

## NEW YORK STATE BUILDING.

The New York State building at the World's Columbian Exposition is the most imposing and costly of any built by the different States, with the exception of Illinois. The architecture of the New York building might be described as Renaissance with Pompeian motives. It was designed by McKim, Meade & White, of New York City. The expense of the building was about \$80,000. It is 214×142 feet, and 96 feet from base to summit of the tower. A magnificent flight of fourteen steps, 46 feet wide, leads to a terrace 80 feet long. In the vestibule are two mosaic fountains, copied after examples in Pompeii. The porticoes at each end of the building are covered with a colored sail, as was the custom in Roman times. The entrance hall is 46×84 feet and is 20 feet high. The mural decorations on the walls of the grand staircase are in the Pompeian style. The walls of the ladies' suite of parlors are covered with light colored silk. Visitors reach the roof by means of an elevator. On the sec-

with glazed tiles. A fine reception hall occupies the center of the building; this hall is two stories in height, and at one side is a large alcove with open fireplace, above which is the State's coat of arms, in stained glass. Rooms are provided for the commission, and for the post office, as well as ladies' parlors, writing rooms, smoking rooms, etc. There is no display of products in the building, as it is strictly devoted to the entertainment of visiting citizens of the Buckeye State.

## THE MONTANA BUILDING.

The Montana State building at the Fair was erected at a cost of \$16,000 by Galbraith & Fuller, of Livingston, Montana. The design is Roman, the building being one story in height. The building measures 63×113 feet, and is built of wood and iron with a covering of staff. The main entrance is 28×16 feet; on either side of the large arch are panels containing the seal of the State and the date; these panels are of

## Weight per Square Foot of Sheet Metal.

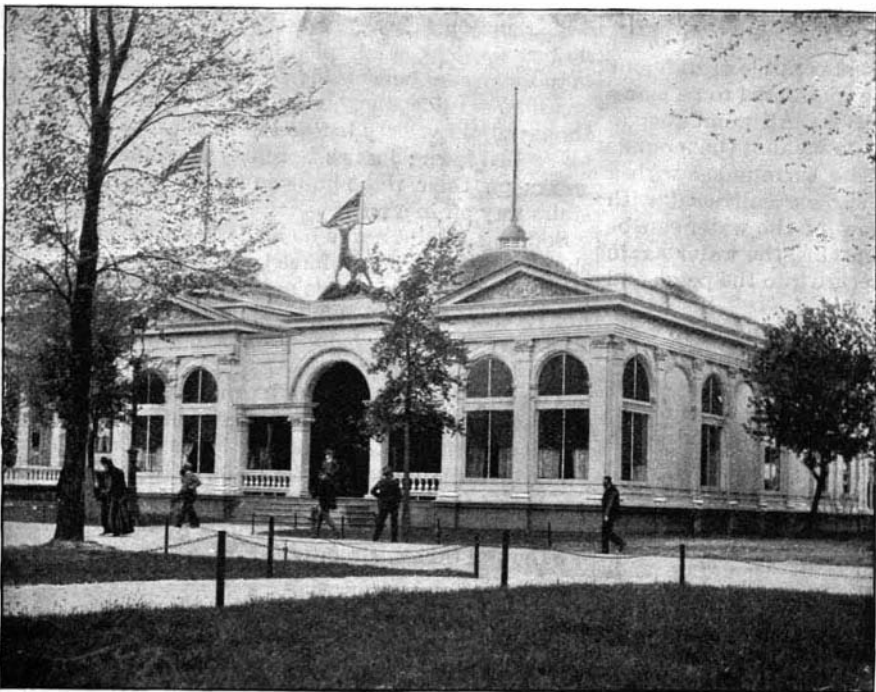
It will be interesting to those who have anything to do with sheet iron boiler plate or similar material to have an easily remembered rule for finding the weight per square foot of material they are working with. It has been found by experience that a square foot of iron plate  $\frac{1}{8}$  inch thick weighed almost exactly five pounds, and this forms a basis for a very simple and easy rule. As a square foot of iron  $\frac{1}{8}$  inch thick weighs five pounds, a square foot of  $\frac{1}{4}$  inch iron will weigh ten pounds, and we can say that the area of any sheet iron (or plate iron) in square feet multiplied by the thickness in one-eighths and multiplied by five will give the weight of the piece. There is a piece of tank iron 5-16 inch thick, 3 feet wide, and 5 feet long, how much does it weigh? The area will be 3 feet × 5 feet, or 15 square feet. Now how many eighths is 5-16 of an inch? Since  $\frac{1}{8} = 2-16$  and 2 is contained in 5  $2\frac{1}{2}$  times, we say 5-16 =  $2\frac{1}{2}$  eighths, or  $2\frac{1}{2}$  times 5 pounds =  $12\frac{1}{2}$  pounds per square foot, and as there are 15 square feet we have



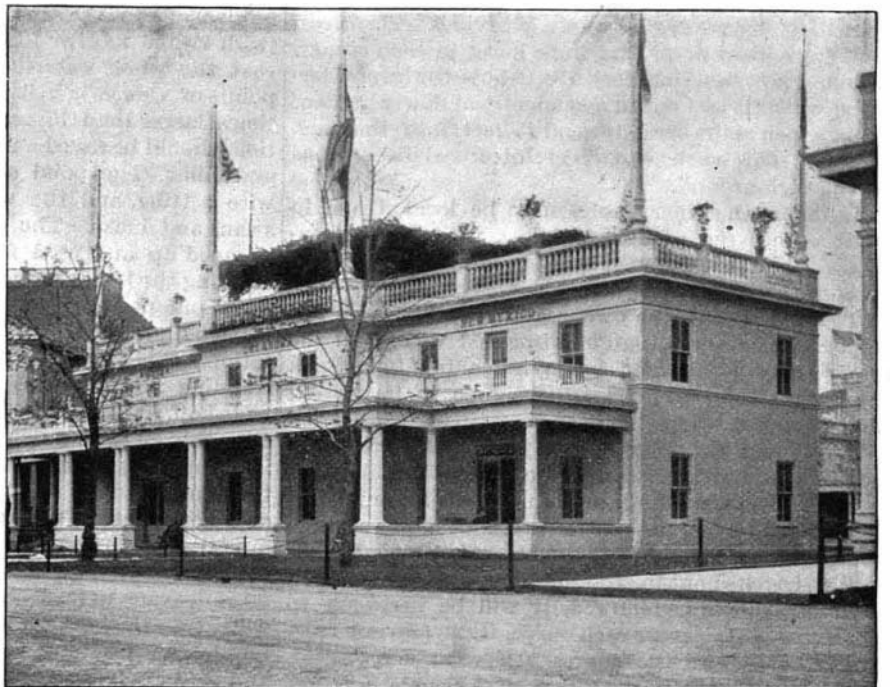
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THE ARIZONA, OKLAHOMA, AND NEW MEXICO BUILDING.

## STATE BUILDINGS AT THE WORLD'S COLUMBIAN EXPOSITION.

ond floor is the reception hall, decorated in white and gold, with a mural painting by F. D. Millet. Other rooms open from the reception hall. The triple terrace roof garden is one of the features of the building. Many of the electroliers in the building are very fine, and at night the building is brilliantly illuminated as the outline stands out in incandescent lamps. The inhabitants of the Empire State may be proud of the building and its contents.

## THE OHIO BUILDING.

The Ohio State building at the Fair is well situated between the Michigan State building and the Art Gallery. The architecture is of the style of the Italian Renaissance, slightly modified, to give the effect of a colonial building; it somewhat resembles the Executive Mansion at Washington. The architect is Mr. James McLaughlin, of Cincinnati, and the contract price was \$30,000. The building measures 100×80 feet, and is about 35 feet high. The main entrance is within a semicircular Ionic portico, and a fine open balustrade runs around the top of the building. The roof is covered

solid sheet gold; an elk rampant surmounts the arch. The interior finishing of the building is principally in staff and Georgia pine. Though the building is, perhaps, not as richly furnished as some, still it must be remembered that Montana has a very rich exhibit in the Mines building, including the life-size silver statue of Ada Rehan.

## THE ARIZONA, OKLAHOMA AND NEW MEXICO BUILDING.

Arizona, Oklahoma and New Mexico joined together and divided the expense of a neat building for the Fair, which is usually called "The Joint Territorial building." This building was designed by Seymour Davis, of Topeka, Kansas. Like all the State buildings of the far West, the social side of the building must give way somewhat for purposes of exhibition. The display of natural products, manufactures, Indian work, views, etc., is very fine. Though the building may be small, it will not affect the welcome which strangers receive.

$15 \times 12\frac{1}{2} = 187\frac{1}{2}$ . Where the thickness is even eighths of an inch, it is much simpler; but even this is not a hard thing to do as shown. If it is desired to use this rule for other than iron, we simply find the difference between the weights of the two metals per cubic inch and find what a square foot  $\frac{1}{8}$  inch thick will weigh, then work as shown above.—Ironmonger.

## Coffee Glazing.

F. Filsinger.—In order to give a lustrous aspect to roasted coffee, a liquid is now in use which is free from color, taste, and smell, and is clear and oily in appearance. It has a specific gravity of 0.868 at 15° C., and burns with a sooty flame, leaving no fixed residue. It absorbs no iodine when treated by Hubl's method, and is but little affected by chromic acid and concentrated sulphuric acid, taking only a slight brown color when treated with the latter reagent. It mixes in all proportions with petroleum ether. It therefore appears to be nothing but a highly purified petroleum oil, and must be considered as an illegitimate addition.—B. B., *Chem. Zeit.*; *The Analyst*.