

Richly as the Institute is endowed, it offers only one prize, a sum of twenty-five dollars annually, for proficiency in chemistry, and it makes no provision for boarding its students, except in keeping a list of desirable houses for their consultation. The catalogue mentions eight dollars a week as being about the average cost of board, but it is not easy to be specific in writing upon this matter without misleading, as much depends on the resources of a student and his previous habits of life. It appears to us that eight dollars may be said to be the maximum, rather than the average. For that sum he should be able to obtain a well-furnished single room and a liberal table, while numerous comfortable boarding-houses are open to him at six or seven dollars, and others at a still smaller sum. If his means are small, he may be able to find accommodations for five dollars a week, and by clubbing with other students in circumstances similar to his own—perhaps renting one of the small cottage houses that abound in Hoboken, furnishing it frugally and catering personally (a somewhat dubious but an interesting experiment), he may teach the world undreamed-of domestic economies.

A graduate is not likely to wait long for employment at any time, and in a favorable season he is pretty sure to find an opening as soon as he leaves the Institute. His salary as a beginner may not be large, but it will probably be sufficient to support him. The profession is not overcrowded; it is dignified and lucrative; and in an age of iron and steam, of wonderful engineering accomplishments and potentialities, an alumnus of the Institute need never despair of securing an ample livelihood, and obtaining a good position in society as he matures. Of the students recently graduated, one is now engaged in a steam-heating and ventilating establishment; another has a position on the Michigan Southern Railway; another is employed as instructor in the Institute; another as a consulting engineer; another in the Midvale Steel Works; another as assistant-editor of a technical publication; another in the Franklin Paper Mills; another in the engineer corps of the United States navy; another in the car-shops of the Pennsylvania Railway; another in a manufactory of brick machinery; another as professor of engineering at Yeddo, Japan; another as a patent lawyer; another at ship-building works in St. Petersburg, Russia, and another on a survey and exploration of the western territories. These, in brief, indicate the variety of positions to which a graduate is eligible.

WILLIAM H. RIDEING.

#### Note.—The Maternity Society.

IN the December number of this magazine, mention was made of the Maternity Society of the Church of the Transfiguration of this city, and some explanation was given of the aims and motives of this most worthy organization. The third annual report of the society has recently been issued, and in it the secretary, referring to the notice of the association in these pages, says: "We are indebted to SCRIBNER'S for making our work known in different parts of the

country: letters have been received from western and northern cities, and from Manchester, asking for more information on the subject that similar societies might be established on our plan." In all cases this information has been cheerfully given; and any one who may desire to have further knowledge of the workings of this novel, useful and self-respecting charity, or who may be glad to read the annual report giving particulars of its work, has but to apply to the Secretary of the Maternity Society, Church of the Transfiguration, No. 1 East 29th street, New York.

#### A Design for a Fire-place.

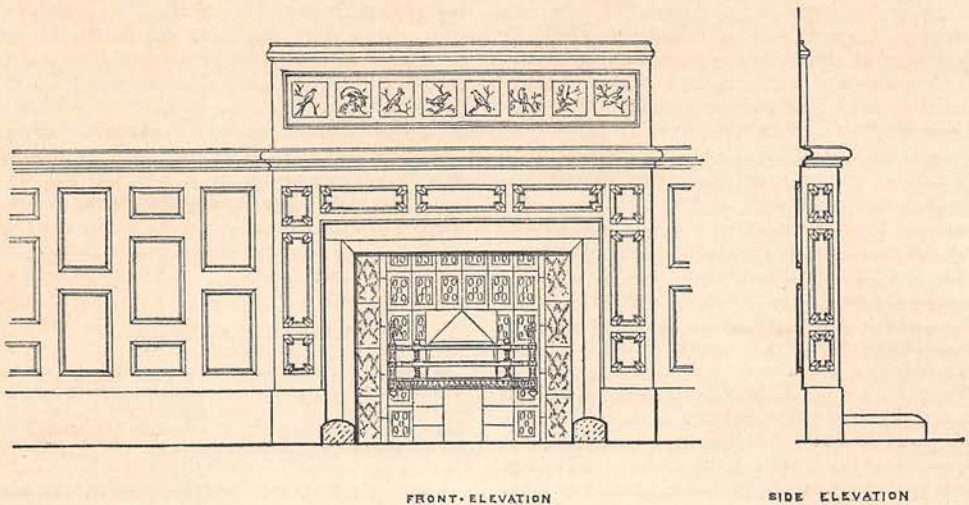
An English gentleman, who seems not to be aware of the extent to which fire-places are in use in this country, sends us the following description of a fire-place (shown in the cut), for which he claims unusual advantages. The use of fire-brick in making ornamental tiles is, we believe, entirely new. He says:

I SEE by your pages that the open fire, which is all but universal in Britain, is strongly recommended for adoption in the States. It is of some importance that a good form or pattern of fire-place should be introduced, otherwise the experience may be so unsatisfactory as to prejudice the users against open fires altogether. There is no question that many fire-places in England are as ill adapted for their purpose as fire-places can be, and that many of them afford the minimum of heat for a given expenditure of coal. I venture to send you a drawing and description of a fire-place, which is, in my experience, unsurpassed for radiation of heat and perfect combustion of coal, and which has also proved itself a remedy for a smoky chimney.

The first thing to note is that there as little iron as possible is made use of. There is a bottom grate and front bars only; the combination is here called "Leamington bars"; but there are two points to be studiously attended to in these; first, the front bars must be beveled inward on the opposite side; second, the bottom grate must be set below the level of the lowest bar from a half to three-quarters of an inch. Unless these points be observed the coal will fall out and litter the hearth, and the action of the grate be imperfect.

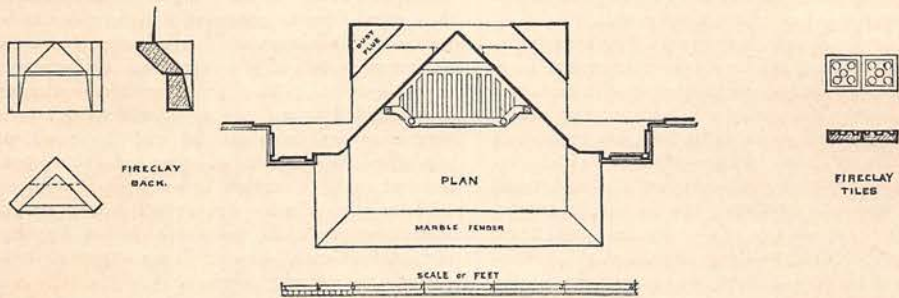
The next thing to note is that the jambs or cheeks of the fire-place are set at an angle of 45° from the wall face, so as to form a right angle where they meet. Thus, if the width of the opening be three feet, the depth of the triangle will be eighteen inches. The depth may be increased a little without much detriment, but if it be diminished so as to make the angle at the apex greater than 90°, the fire will lose its power, in proportion to the increase of the angle. These jambs may be built of fire-brick, but for appearance I have had blocks made to form the side and back of the fire-chamber, and tiles 6×6×2, of glazed fire-clay (salt glazed) for the jambs; and again, for superior work, painted or majolica tiles are used at the front part of the jambs. All these details are shown on the drawing, but I draw attention to them in order to indicate what is essential and what merely accidental.





FRONT ELEVATION

SIDE ELEVATION



I have tried lining the whole jamb with painted or printed tiles, but they will not stand the heat at the back over the fire.

In a fire-place of this kind, after the fire is fairly lighted, let the grate be filled up with coal,—small coal on the top,—and leave it. Before long it will be all aglow, the fire-brick will be red-hot and the fire will burn on with the most perfect combustion, and throwing out a volume of heat that will surprise any one accustomed to ordinary grates. When the combustion slackens, let the ashes be cleared from the bottom grate with the poker, and immediately the fire will brighten up again. At the close of a day in my office there will be but a sprinkling of ashes on the hearth. The fire-place there is only twenty-six inches wide; the room is about 23×21,

and, when entering by a door on the opposite side to the fire, the heat is felt at once.

The grate should be higher than usual above the hearth, or the lintel of the opening should be lower than usual, because of the great openness of the manner of setting.

Also, some coals may be too swift for a fire of this description, viewed economically. It is a recommendation that it will burn anything.

The fire-place represented was used in a billiard-room. The wood-work is pitch-pine, the slips and fender of black-and-gold marble; the hearth is tiled, and there are majolica tiles in the jambs. Above the chimney-piece is what may be called a revedos, in which hand-painted tiles (Doulton's), representing different birds, are introduced.

W. R. CORSON.