the designer of the structural steel should work in unison. Generally the architectural lines of a building, and its adornment, are designed first, and then the structural steel frame is designed to carry a wall of known shape and weight. This is practical, for before an engineer can design a girder to carry a load he must know its weight and how it is to be applied. But still if this method of procedure is carried too far, and the lines of the building as first laid down, before the structural part has been considered, are strictly adhered to, almost impossible problems may be presented to the designer of the frame, and unnecessary expense incurred. Therefore, the structural engineer, when he finds he is being led into too complicated and expensive construction, should consult the architect, and where possible, without injuring the appearance of the building, the original lines should be changed. This architectural change for the most part would consist of a slight change in design or position of pilasters and cornices and some unimportant angles on the exterior of the building.

As in all masonry, the foundation for the curtain wall is of greatest importance. It seems strange at first sight that no standard construction has been agreed upon for this part of the skeleton construction; but when we consider the short time in which this form of architecture has had to develop, and the fact that most of these frames have been constructed by different engineers, each having his individual ideas in regard to a new form of construction, and the variation in decorated front to be supported, the variety we meet with in this detail is not to be wondered at. A long list of details could be shown of combinations of I beams, channels, Z bars, and angles that are now in use, but since these would be uninteresting to the general reader, and those particularly interested in this form of construction can procure them from books and articles on individual buildings, we will confine ourselves for the present to generalized methods and principles.

Besides carrying the wall, this beam serves as a floor

girder to receive the ends of the floor beams, or as a floor beam, and as such receives its part of the floor load, therefore its position must be at a floor level. Its position is also limited between the top of one window and the bottom of the one above. In the horizontal plane its position is very much limited, owing to the fact that its ends are to be connected with the columns.

In regard to the manner of loading this spandrel beam we have first the cornice, or horizontal band of stone ornamentation, which in architectural design is between the windows and on about the same elevation as the spandrel beam, so we can assume that this work will be fastened directly on the outside of the spandrel beam. From this band to the next band above we have the wall, or rather since the wall is mostly windows, the mullions between the windows. Thus we have two kinds of loading, a uniform loading and a loading at intervals along the beam corresponding to the window spaces. Now neither of these loads are over the center of the web of the beam, but are applied externally by means of supports built to the outside of the beam, and tend to produce a twisting moment in the beam which carried to the columns produce the effect of an eccentric loading there.

Where the outside wall is of stone and extends out well from the steel frame this twisting moment is quite an item, and must be balanced by having the floor beams at right angles to the spandrel and attached to it, in this way the structural problem becomes one of the cantilever, the supports for the stone work being a continuation of the floor beams with the spandrel acting as a fulcrum and receiving its load centrally and vertically. For causes of economy, the spandrel beam is generally a deep girder (a plate girder). Now the floor beams instead of ending at this girder can project beyond it, and thus form a shelf on the outside of the structural frame, on which can be built a stone wall of any design. If the spandrel beam can be placed so as to receive the floor beams on its top flange the construction is very simple, otherwise it receives the floor beams somewhere on its web and the continuation of the beams are formed by riveting on the outside of the spandrel. It would give a better form of construction if all supports for walls were built as above, but generally if floor beams are perpendicular to the front wall they are parallel to the side walls, and to have the floor beams making right angle connections with all four walls would cause a little complication in construction at the corners of the building. By so doing, however, we are following correct principles of construction and obviating the undesirable twisting that is produced by loading a detached beam on one side. In all structural steel work, except the skeleton of a steel building, all parts of the construction are in view and the steel can be easily examined to see how it is standing usage, and can be constantly repainted as a protection against rust, and when different members show weakness they can be replaced. But when once the steel of a building is covered with masonry it will never see the light of day again, except in the case of fire or the destruction of the edifice. It is, therefore, very important to be sure that all connections are well made and the steel well coated with paint, and that the stone covering is so constructed as not to allow moisture to attack the steel. It is one of the great faults in this form of construction that the structural material and details cannot be inspected, and considering this fact it is surprising to see with what carelessness these frames are often put together.

After the steel work has been erected and the architect is absolutely certain he has a structure that will stand rigidly

all stains produced by loads and wind, the next work to be taken up is the construction of the outside walls. Before the mason starts his work it is well to see that all spandrel beams are in their correct positions, and that the stone work as designed will fit into its place between beams and columns. When everything fits as designed, the methods of constructing a curtain wall will be the same as those employed in erecting a wall in any other position.

The artistic part of the problem, however, is different from anything ever attempted before, and it is in the design of the front wall that the architect expends his best efforts and brings into play his entire knowledge of architectural adornment.

The architect's first aim seems to be to hide all the structural steel work and give the front of his building the appearance of one solid wall of masonry; then he turns his attention to adornment, and we have presented to our view, in cities where high buildings thrive, all manner of walls, from the rigorously plain to the one on whose face every architectural adornment ever conceived finds a resting place. At first sight some of these fronts may please and awe by their striking appearance, but if we see more of even the finest, we admire it less and look upon it as a most unnatural stone wall, and a feeling that a fraud has been penetrated grows upon us. The use of steel in the structural part of architecture has produced a revolution, but into architecture as an art it has not entered. True, architecture is an adornment of the materials of construction, and since our ideas of architecture are gotten from a time when the use of steel was not known, we associate all architectural effects with the materials used in former times. But now, however, since steel is playing such a part as an architectural material of construction, the time is sure to come when the art will recognize it, and not until that time can we hope for pleasing architectural effects in steel construction.

When the front of a skeleton constructed building can be so designed that each curtain wall of stone will show to the untrained eye that it is merely a covering for an open space between two floor beams and two columns, and the fact that the steel frame is carrying the wall made evident, it will then be that the art of architecture is adapting itself to this form of construction. It is not necessary that the building front should be marred by unsightly beams and columns. They may be entirely covered, but yet have the covering so arranged as to suggest what is behind. And then, again, we may have the beams and columns in full view, ornate, and enframing the individual walls of stone, with the stone and steel blending artistically, presenting to view strength and architectural grandeur. When and how such combinations will be made the future alone can reveal. We can rest assured, however, since stone or other non-metallic materials are non-conductors of heat, that they will always find their place in the curtain walls, and that the structural design of our tall buildings, as they are at present, are too near the ideal to be much improved upon. The architect has shown his ability as a selector of materials and as a constructor. The problem before him now is to adorn his construction, not to hide it.

Subscribe for THE CALIFORNIA ARCHITECT AND BUILDING NEWS for the year '98.

HOLLOW TILE FIREPROOFING IN THE PARK ROW SYNDICATE BUILDING.



THE PERSISTENT opposition of the Board of Examiners of New York city to the use of concrete fireproof floor systems in office and mercantile buildings of the best class has been pretty fully discussed in past issues of *Engineering News*. Among the buildings concerning which this contest between the manufacturers of concrete floor systems and the Board of Examiners has been the fiercest is the 30-story Park Row Syndicate Building, now being erected at the corner of Park Row and Ann street, opposite the New York Post-Office, and within a stone's throw of the offices of the *Engineering News*. The history of this dispute has been given from time to time, but a brief review of it will aid in making clear to readers the full significance of the defective work illustrated in the accompanying cuts, which are reproduced from photographs recently taken in the building itself.

The architect's specifications for the Park Row Syndicate Building called for either a concrete floor or a hollow tile floor. The first-named was preferred, owing to its being less costly (we understand the difference in price amounted to \$20,000 on this building), and also some 30 per cent lighter than tile, thus reducing the foundation loads about 4500 tons, and considerably lightening the column loads. In designing the steel work the beam spacing was made only 5 ft., and all the suggestions of the Department of Buildings respecting the design of the ironwork to be used with the concrete floor were carried out. Notwithstanding all this, the Board of Examiners successively denied three separate petitions filed for the approval of this construction, and absolutely refused to give any reason for its action. Finally a mandamus was obtained from the courts, compelling the Superintendent of Buildings to pass upon the question whether the concrete floor might be used. This he did in December, 1897, approving the concrete system, but by that time hollow tile had already been placed in about half of the floors, that material being finally adopted to avoid delaying the construction of the building.

The views published herewith show the nature of these hollow tile floors, which the Board of Examiners preferred and which the department of buildings have passed as complying with the building laws. Taking these views up separately, Fig. 1 shows an arch with the key out of center, and in which some of the rings are discontinuous; one key and several blocks are broken; the ring-blocks are not on line with the skewbacks; the steel beam is only partially protected; and various joints are open and uncemented. There are plenty of other arches in the building like this one. Fig. 2 shows on the left side a broken skewback and irregular, eccentric key blocks. On the right hand side one skewback is broken and both sets of skewbacks are so much out of line with the rings that the ribs do not stand opposite ribs; some of the blocks are broken and some of the joints are open and uncemented. Fig. 3 shows naked main-girders; broken and discontinuous keystone; unsymmetrical rings, and skewbacks and ribs not opposite each other, while two keystones are not down to their proper level by at least 2 ins. Fig. 4 is especially bad in its defective blocks; use of spalls to fill up gaps, and a skewback set for "side construction."

These defects are chargeable both to the poor workman-

ship and to the use of imperfect material. Summarized briefly, the characteristic ones are the exposed portions of the steel work, the use of broken tile, eccentricity of key-stones and carelessness in opposing rib to rib in the same arch ring, failure to cement joints properly, and generally poor workmanship. In other words, the defects are chargeable to the use of injured material and to the method of handling the material rather than to the nature of the arch material itself; and as many of these faults could be corrected by a more careful supervision of the workmen and a closer inspection and more careful handling of the tiles themselves,

facts will be remedied in part at least. The exposed beam flanges may yet be covered with the plastering which will of course cover them ultimately, but the structural weaknesses resulting from broken tile, keys out of center, and discontinuous arch rings, cannot be remedied except by reconstruction.

From the views furnished the fact is very clearly brought out, that owing to inefficient inspection tile floor arches of even the best design may be erected in actual construction in a very different manner from that which their design contemplated. *This fact is worth emphasizing here, for the reason*



Fig. 1. Showing Broken Tiles, Eccentric Keys, Discontinuous Rings, and Open Joints.

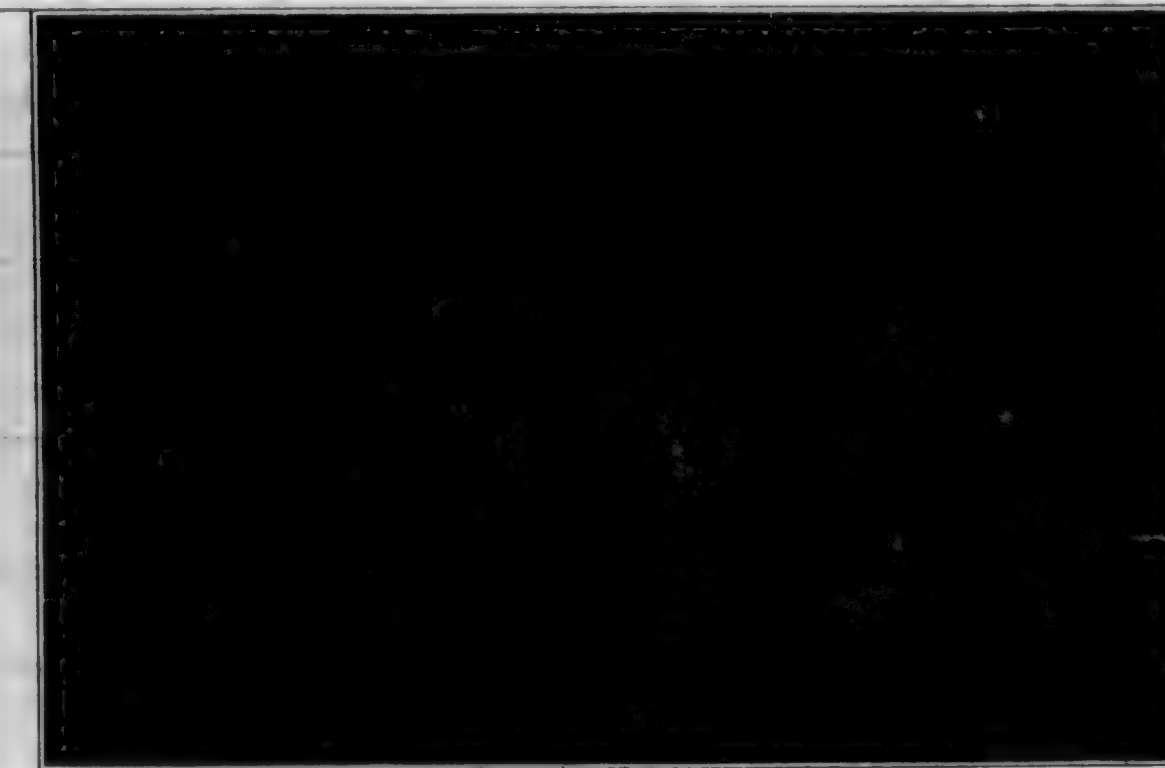


Fig. 2. Showing Broken Skewback, Irregular and Eccentric Keys, Discontinuous Arch Rings, Broken Flange Tile and Open Joints.



Fig. 3. Showing Badly Broken Tile, Discontinuous Rings, Eccentric Keys, Holes Filled With Spalls, Etc.



Fig. 4. Showing Absence of Key, Two Keys Not Down to General Level, Skewbacks Dropped Below General Level, Broken Tile, Etc.

Views Showing Bottoms of Porous Terra Cotta, "End Construction," Fireproof Floors in the Park Row Syndicate Building, New York

the makers of tiles are quite as much interested in better work as the owners of the buildings should be. The question now arises, why is the work of this character not objected to by the Department of Buildings of New York? The law certainly contemplates and demands a different class of workmanship in these hollow-tile arches.

Crude as the applying section of the building law is in the light of present knowledge concerning fireproof floor construction, it does not in any way contemplate or countenance such defective work as is shown by the illustrations. It is perhaps but fair to assume, however, that some of these de-

fects will be remedied in part at least. The exposed beam flanges may yet be covered with the plastering which will of course cover them ultimately, but the structural weaknesses resulting from broken tile, keys out of center, and discontinuous arch rings, cannot be remedied except by reconstruction. From the views furnished the fact is very clearly brought out, that owing to inefficient inspection tile floor arches of even the best design may be erected in actual construction in a very different manner from that which their design contemplated. *This fact is worth emphasizing here, for the reason*



[The Editor is not responsible for anything which appears in this column.]

NEW YORK, N. Y., May 13, 1898.

Editor California Architect and Building News.

SIR:—In your issue of February and March last, we read with interest a paper of Mr. W. L. B. Jenny, Architect, on "The Best Fireproof Construction for Buildings" and beg to take exception to his sweeping assertion that "the fire-resisting qualities of properly made concrete have been amply proven to be equal if not better than fire-clay tile, as shown by the series of tests carried on by the Building Department of the City of New York."

These OFFICIAL tests of 14 differing systems of fire-proof construction were published in "Engineering Record" of New York, September 18th, 25th and October 9th, and we defy any one to form any such conclusion on the results there shown.

Mr. Jenny quotes from the report of Engineer experts to the "Insurance World" of July 1st on the Pittsburgh Fire of May 3, 1897—"There is no probability that any future fire will be fiercer than the one at issue." That fact not being disputed, we beg to refer him to the report of Mr. S. Albert Reed, manager to the Executive Committee of the Tariff Association of New York, dated June 15, 1897, on the Pittsburg Fire:

Horne Department Store—the one undergoing the severest and crucial test was constructed of hard-burnt terra-cotta: conceded to be inferior in fire-resisting qualities to the porous material—the steel girders and beams supporting the tile roof are entirely bare and had no protective covering at all. The designers of the building evidently relied for protection upon the suspended ceiling of flat tiles carried by light angle or tee-bars. In this they made their error, and this error is responsible for nearly all the structural damage to the skeleton and walls." Is it fair or just to condemn a material because the cheese paring designers of the building failed to avail of its protection, when other parts of the building where it was employed, the results amply demonstrated its efficiency?

"The majority of the floor arches in the path of the falling material were smashed through from roof to ground floor. That the wreck of these floor-arches was caused by this and not by the 'action of fire' is seen from the fact that practically not an arch is broken through anywhere in the building except directly under the section of roof that collapsed." The girders (except those of roof) in this building were admirably protected and not one was injured by the fire—the column protection also did extremely well and was an excellent job."

Horne Office Building—adjacent to above structure was constructed of porous terra-cotta floor-arches and partitions,

and the report states: "Of this building little need be said, except that the skeleton, floor arches and walls are apparently intact, structurally, and that the protection was good and did its work effectually."

Such testimony coming from a totally impartial source should carry greater weight than the mere personal opinion of some individual Architect. Mr. Jenny is entitled to his personal opinion but against this we can cite those of a great many other Architects certainly the peers of Mr. Jenny. There are of course various qualities of concrete, but we have only to do with such as is usually found in floor construction, and many will agree with us that a great deal of rubbish at present masquerades as concrete.

As fully 90 per cent of the fire-proof buildings erected in this city and elsewhere are of terra-cotta clay-tile, that the fire proof qualities of such are appreciated by Underwriters is evinced by the fact that they have offered to write the Bank of Commerce and the Clearing House Buildings of New York City, at five cents for five years.

These facts alone, even if they were not reinforced by innumerable others clearly show the trend of opinion among Architects, Owners, Underwriters, etc.

It is also necessary to bear in mind that the limits of efficiency of porous terra-cotta clay tile have never been reached, because the manufacturer simply carries out the designs of the Architect, with results as conclusively shown by the defects in the Horne Department Store.

Truly yours,

HENRY MAURER & SON.

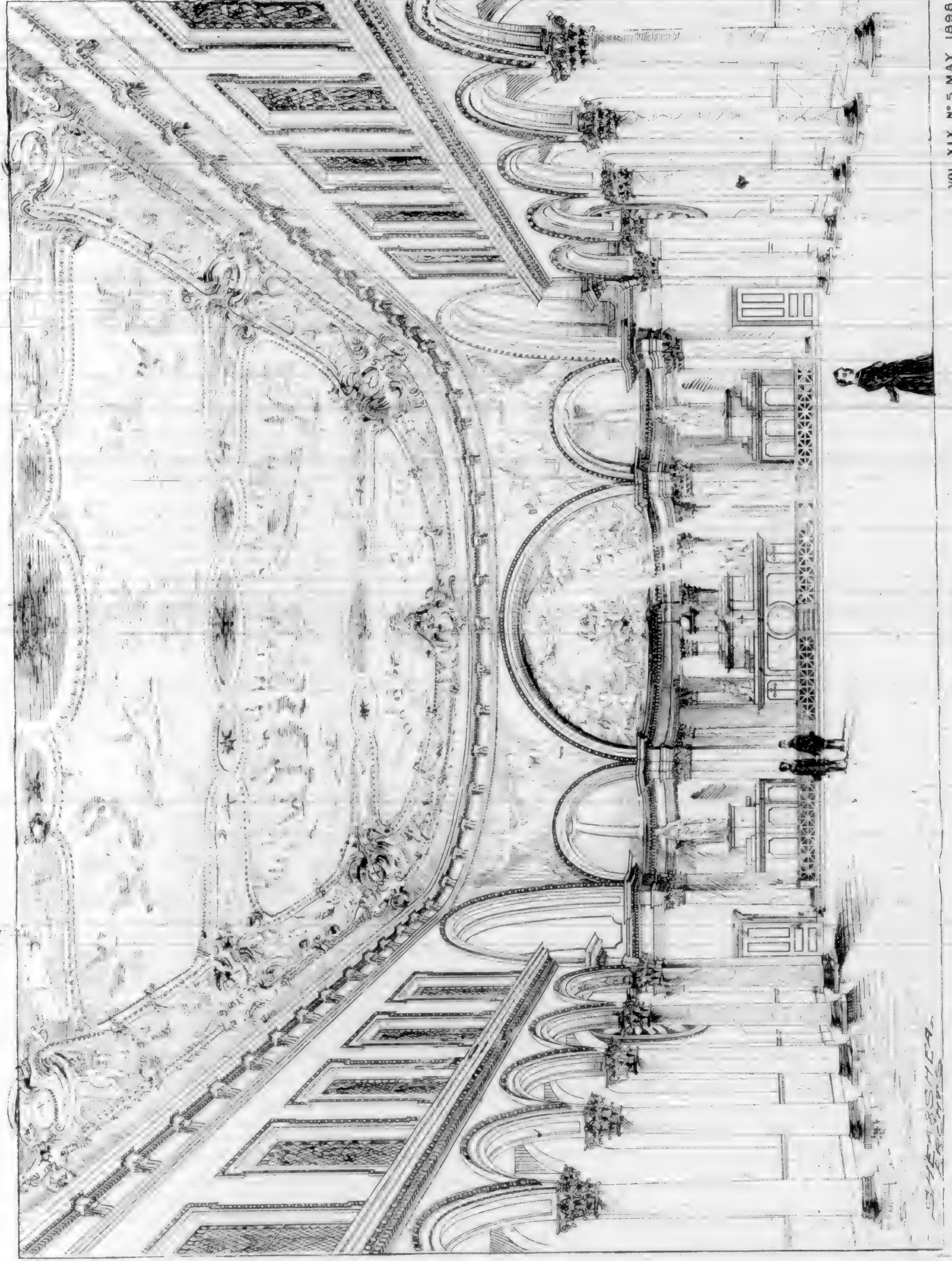
420 E. 23d St., N. Y.

CHICAGO, ILL., April 25, 1898.

To the Editor of the California Architect and Building News.

DEAR SIR:—In reply to your favor of the 16th, would say that the only information which we can give in regard to the condition of the beams and metal lath in the old Chicago Post-Office is, what we saw in them ourselves at the time the building was torn down. There was at that time, an article written in some paper calling attention to the fact, that iron beams and lath protected by mortar had apparently remained unchanged since the erection of the building, but we do not remember the paper in which the article appeared. This was true so far as we were able to see, but the lath in the building which had been put in when building was erected, was of course, not expanded metal, but sheet metal lath, and that had rusted but very little, and that, on the backside of the lath. All the expanded metal lath that was in the building had been put in in an addition to the building which had been erected only some three years, and was in perfect condition when building was demolished. The iron beams had been painted with red lead, and so far as any of us saw, showed no evidence of rust. As the building had been erected over twenty years, and as the backside of the sheet metal lath would be entirely unprotected, and had not rusted in that time sufficient to weaken or damage it to any appreciable extent, it would seem that open mesh lath like expanded metal or wire cloth embedded in the mortar, would stand for an indefinite length of time without any deterioration. Yours truly,

NORTH WESTERN EXPANDED METAL COMPANY.



CALIFORNIA ARCHITECT & BUILDING NEWS
SAN FRANCISCO

SHITON & REY, PHOTO LITH

INTERIOR, CHURCH OF THE HOLY CROSS.

VOL. XIX. NO. 5. MAY 1896



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VOL XIX N° 5 MAY 1898



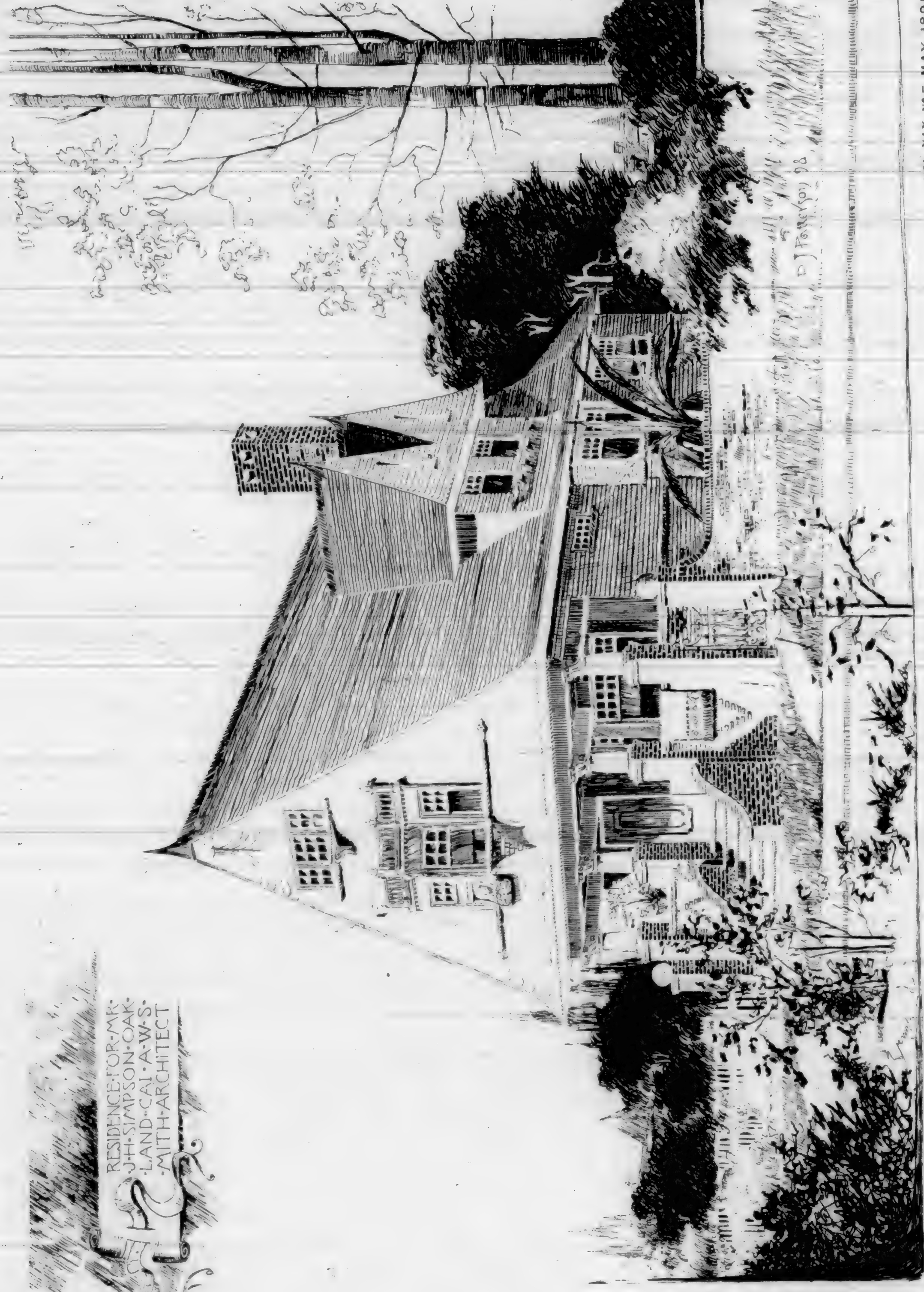
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CALIFORNIA ARCHITECT & BUILDING NEWS
SAN FRANCISCO.

BRITTON & REY, PHOTO-LITH.

VOL XIX N° 5 MAY 1898



RESIDENCE FOR MR.
J.H. SIMPSON - OAK-
LAND - CAL. - A.W.S.
MITH - ARCHITECT

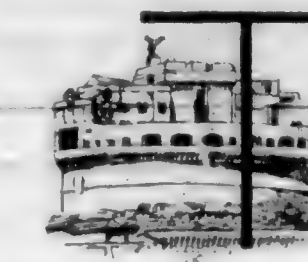
IRON SHUTTERS.

WHETHER it is accepted or not, the magnitude of the proposed work makes the proposition to raise the massive capitol of Ohio, and place another story under the structure, of more than passing interest to the building trades and to the architectural and engineering professions. The present building at Columbus being inadequate for the needs of the various state departments, the last legislature provided for the remodeling of the structure. The plans adopted to this end, however, entailed so great an expense that much opposition has been met with, and last week senator Miller introduced a bill to provide funds for the raising of the capitol building as proposed by Mr. Harvey Sheeler of Chicago, who says he will accomplish this feat for \$300,000. The Ohio capitol covers more than two acres, and built of native limestone, is one of the most massive buildings in the country. Mr. Sheeler proposes to raise this structure, the weight of which will run high into the thousands of tons, without disturbing the work of a single occupant in the building. He would cut off the building at the base and raise it on jack screws, the entire work of remodeling requiring about three months. The building is to be elevated eighteen feet, which would place three full stories at the disposal of the state authorities. The work of raising this structure will be the largest operation of the kind ever attempted in America.

The proposition of H. Sheeler of Chicago to raise the Ohio capitol, intact, one story, serves to remind us that this trade is keeping pace with the advancement in other lines of building work. This fact is established by the notable operations in this department of building in Chicago. As examples, we may cite the moving of the Immanuel Baptist church, Michigan Avenue and Twenty-third street, the shoring and putting in of new foundations for the Church of the Holy Name, North State and Superior streets, and the recent shoring for the music hall in the Studebaker building, all of which work was accomplished by Mr. Harvey Sheeler, who is the leading exponent of this branch of the work in the west. House moving and shoring has developed into a science, and the operations of to-day involve an accuracy of loads and strength of materials, and an ingenuity and practicality of engineering that frequently equals that required in the more established lines of engineering. The feats accomplished during the past years have in succession astonished even those intimately associated with the building business. It was perhaps one of the more recent of these works that presented a problem so enormous as to be unique in the history of raising, and unparalleled in that of the removal of structures, the raising of the Immanuel Baptist church 5 feet 6 inches, and its removal a distance of 51 feet. The building was constructed of limestone and covered a ground area of 93 by 161, with a 225-foot tower resting upon a base 24 feet square. The tower was estimated to weigh 1432 tons, and the entire structure 6652 tons. Besides this enormous tower, the auditorium spanned 63 feet. The successful accomplishment of this feat was an important step in the progress of moving and raising buildings, demonstrating the ability of experienced men to handle a concentrated load and to move large open buildings having virtually no cross walls or heavy partitions binding them together. It was a turning point in the history of the business, since it gave architects and owners thorough confidence in the men who

had for twenty years successfully pursued this line in lesser operations, and who are now reaping a reward well merited by their past works.—*The Construction News.*

A SIMPLE METHOD OF MAKING DECORATIVE BRICK.



HERE comes to us from Perth Amboy, from Mr. Antonio A. Mundy, a new method of making decorative brick. He says these ornamental bricks can be made in soft or tempered clay, and the brass plate which contains the negative of the ornament must be placed in the side of the mold. The stiff block of clay is then put in and pressed. The plunger of the press forces both the brass plate and the clay from the box of the press; the plate is then removed from the clay, leaving a perfectly formed brick with the required ornament. This method is applicable to the ordinary hand work which is in general use in many sections, and



AN ORNAMENTAL PANEL OF COMMON BRICK.

which presses the brick on the flat. If a press was so constructed as to press a brick on its edge, then the plate containing the ornament would have to be placed in the bottom of the mold. The picture shows what Mr. Mundy has done. He shows the rare quality of those who take an interest in manufacturing methods, being able to select and adopt a beautiful pattern. Most patterns for decorative brick are so irredeemably ugly that one interested in things artistic says, "If this is machine art, we will have none of it." So it is the machine suffers through no fault of its own and through no fault of the mechanical ingenuity of the designer. In order that the machine which produces artistic form should have success, it should be guided by the hand of an artist. Nearly all mechanical inventors imagine they have the artistic as well as the mechanical touch. This is rarely true; hence the loss to the world of many valuable mechanical ideas.—*The Clay Worker.*



The management of this journal desires to extend a cordial invitation to all architects on this coast and elsewhere to contribute designs for publication.

Drawings should be made with perfectly black lines on a smooth white surface. Good tracings, if made with black ink, answer the purpose.

The designs selected will be published without charge. All drawings, whether accepted or not, will be returned to their authors, who must bear express charges both ways.

ACCEPTED plan for Court House, Sonora, Tuolumne County, Wm. Mooser & Son, Architects.

INTERIOR VIEW Church of the Holy Cross, Eddy and Devisadero streets, Shea & Shea, Architects.

COTTAGE in Oakland, A. W. Smith, Architect.

APARTMENT House, corner of Geary and Jones streets, C. A. Meussdorffer, Architect.

THE BEST FIREPROOF CONSTRUCTION FOR BUILDINGS OCCUPIED FOR MERCANTILE PURPOSES.

PAPER READ BY W. L. B. JENNEY BEFORE THE FIRE UNDERWRITERS' ASSOCIATION OF THE NORTHWEST.

CONTINUED FROM LAST ISSUE.



THE RECENT fires have demonstrated that steel is more easily protected than is usually thought. For example, beams in the condition of Fig. 6, that is with the lower flange entirely exposed on the ceiling where it is subjected to the greatest

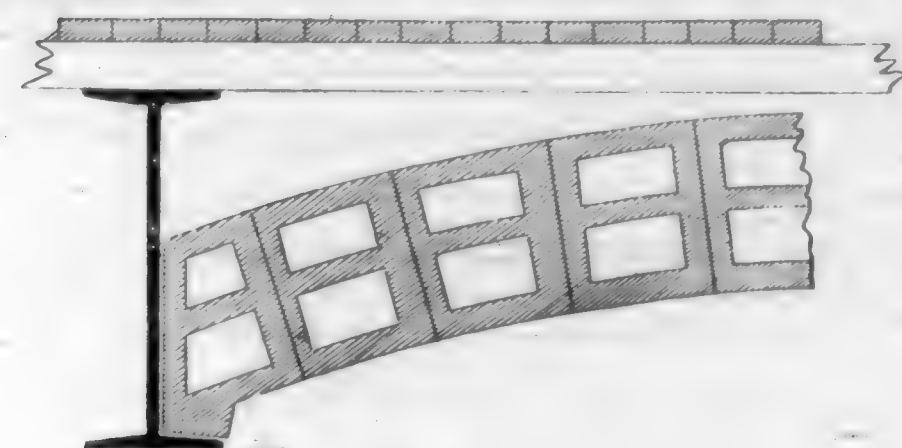


Fig. 7

heat in case of fire. These beams have gone through a

severe fire without injury; still, Mr. H. B. Seely in his paper on the art of fireproofing, published in the Engineering News of April 9, 1896, theorizes that a beam in this position is liable, under heat in case of fire, to sag on account of the lower flange of the beam being heated to a considerable degree more than the balance of the beam will necessarily expand, and will cause a deflection of the beam to such an extent that the arches might drop out. Mr. Seely is undoubtedly correct in this theory, still I can find no example of such a serious accident in the reports of any of the fires, which is our only practical test, still as the expense of protecting the lower flange is so small this omission is not to be recommended. The limit by law in height of buildings makes it desirable not to take more than is necessary for the thickness of floors, so that the top flange of girders or beams for convenience is often left uncovered. To this there is less objection. The flange of a beam is such a small part of the whole, and so far removed from the mass of the steel, that no heat that can be produced by the burning of the goods on a floor above will seriously injure the beam. Moreover, the floor is protected by the goods and deluged by the fire department, so that in an ordinary wooden joist building there are records of floors falling from the burning off of the joists and from falling walls, and after the fire was out considerable areas of unburnt floor were found in the basement still covered by partially consumed goods, so that when convenience demands it is not very objectionable to adopt the construction shown in Fig. 7.



Fig. 8

For partitions the ordinary 3-inch or 4-inch tile the Pittsburgh fire shows to be a disappointment. They do not stand any better than wood studding covered on both sides with wire lathing and plastering. Indeed, it is reported that the firemen stated that the hot tile partitions appeared to dissolve and fly into powder as the water struck them. The appraisers noticed that the amount of debris around partitions where considerable portions had been knocked down was very small. From these fire tests it is probable that very satisfactory partitions can be made by steel tees or anchors set vertically, secured top and bottom, covered on both sides by the metal lathing and fireproof plastering (asbestos). Still greater security could be obtained by filling in between lathing with asbestos. The lower six or eight feet of all columns should be protected against damage from shocks by a substantial covering of sheet metal, as boxes of goods are piled up against the columns and they are also subject to be scraped by passing trucks. This outside metal covering will render it impossible for the fireproofing to be stripped off during a fire. There is a still further protection to the columns that I would strongly recommend, which is the filling of the interior of each column with good Portland cement concrete rammed into place. This will protect the interior against rust, and materially strengthen the column as against bending in case of severe fire. This was done in the first nine stories of the Home insurance building in this city.

To be Continued.

VALUABLE INFORMATION CULLED FROM OUR EXCHANGES.

HAVING in mind the destructive warehouse fire of the Chautauqua Lake Ice Co., which had occurred a few days previous, the writer for the Engineering News, while in Pittsburgh, Pa., took an opportunity to examine the ruins in

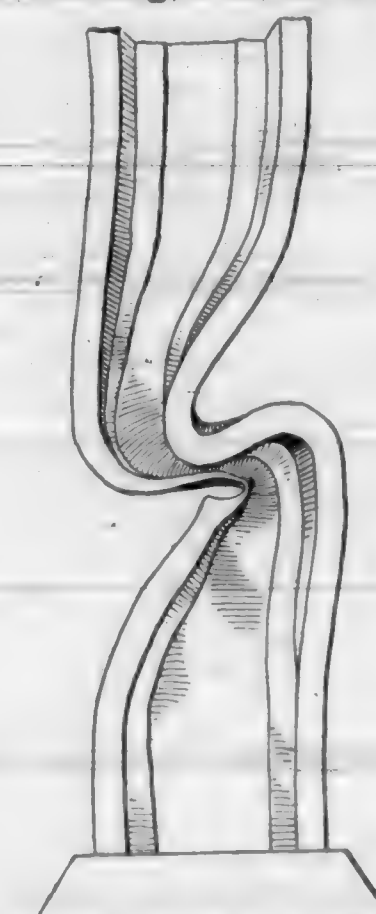


Fig. 3.—Sketch of Column Distorted by Heat and Impact in Warehouse Fire at Pittsburgh, Pa.

a superficial manner, and in doing this observed a remarkable case of column distortion. As stated in the description of this fire, published Feb. 17, 1898, the second floor of this building and the columns below were steel, the floor arches being brick, and the column protection of clay tile. These columns were made up of Z-bars and plates and were about 15-in columns. The particular column which attracted attention had assumed the form indicated roughly by the accompanying sketch; that is, it had buckled and shortened up about 1 ft., causing a plainly observable depression or dish of the floor above. The distortion or bending of the column laterally was very small, the shaft above and below the immediate point of buckling being nearly in its original position. Adjacent columns, though bent, showed no such appearance of buckling, and it is, perhaps, fair to assume that this particular column, heated by the fierce fire, must have sustained a direct blow from falling debris in the collapse of the floors above. This fact, however, the writer was unable to verify, as there was no access to the floor above.

The incident, however, is most interesting for the manner in which it brings out the reliability of steel as a structural material. Despite its severe distortion, this column still remains in position, and from all appearances was still in condition to carry a pretty heavy load. In the same place a cast-iron column would probably have failed entirely by breaking in two. This fact of toughness was still further evidenced by a close examination of the distorted plates and flanges, which, so far as could be observed, did not show a single crack, though in some places they were bent double. Another noticeable feature was that none of the rivets had been twisted or sheared off by the distortion, though this was sufficient to cause the edges of riveted plates to spread apart between the rivets far enough for the finger to be inserted, while directly at the rivets the two plates were still in contact.

THE statistics of the building department show considerable activity in building operations in St. Louis during the month past, and the prospect for a good building year seems to be as favorable in that city as in any of the larger cities of the middle west. The total number of buildings for which permits were issued during March was 317, and the estimated cost of these structures was \$1,096,580, as

against 295 buildings, costing \$692,007 for the corresponding month in 1897.

This exchange item noting prosperity at the Mound City must be very gratifying to The John Douglas Company, this well-known and popular concern having only recently opened a branch store at that point in order to kept up with the "Course of Empire". Their chain of branch depots now takes in Philadelphia, Chicago, San Francisco, and St. Louis; while their factories at Cincinnati it is currently reported are kept going with full force to supply the demand for their justly popular closets and fittings.

WHAT is known as wire-glass has for some forty years or more been manufactured both in Europe and in the United States. As its name implies it is simply ordinary glass in which wire-netting has been introduced while the glass was in the process of being rolled into sheets. Practically the wire insert does not add much to the ductility or strength of the glass sheet, but it has the special quality of keeping the plate together after fracture from impact or heat. In fire-proof qualities it has special value, and is rapidly taking the place of iron fire-proof shutters, as not only resisting fire but admitting light. In a valuable paper on "Recent Developments in the Manufacture and Applications of Wire Glass," by Francis Shuman, read before the Mining and Metallurgical Section of the Franklin Institute, Philadelphia, some forceful illustrations were given of the fire resisting qualities of wire-glass. These practically demonstrated the efficiency of the comparatively new method of resisting fire with a light admitting material. In a series of photographs it was shown that wire glass remained intact after being subjected to a heat, when the walls were cracked, plain glass partly melted, smokestacks had fallen, and fusion had taken place on the face of the brickwork. In other features of utility the authority quoted said:

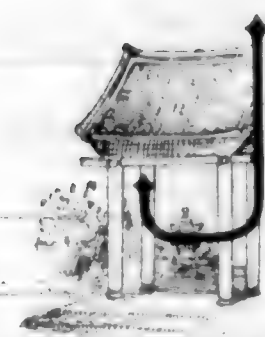
"In wire-glass the architect and engineer has an article of undoubted value in the light of modern requirements. A medium for enclosing space, fire-proof and water-proof, transmitting light, not liable to disintegration by corrosion or combustion, and difficult of penetration, which still maintains its utility, no matter how much it is sub-divided by cracks, as it will neither leak nor fall apart and injure those below when used in skylights."

It has also been demonstrated that what is known as "rough-ribbed wire glass, such as is used for skylights and windows, adds greatly to the diffusion of light, and the author of the paper further says, "that such rapid strides are being made in perfecting the methods of manufacture, that it will not be long before wire-glass will be generally accepted as an established commercial product, its process of evolution being analogous to that of steel." In resistance to severe storms of snow, hail, etc., the value of wire-glass has been repeatedly demonstrated, and the advantages of its use may be formally summed up in the conclusion reached by experts, that in the near future, it will be much more extensively used than at present, and in its fire-resisting qualities especially will be found to be of invaluable service. —The Age of Steel.

Family Friend—"Does your father suffer much with the rheumatism?" **WORRIED DAUGHTER**—"No, not half as much as we do."

TRANS-MISSISSIPPI AND INTERNATIONAL EXPOSITION.

JUNE 1 TO NOVEMBER 1, 1898.



JUNE 1, 1898, is the date set for the inauguration of the Trans-Mississippi and International Exposition at Omaha. For five months the gates will open upon a magnificent display of the products, arts, industries and resources of the Greater West.

The Trans-Mississippi Commercial Congress, composed of delegates from every state and territory west of the Mississippi river, by unanimous vote designated Omaha as the Exposition City. The area



FINE ARTS BUILDING

of the Trans-Mississippi region is more than 2,500,000 square miles, and embraces the great granary of America, vast forests of merchantable timber, and practically all the precious minerals produced in the United States.

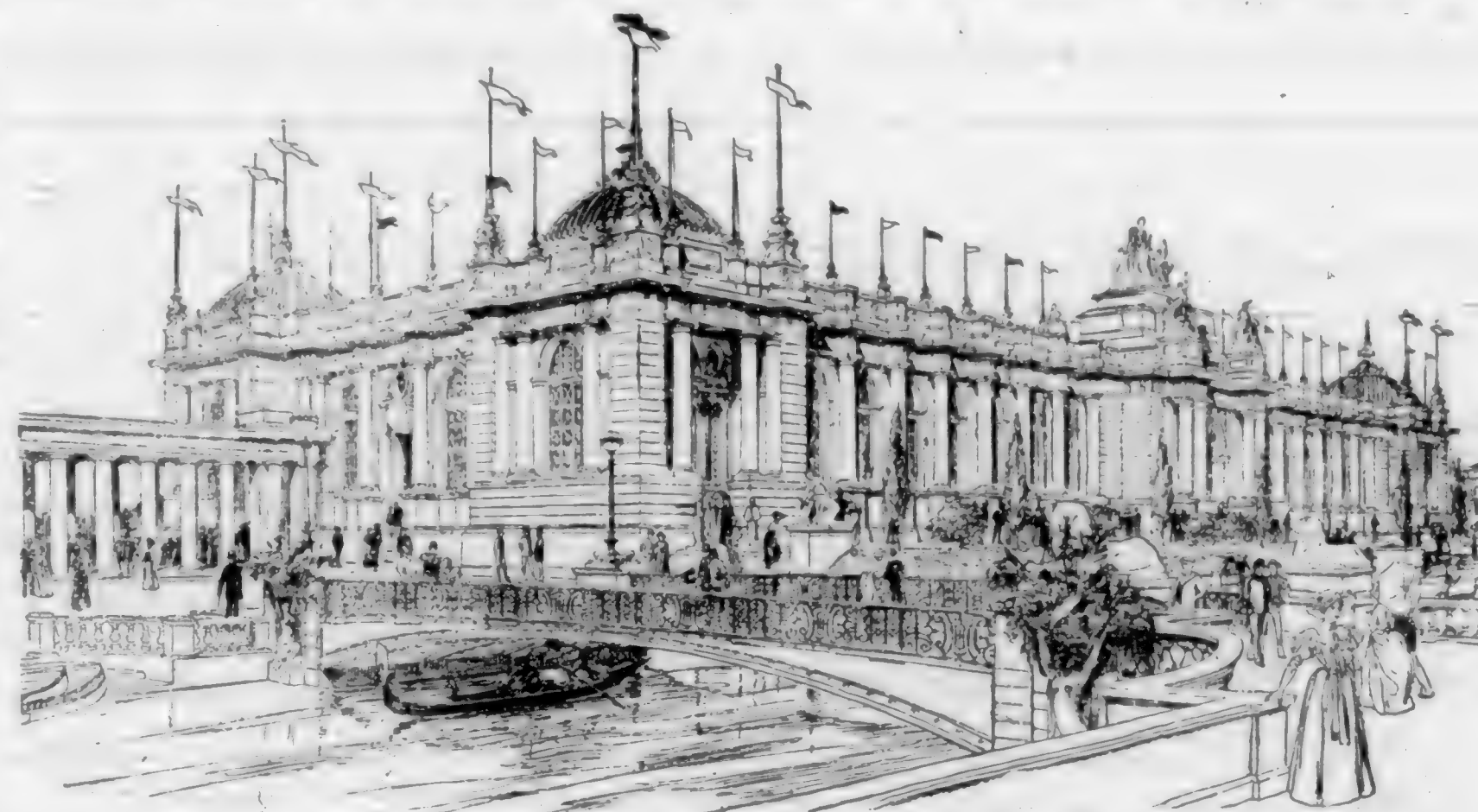
A corporation styled the Trans-Mississippi and International Exposition, with a capital of \$1,000,000, constituted according to law, is in control of the Exposition. In addition to stock subscriptions and donations, amounting to \$500,000, revenues from various sources aggregating not less than \$1,000,000 are positively assured. With these resources at command the managers are vigorously pushing the work of preparation of grounds, construction of buildings and of the development of plans to promote the enterprise. The active management of the Exposition is vested in a directory of fifty members, with an executive committee of six department managers. Each department is divided into appropriate bureaus in charge of experts in their respective branches.

The Congress of the United States appropriated \$200,000 and made further provision for a government building and exhibits at the Trans-Mississippi and International Exposition. Plans for the Government building have been approved and construction work is in progress. President McKinley has appointed a commission authorized to supervise the collection of exhibits

and to have custody of buildings and exhibits during the period of the Exposition.

Facing the Plaza directly inside the main entrance is the Fine Arts Building, in shape a parallelogram 246 feet long and 130 feet wide, the long axis parallel to the Grand Canal. It consists of two separate, symmetrical, domed buildings, connected by a peristylum or open court surrounded by colonnades. The building rests on a ballustraded terrace, and is approached from the Plaza by flights of steps, and also from the avenue bordering the canal, between it and the building. One enters through the portico and vestibule to the dome, central for each building and lighted from the top, forming a suitable place for the effective exhibition of statuary. Surrounding this central feature are the galleries, all lighted by sky-lights, and so arranged as to afford the great-

est degree of wall surface for the display of pictures and to allow for the proper circulation of visiting crowds. The two separate buildings offer a better opportunity for the classification of material and at the same time, bring the scale of the architecture to its proper relation with the surroundings and in accord with the general scheme of the Exposition grounds. The colonnade connecting the two parts forms an effective architectural feature, conspicuous from the canal and opposite avenue, and affords a place for the installment of architectural fragments and models, which cannot be so effectively arranged inside the walls. A touch of landscape art lends additional interest to this court. In the exterior design a somewhat free rendering of classic motif has been adopted, the usual severe simplicity of outline being modified sufficiently to bring it in accord with the purpose of the building. The basis of the design is the Corinthian order, which is applied in two dimensions, the larger emphasizing the entrance porticos and repeated on the gables fronting the canal and opposite side; the smaller is adjusted to the height of the flanking walls and connecting peristyle, and serves as a tie to bind the separate elements into one composition. As being quite in accord with the character and purposes of the



MANUFACTURES BUILDING

building, it was determined to make a liberal use of the sculptors' and painters' art to soften the outline and bring out in greater contrast the severer forms of the architectural

May, 1898.

members. To this end the walls behind the columns of the porticos will receive a decorative color treatment, interesting in itself, and forcing into greater prominence their classic outlines. The sculptor is again called upon to crown the pediments and flanking buttresses with groups and figures representing the various arts, and holding out for those who win them, the emblems of success. Eames & Young, Architects, St. Louis.

The Manufactures building designed by John J. Humphreys of Denver, is a handsome structure of the Doric order,



AGRICULTURE BUILDING

modified to comport with nineteenth century requirements. The result is a building of simple dignity, having an air of repose considered requisite in a large building.

The facade presents a frontage of 400 feet, accentuated at center and end with pavilions, sixty-four and forty feet respectively, thereby obtaining sufficient variety of mass. The solidity of these pavilions and their strong perpendicular lines and shadows give a strong contrast of light and shade.

The height of the building to the top of the main cornice is forty feet; the height of order thirty feet, resting on stylobate ten feet high. The height of the center pavilion to the top of the crowning group of statuary is eighty-five feet, while the end pavilion is sixty-five feet to the top of the dome. The large windows, ten feet wide by twenty-four feet high, placed at intervals of sixteen feet, and the roof having a large skylight area, make the interior very bright and cheerful.

The center entrance is twenty-four feet wide by thirty-four feet high, and very rich in decoration, flanked on either side by coupled columns and their accompanying pilasters, standing six feet from the walls. The main cornice breaks around a projection of columns supporting pedestals for groups of statuary. There are also single statues between columns resting on stylobate projected out to receive them. The spandrels above the arch are decorated with bas-reliefs. The end pavilions with their entrances are crowned by shallow domes.

The entire interior elaboration will be confined to classic ornaments. The ceiling, a large barrel vault, with intersecting cross-vault, is richly coffered and elaborately decorated. On the walls it is here proposed to have mural paintings emblematic of manufactures.

The design of the Agriculture building shows a richness of ornament almost to redundancy, which not only gives it the character of an exposition building but suggests the wealth and abundance derived from agriculture. Rich and

brilliant color is an important element in the design. This color is applied to the loggias and on the plain wall surfaces, leaving the arches, columns and main architectural parts to stand out in simple, strong masses, having no color themselves but relieved against the colored background. This color treatment produces a beautiful and brilliant effect, whether seen under brilliant sunlight with the strong shadow falling across it, or in half-lights late in the afternoon, reflected in the lagoon or half-concealed by the projections of the buildings, as it is seen in the perspective. While the building is of Renaissance or classic type the decorations and ornament will be entirely modeled from agricultural products—festoons of corn and other cereals, and even the common market garden products are given proper place in this decoration. The great semi-circular niche forming the main entrance will be richly decorated in this way in color, and on either side of it there will be figures representing the "Digger" and the "Sower," taken from Millet's famous paintings, supported on either side by lesser figures and the arms of the state and nation. At each side of the great central arch will be recessed niches with rich color decoration, and crowning this central composition will be three sculptured groups, those on either side representing the zodiac and the seasons, while the central figure,

crowning the whole composition, will represent "Prosperity," supported by "Labor" and "Integrity." At the corner pavilions there will be figures representing the seasons and the favorable winds, and inscriptions relating to the subject of agriculture. Names of those who have been patrons of agriculture or who have made notable inventions in this field of labor will be inscribed upon the panels in the frieze. The outside dimensions of this building are 148x400. It has a total floor space of 84,260 square feet. The design is the creation of Mr. Cass Gilbert, Architect, St. Paul, Minn.

The design of the Liberal Arts Building is of the French Renaissance school of architecture, harmony and proportion being regulated by the conditions of the other main exhibit buildings in the Grand Court. The Liberal Arts Building is located on the south side of the Grand Canal, near the Arch of the States. The exterior presents the appearance of two stories, the first story or stylobate being low in treatment, with small windows cut into a plain wall surface. The second story is enriched by Corinthian columns, set in pairs with ornamental windows between, and the top of the build-



LIBERAL ARTS BUILDING

ing is finished with an open balustrade which adds to the general effect.

At each corner of the building are pavilions with ornamental pediments projecting sufficiently from the main line wall to show a strong corner treatment.

Above the pediments at each corner of the building are

octagonal bases on which will be set groups of statuary. Each group will be composed of four heroic figures, the main one representing the Liberal Arts will be supported by two kneeling figures suggesting industrial art, while in front of all will be a smaller figure supporting a shield on which the attributes of pottery and wrought-iron will be inscribed. An uninterrupted line along the entire front is preserved by the aid of the color-treatment between the pavilions.

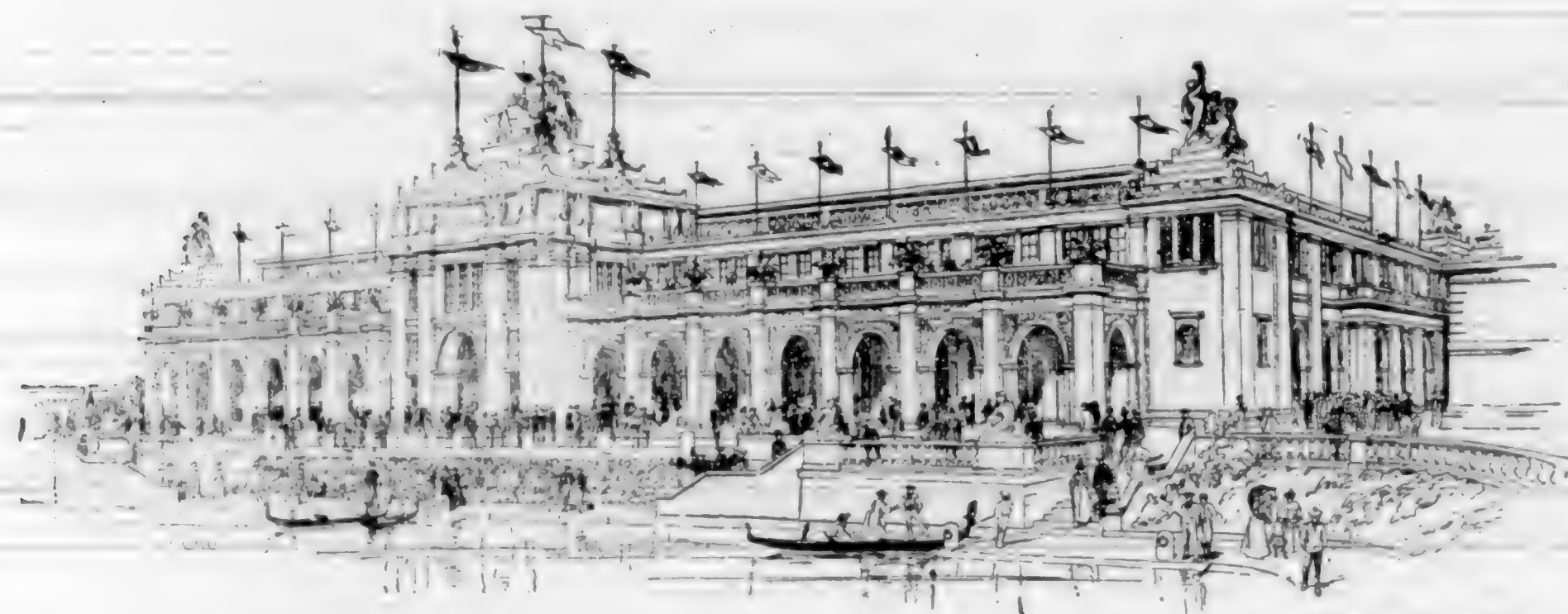
The class of exhibits for which the building is intended will be indicated by the free use of statuary and ornament on the exterior. Color will enter largely into the design and play an important part in the general effect, which will be quiet and dignified, and in strict harmony with the general grouping and masonry of the buildings in the Grand Court, which is buoyant, simple, strong.

The Liberal Arts Building is 246 feet front by 130 feet in depth. The main entrances are on the east, west and north fronts. Fisher & Lawrie, of Omaha, are the architects of the building.

The Machinery and Electricity building is 304 feet front

Men in their youth are seen subduing them for the simple purpose of escaping injury and the preservation of their own lives at the sacrifice of the natural forces. A higher supremacy is shown by the center group, which is the dominating feature of the entire design. In this, man developed beyond the youthful stage, having wisdom, takes these same untamed, unharnessed forces of nature and harnesses them to his chariot, making them do his bidding, symbolizing in a direct way the service which machinery does for man in using the powers of steam, fire, electricity and gravity.

Color enters into the design with maximum importance. The ornaments in the panels under the porticos and over the main entrances will be highly emphasized by small background spaces of strong colors. These are treated in such a way as to give great interest to the spectator near by without detracting from the general quiet and dignity of the view from a distance. The entire building will be a series of yellow and ivory tones, growing more intense as they reach the top, culminating in the dull golden statuary full of primitive vigor which surmounts the building and symbolizes its use. The building was designed by Dwight H. Perkins, architect, Chicago.



MACHINERY AND ELECTRICITY BUILDING.

DWIGHT HEALD PERKINS

by 144 feet in depth. There are triple entrances on the main floor level in the center of the main front, and similar groups in the centers of the east and west fronts, with four emergency exits in the north wall. In front of the building, flanking both sides of the main entrance, is an open portico sixteen feet wide, running the entire front of the building. The center entrance feature projects beyond the portico, thus forming the grand entrance vestibule. The main floor covers the entire area of the building. Above is a gallery thirty-two feet in width, extending around the four outer walls. The gallery is reached by spacious staircases located in the front corners of the building. This leaves a high central court 248 feet long by 80 feet wide, lighted from the skylights and clerestory windows above the roof.

The character of the exhibits sheltered by this building is shown by the decoration. The ornamental spandrels and panels receive all of their motifs and suggestions from machinery. The cresting at the top is composed of cog-wheels, this principle being carried out in all of the decorations. The underlying principle and function of machinery is symbolized by the groups of statuary on the top of the building. At each of the four corners are groups representing the early supremacy of man over the untamed forces of nature. These forces are represented by wild animals.

THE COST OF OPERATING ELEVATORS BY STEAM, WATER AND ELECTRICITY.

THE COST of operating elevators by steam, water and electricity has properly become the subject of careful investigation, in view of the extensive and growing use of these appliances. It is stated that in New York, the home of so many sky-scrapers, a larger number of persons are carried vertically in elevators than are transported horizontally by the various forms of traction. Experience with electric elevators in the United States is said to have shown the cost of carrying a useful load 1500 pounds to a height of 100 feet, inclusive of return to starting point, to be one cent. In Berlin and Vienna the cost is reported to be considerably below the figure mentioned. In the former city the cost of lifting by electricity a load of 850 pounds to a height of 80 feet, inclusive of descent, was only one-fifth of a cent.—*The Canadian Architect.*

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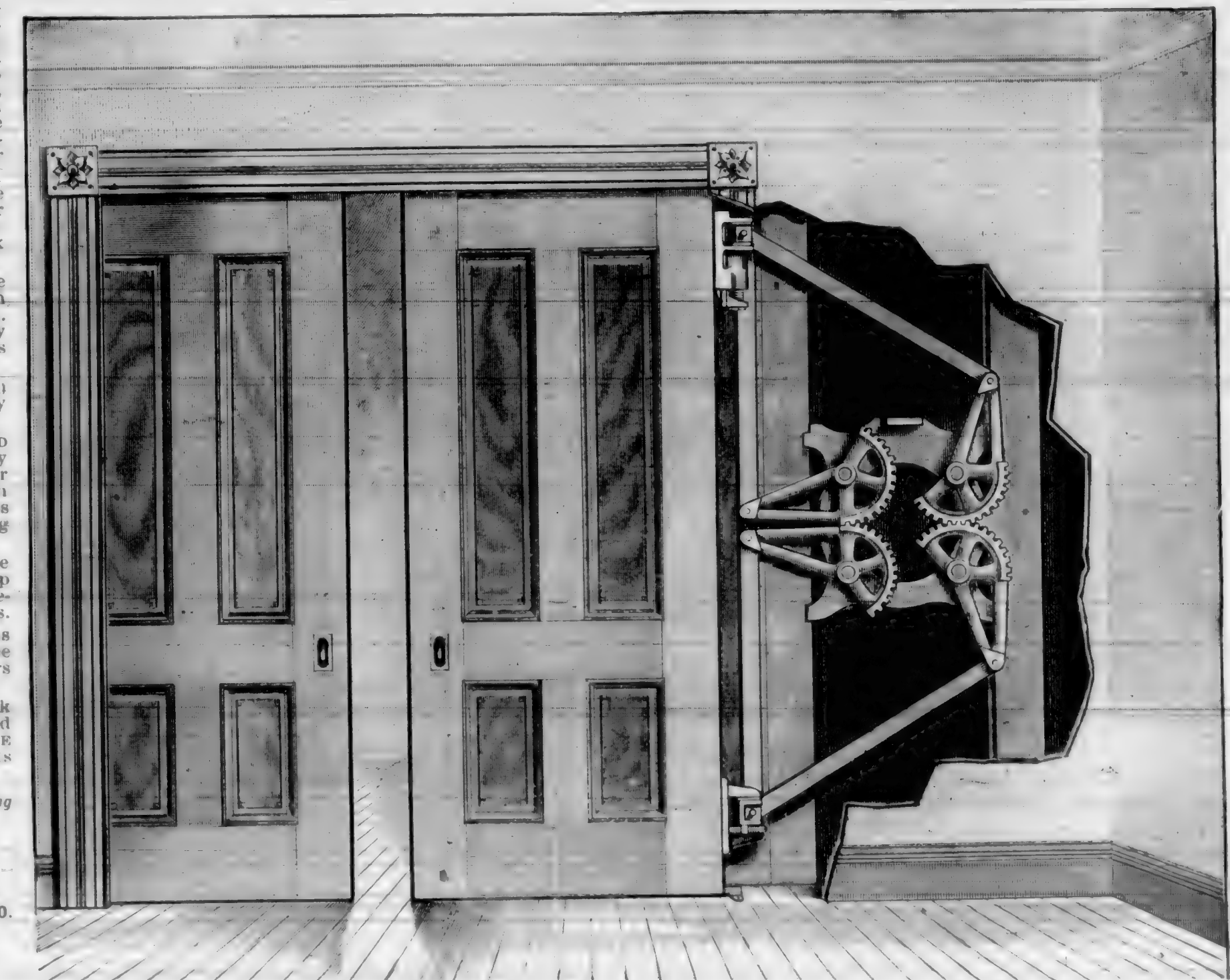
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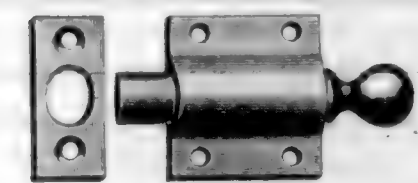
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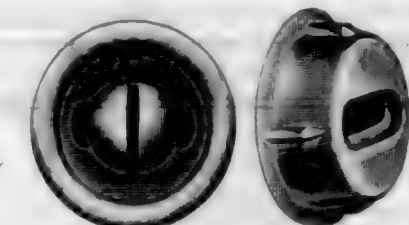
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JAMES KNOX TAYLOR.
Supervising Architect

BUILDING NEWS.

SAN DIEGO

Three large art glass window pieces have been
placed in the Elks' lodge rooms by W. P. Fuller &
Co. The central piece has a magnificent elk's head
blasted in the glass while each of the other two com-
panion pieces has worked in the center a large lighted
torch.

The foundations are being prepared for General
Churchill's new residence, near the Hotel del Coro-
nado.

Ralph Granger has accepted plans for an extension
of his music rooms in his house at Paradise Valley.
The addition will be 90x30 feet, and the present music
room will be used as a reception room for the new
apartment.

F. Krenner was granted a permit to build a two-
story and basement house on Fourth street, between
A and B, to cost \$1000.

F. Heinlein, architect, is seeking to recover \$750 for
drawing plans for a new stockhouse, warehouse and
other buildings for the S. D. Brewing Co.

SAN PEDRO

Plans and specifications for the construction of the
new electric railway that is to be built on San Pedro
street, with a proposed terminus at San Pedro har-
bor are now being considered in the office of the en-

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Thos. Elam.	Gillogley, Geo.; teaming.
E. L. Snell.	Girvin & Eyre; Importers.
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R. Herring.	Goodman, Geo.; artificial stone, etc.
Thos. Elam.	Grannis, J. G. & Co.; steam heating, etc.
MEMBERSHIP:	Gray Bros.; artificial stone and concrete works.
T. McLachlan.	Hoffman, V.; mason and builder.
G. V. Daniels.	Hammond, Philip; metal roofer.
ARBITRATION:	Hansen, A.; planing mill.
D. McPhee.	Hansen, F. L.; contractor and builder.
Gus V. Daniels.	Hansen, M. & Co.; planing mill.
FINANCE:	Harmen Lumber Co.; lumber.
E. L. Snell.	Harris & Jones; Lumber Dealers.
Box No.	Hauschild, H.; cornice works.
Abrahamson, P.; patent ventilators.	Heldt, W.; cornice works.
Adams, John G.; contractor and builder.	Henzel, Ed. F. & Co.; electricians.
Alameda Brick & Tile Co.; brick.	Herring, R.; mill work.
Arizona Sandstone Co.; building stone.	Hills, Wm.; cornice works and mill.
Base-Huter Paint Co.; paints, oils and varnishes.	Hinds, Ed. B. & Co.; patent blinds.
Bateman Bros.; contractors and builders.	Hobson, B. Y.; painter.
Beck, Adam; mason and builder.	Hoffman, V.; mason and builder.
Beil, Wm.; contractor and builder.	Holmes, H. T.; lime Co.; lime, cement, etc.
Bibb Lumber Co., D. H.	Hooper, C. A. & Co.; lumber.
Bellingham Bay Lumber Co.; lumber.	Holzer, Carl; artificial stone and concrete work.
Boyd, Robert; mason and builder.	Hurlbut, R. P.; builder.
Brady, M. V.; mason and builder.	Ickelheimer, Samuel & Bro.; plumbers.
Brady, O. E.; mason and builder.	Ingersoll & Gore; contractors and builders.
Brennan, D. J.; mason and builder.	Jackson, P. H. & Co.; illuminating tiles.
Brennan James; plasterer.	Jackson, W. E.; curbing.
Britt, James E.; plumber.	Jesse, Geo. R.; mason and builder.
Brodie, R.; iron works.	Jordan D. & Son; masons and builders.
Burden, W.; mason and builder.	Joshua Hendy Machine Works.
Burnham, Mansford Co.; planing mill.	Judson Mfg. Co.
Burrell, E. H.; building material.	Kentling, M.; Artificial Stone.
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Butler, Wm. A.; mason and builder.	Kendall, A.; Pacific Coast Lumber and Mill Co.
California Art Glass Works.	Keefe, J. H.; painter and decorator.
California Electrical Works.	Kent, S. H.; contractor and builder.
California Mills; planing mills.	Kern, F. W.; contractor and builder.
Campbell, Alex. L.; contractor and builder.	Kittredge, E. H. & Co.; sash, doors and blinds.
Carey, J. E.; brick manufacturer.	Knox & Cook; contractors and builders.
Bigman and Masow.	Kuss, P. N.; painter, decorator and wood finisher.
Cartwright, D. S.; teaming.	Lang, Geo. R.; mason and builder.
Central Lumber & Mill Co.; lumber and planing mill.	Leahy, D.; plasterer.
Chatham, Wm.; contractor and builder.	Leonard, J.; Concrete and Artificial Stone.
Chemical Paint Co.	Leprohon, F.; steam and hot water heating.
Chisholm, C.; contractor and builder.	Logan, J. F.; adjuster and builder.
Clark, N. & Sons; terra cotta, etc.	Lovett, A. E.; roof repairing and painting.
Clawson, L. E. & Co.; patent chimneys.	Lucas & Co.; Gilded Glaste Mills, calcined plaster.
Coghlan, Frank; plasterer.	Lynch, M. C.; contractor and builder.
Collin & Gunn; bathers.	Macdonald & McKinnon; lumber.
Concannon Wm.; contractor and builder.	Maguire, A. B.; lime, laths, plaster, cement, etc.
Conlin & Roberts; metal roofers.	Mangelsdorf, M.; Electrical Maintenance Co.
Copplesters & Mosket; grill work.	Mansrum & Otter; heating, ventilating, tiles, etc.
Cowell, H. & Co.; lime, cement, fire brick, etc.	Market Street Planing Mill.
Crichton, Peter; contractor and builder.	McCarthy, John; mason and builder.
Crocker, Wm.; planing mill.	McClure, H. N.; teaming and grading.
Cronan, Wm.; Eagle Sheet Metal Works.	McClure, A.; contractor and builder.
Currie Donald; contractor and builder.	McClure, Henry; contractor and builder.
Curtis, Robert; contractor and builder.	McClure, John; contractor and builder.
Cushing-Wetmore Co.; concrete and artificial stone.	McClure, John; contractor and builder.
Curry, J. M.; stone dealer.	McClure, John; contractor and builder.
Daniels, Gus V.; painter and decorator.	McClure, John; contractor and builder.
Davies, E.; plasterer.	McClure, John; contractor and builder.
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Day, Thos. H. & Sons; contractors and builders.	McClure, John; contractor and builder.
Degan, Patrick; stone contractor.	McClure, John; contractor and builder.
Dillon, David; teamster and contractor.	McClure, John; contractor and builder.
Donovan, M. J.; painter.	McClure, John; contractor and builder.
Dunbar, Wm.; mason and builder.	McClure, John; contractor and builder.
Dunham, Carrigan & Hayden Co.; hardware.	McClure, John; contractor and builder.
Dunlop, Chas.; plasterer.	McClure, John; contractor and builder.
Dwyer, L. J.; painter and decorator.	McClure, John; contractor and builder.
Dyer Bros.; Golden West Iron Works.	McClure, John; contractor and builder.
Elam, & Knowles; carpenters and builders.	McClure, John; contractor and builder.
Excelior Mill Co.	McClure, John; contractor and builder.
Feely, M. J.; contractor and builder.	McClure, John; contractor and builder.
Fennell, M. A.; mason and builder.	McClure, John; contractor and builder.
Feld, Wm. J.; contractor and builder.	McClure, John; contractor and builder.
Feld, Z. O.	McClure, John; contractor and builder.
Flanagan, L. G.; lime and cement.	McClure, John; contractor and builder.
Foley, Michael; grading and teaming.	McClure, John; contractor and builder.

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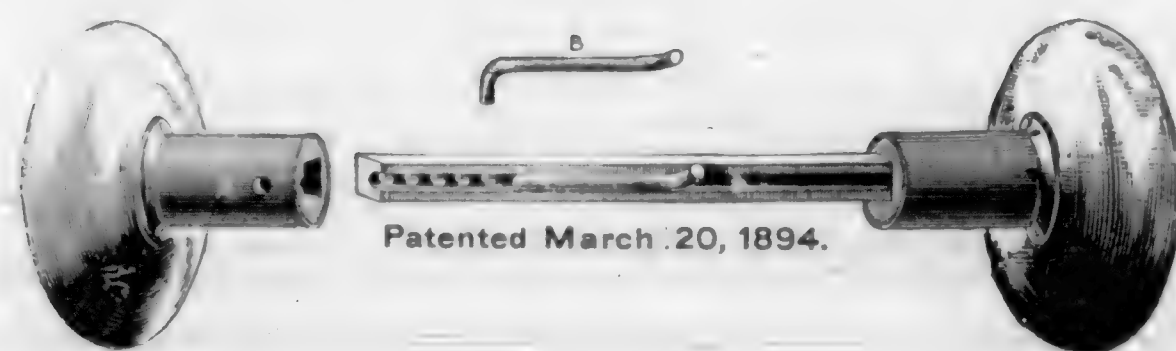
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Plans and Specifications Invited for an Hospital Building.

Public notice is hereby given to architects that competitive plans and specifications for the erection of an hospital building will be received by the Board of Supervisors on MONDAY AFTERNOON, September 12, 1898.

The proposed building to be of modern design and to be constructed of stone or brick, or of both, with all the latest scientific improvements.

The said hospital building to be erected on the lot of land commencing at the most southeasterly corner of a tract of land known as and designated, on the official map of the city and county of San Francisco, as the "Almshouse tract."

The said plans and specifications to be so prepared that the cost of the building shall not exceed in the aggregate the sum of three hundred thousand (\$300,000) dollars.

The architect whose plans are adopted will be appointed architect and superintendent of the building, and will be required to give a good and satisfactory bond to insure the completion and construction of the said building for the amount of the cost as made by the said architect. The architects submitting plans determined by the Board to be second, third and fourth in merit will receive premiums of \$1000, \$750 and \$500 respectively, with the understanding that any features of said plans and specifications which may be considered useful or necessary to be embodied in the plans adopted may be used without further cost of charge.

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TREASURY DEPARTMENT OFFICE
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May 19, 1898.—SEALED PROPOSALS will be received at this office until 2 o'clock P. M., on the 23rd day of June, 1898, and then opened, for the constructive steel work, roof framing, etc., of the U. S. Postoffice, Court House, etc., San Francisco, Cal., in accordance with the drawings and specifications, copies of which may be had at this office or the office of the Superintendent at San Francisco, California.

JAMES KNOX TAYLOR,
Supervising Architect.

BUILDING NEWS.

Son May 4th for a two-story lodging house for Mrs. Simon N. San Joaquin street, F. H. Martin was the lowest bidder at \$3850.
Herbert Baldwin of this city has just broken ground for the erection of a modern cottage, which will be built chiefly by day work, Downing & Lemue are the architects.

FRESNO
All the bids have been received for W. Parker Lyon building at Fresno and the building is well under way and will cost when completed about \$9000. George Rushford of Stockton is the architect, and not Bensley & Son as was erroneously stated in our March issue.

LOS ANGELES

The building committee of the city board of education has recommended as a model for the new Pico Heights school, the Union Avenue building, with some modifications, work will commence shortly.

Architects Howard & Train are preparing plans for Alfred Ottaway of two-story eight room residence, to be built at 18th and Bush.

Arch. W. S. Gorrell is preparing plans for J. Williams, for cottage on Winfield st. near Union ave.

Arch. L. B. Vail & son are preparing plans for Johnson, Keeney & Co. for 3, 7-room 2-story residences Spanish and Italian style; to be built on Lone Star tract and on 38th at near Vermont ave.

J. R. Vogel, 701 South Broadway is taking bids on the erection of a 3-story business block to be built on the northeast corner of Temple street and Broadway.

Competitive plans are being made for the Edison Electric Co., for their proposed new building, East Fourth between Main and Los Angeles.

BUILDING NEWS.

San Jacinto
The Riverside county hospital, at South San Jacinto has been destroyed by fire. The building was valued at \$20,000, and was covered by \$10,000 insurance. Losses on other buildings destroyed at the same time will amount to \$5000. Efforts will be made to rebuild at an early date.

BUILDING NEWS.

STOCKTON

Bids were opened on the 16th in the office of Geo. Rushforth, architect, for a cottage for Mrs. Elizabeth Wermuth to be built on Commerce near North, the contract was awarded to Lewis Todd & Co. the lowest bidders, price \$1271.

The same architect is preparing plans for a residence for Jerome Haase to be erected on N. Stanislaus street the brick foundation is now constructed, the house complete will run to \$4000.

Bids were opened in the office of Chas. Beasley &

W. J. Cuthbertson,
Architect,
Flood Building, Room 93,
Cor. Market and Fourth Sts.,
SAN FRANCISCO.

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Seth Babson,
Architect,
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SUCCESSOR TO HUERNE & EVERETT,
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Architect,
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M. J. Welsh,
Architect,
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SAN FRANCISCO.

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Architect,
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Fourth Streets.

Chas. J. I. Devlin,
Architect,
Supreme Court Building,
N. W. Cor. McAllister & Larkin Streets,
SAN FRANCISCO.

Fred. B. Wood,
Architect,
214 PINE STREET, Room 57,
San Francisco.

Jas. E. Wolfe,
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Architect,
Phelan Building, Room 325,
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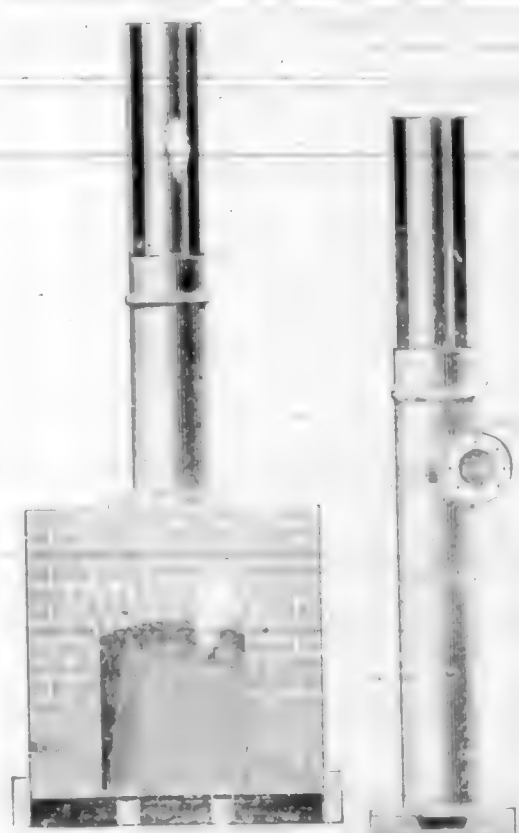
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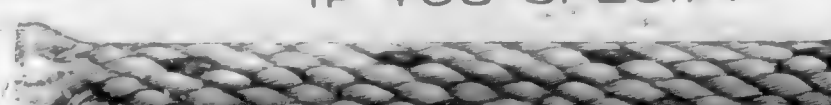
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THE CALIFORNIA ARCHITECT AND BUILDING NEWS

\$3.00 PER YEAR

VOLUME XIX, No. 6.

JUNE, 1898.

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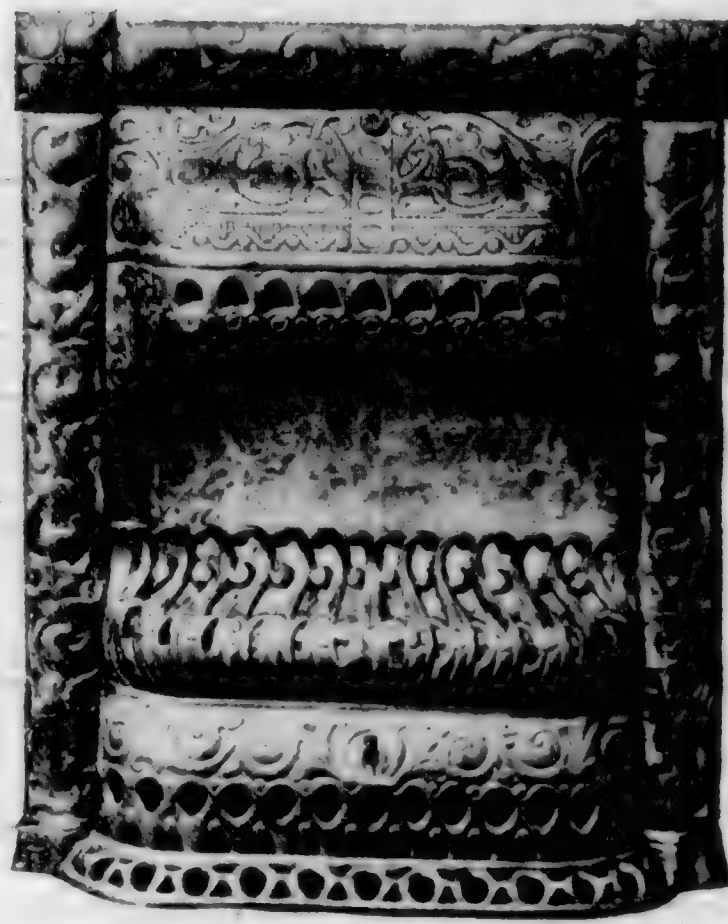
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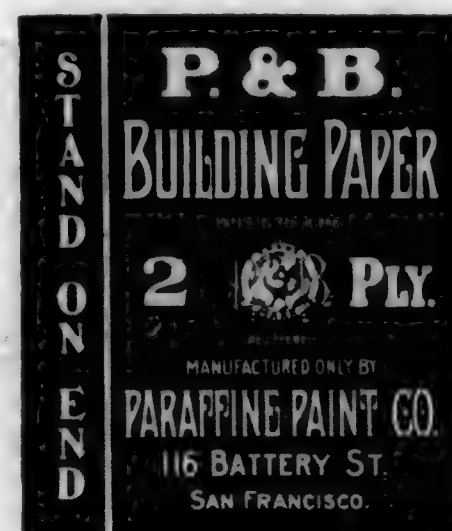
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BUILDING NEWS.

Marlington near Miguel. One-story frame; o. J. Schauer; a. L. G. Bergren; c. L. G. Bergren; signed, May 17; filed, May 18; cost \$1800.

Berry near 4th. Additional story to warehouse; o. Theodore F. Payne and Warren R. Payne; o. Curlett & McCaw; c. F. W. Kern; signed, June 18; filed, June 17; cost \$9540.

Broadway near Dupont. Carpentry work, etc.; o. Annie Jennings and Isabella Flower; a. Jules Godart; c. Hawkins & Lindsay; signed, June 1; filed, June 2; cost \$2525.

Broadway near Webster. To build; o. Julius Gall;

BUILDING NEWS.

a. Percy & Hamilton; c. F. H. Moscow; signed, and filed, June 2; cost \$3485.

California and Battery. Removal of old brick work and all work except plumbing, etc.; o. Gray's Harbor Commercial Co.; a. N. Blaisdell; c. Hawkins & Lindsay; signed, May 8; filed, June 2; cost \$1184.

Devilsadero near Golden Gate. To build except plumbing, etc.; o. Miss Mary J. Dunn; a. Martens & Coffey; c. Belt & Ahlgren; signed, May 20; filed, June 8; cost \$3920. Plumbing, etc.; c. E. Kraus; signed, 24; filed, June 8; cost \$600.

Devilsadero near Hayes. To build; o. Wm. Mocker;

BUILDING NEWS.

a. R. Zimmermann; c. C. Kreeker; signed, June 7; filed, June 9; cost \$6700.

Eddy and Mason. Metal lathing, etc.; o. F. Nigro; a. Wm. Mooser & Son; c. Campbell & Pettus; sub-c. Western Expanded Metal Co.; signed, April 2; filed, April 20; cost \$5790.

Eddy, No. 123. Elevator work; o. A. M. S. M., E. D. and C. W. Rosenbaum, Julia and Virginia Strassburger; c. W. H. Holman; signed, May 27; filed, May 28; cost \$3850.

Ellis near Franklin. All work except plumbing, etc.; o. David Cohen; a. P. Schwerdt; c. Val Franz; signed and filed, May 28; cost \$450.

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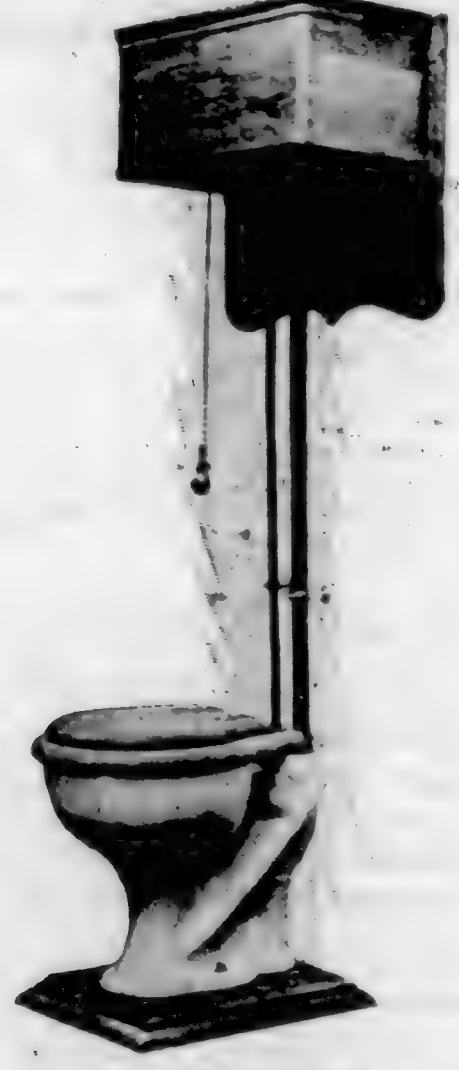
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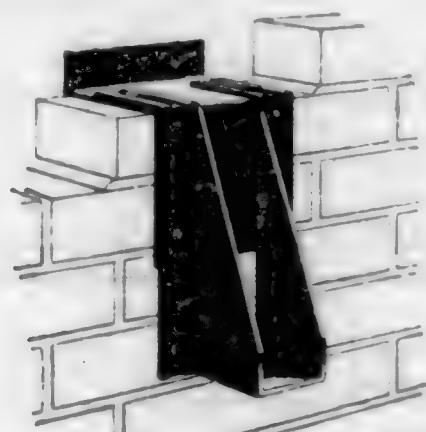
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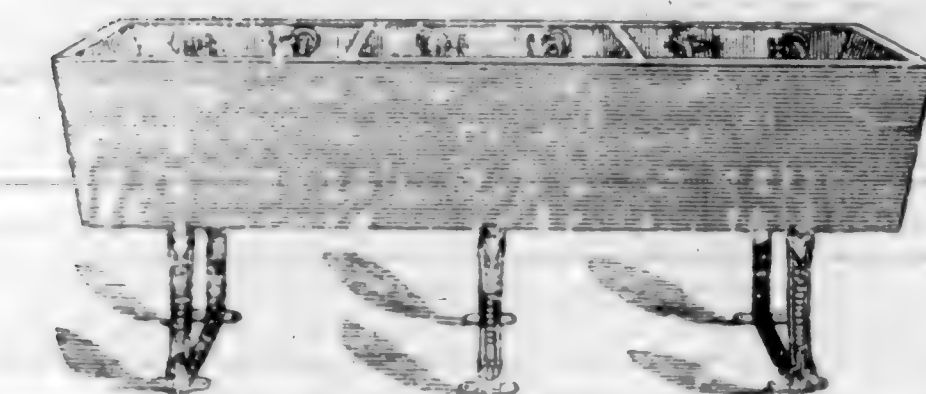
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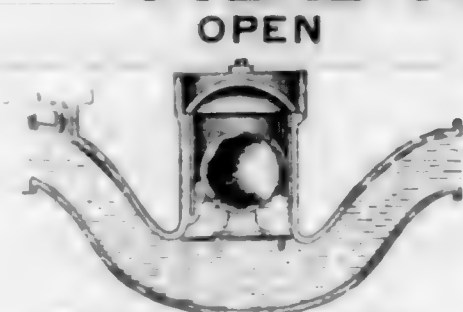
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THE CALIFORNIA ARCHITECT AND BUILDING NEWS

ESTABLISHED IN 1872

3.00 PER YEAR

PUBLISHED ABOUT THE 20th OF EACH MONTH

BY E. H. BURRELL LESSEE, PUBLISHER.

OFFICE 408 CALIFORNIA ST. SAN FRANCISCO CAL.

INCORPORATED 1889

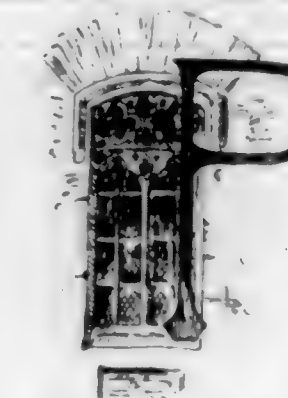
NOW IN THE NINETEENTH YEAR.

VOLUME XIX.

JUNE 20th, 1898.

NUMBER 6.

A MONTHLY JOURNAL DEVOTED TO THE ARCHITECTURAL INTERESTS OF THE PACIFIC COAST.



Plans and Specifications for Economical Dwellings, Farm Buildings, Etc.: published by the Continental Fire Ins. Co., New York. A copy will be sent to any property-owner who intends to build, (and will insure his property in the Continental), upon written request to the New York or Chicago office.

Also contains proper forms of contracts with builders and architects. Plans are for dwellings costing from \$500 to \$2500.—Coast Review.

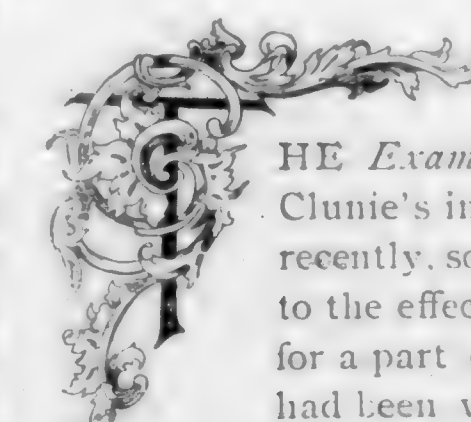
We are sure that architects throughout the country who have read the writings of Mr. F. C. Moore, President of the Continental Fire Ins. Co., of New York, on Slow Burning Construction, Fire Proofing and kindred subjects, will feel as much in sorrow as in anger, while reading the foregoing announcement. Sorrow, because that is the feeling that comes easily and naturally to all intelligent men when first made aware that one of their number has fallen from his place among men, stricken, as is the case in this instance, by the greed of gain.

As a class, architects are men above the average in intelligence and education, and they will hereafter rate Mr. Moore and his insurance company at their true value.

After the feeling of sorrow has passed, anger, righteous in this case, and deep resentment will have their sway. Then will arise a just demand for retaliation, and the vibration of this demand will be felt wherever architects congregate, as clubs, as unions, in Chapters, or in Institutes.

Mr. Moore is the guiding spirit of the Company but neither will be able to escape the consequences of this act, which can only be classed with methods that are rated by

high class commercial bodies as irregular, being looked upon as the exclusive preserves of vendors of corn and union plasters, jewelry that is without jewels, dispensary specialties and a thousand other charlatane devices, that are offered every day to a gullible public by a class that are purely fakers.



THE Examiner via Insurance Commissioner Clunie's inside rout, gave to its readers, very recently, some specially constructed information to the effect that, the great fight by the State, for a part of the Foreign Companies revenues had been won after a hard battle, solely by the tactful generalship of the Commissioner. But this item of news from Clunie's seat of war, like some other Examiner war dispatches, is pure fiction. The real status of the case appearing the same day, in the columns of the Evening Bulletin, which was to the effect, on the authority of the New York Times, that "Clunie would keep up the fight" having broken off all negotiations, looking toward a peaceful settlement.

So the Commissioner can be safely rated from this on to the end of his term of office, as a "warrior among quakers and a quaker among warriors" and to be feared accordingly.

Our "tumtum," to the doughty warrior would be: Come home and become an Economist—Robin Hoods are out of date.