

ILLUSTRATIONS.

NEW GRAND OPERA HOTEL, TORONTO.—HENRY SIMPSON, ARCHITECT.

STAIRCASE HALL IN A. E. KEMP'S HOUSE, WELLESLEY CRESCENT, TORONTO.—E. BURKE, ARCHITECT.

PROPOSED ADDITION TO THE LAKESIDE HOME, TORONTO.—CURRY, BAKER & CO., ARCHITECTS.

The building which we illustrate is designed to occupy a site separate from the Home proper, and is intended for the use of the nurses.

CONVENT OF THE SISTERS OF ST. CROIX, MONTREAL.—J. B. RESTHER & SON, ARCHITECTS.

THE building now in course of erection for the Reverend Sisters of the Congregation of "Ste Croix et des Sept Douleurs," is situated on the north side of Mount Royal Avenue, extending from Rivard street to Berri, a frontage of 150 feet. In plan, it is that generally adopted in buildings for educational purposes, with corridors on each storey, running the entire length of building, and large commodious staircases and elevators.

The corridors lead to large rooms used as class rooms, parlors, studios, etc. These are all well lighted and ventilated. The heating apparatus is the hot water system; the boilers being centrally situated renders the distribution easy and effective. All the most improved plumbing and other appliances have been devised to insure comfort to the inmates.

The main building is 150 ft. in length, 62 ft. wide and four storeys high, with an eastern wing 27 ft. wide, 42 ft. long, two storeys high; a western wing 33 ft. wide, 52 ft. long, three storeys high. All substantially built of Montreal lime stone; the front and sides are of rock faced ashlar, with cut stone bands, chiselled sills, lintels, quoins, trimmings and moulded course.

The beams and columns supporting the interior structure are of steel throughout; the interior partitions and furring to outer walls are of terra cotta lumber. The first floor is devoted to the infants' course refectories, kitchen, laundry, &c., while the second floor is restricted to the administration, the third floor is mainly composed of class rooms, the chapel in the western wing being 75 ft. long, 28 ft. wide, 17 ft. high in the clear; the fourth floor to be occupied as a general dormitory. The building to have improved fire escapes and to accommodate two hundred pupils, chiefly boarders.

ANNUAL CONVENTION OF THE PROVINCE OF QUEBEC ASSOCIATION OF ARCHITECTS.

THE annual convention of the Province of Quebec Association of Architects is announced to take place on the 2nd of October, the place of meeting being the city of Quebec. At the time of going to press the program is as yet incomplete, and we are therefore unable to give full particulars, but it is anticipated that papers will be presented by several members of the Association. Some amendments to the charter, proposed by the Quebec members, will be considered, but it is said that should the said amendments be adopted, the position of the Association will not be altered. The members should endeavor to make the convention a success.

SUDDEN DEATH OF A WELL-KNOWN ARCHITECT.

MR. G. F. STALKER, a well-known architect of Ottawa, died suddenly the other day. He left his house in the evening apparently in his usual health, and soon after was found lying insensible on the steps of Rideau Club. A cab was called, but when he reached home he was dead. An inquest was held and the cause of death declared to be apoplexy.

Deceased was a native of Scotland, and was 54 years of age. He came to Canada in 1883, and except for one year, spent in the public works department, he has been in business for himself in Ottawa ever since. He leaves a wife and nine children, the eldest 20 years of age. Mr. Stalker was well known as an architect. He drew the plans for the cottage hospitals on Porter's Island, and his plans for the new central railway station at Ottawa had just been accepted.

PUBLICATIONS.

Fiction and travel are the strong points of the September Cosmopolitan, and it may be said that no more beautifully illustrated number of the Cosmopolitan has ever been given to the public.

STUDENTS' DEPARTMENT.

CONCRETE FLOORS FOR STABLES.

A SUBSCRIBER inquires how to lay a concrete floor for a stable.

The floor should consist of three layers, first, about three inches of broken stone and brick, in pieces that will pass through a three inch ring, second, 2½ inches of gravel, sand and cement, mixed in proportions of 4 of gravel and sand and one of cement, topped off with a ½ inch floated coat of clean sharp sand and cement, mixed in proportions of two of sand to one of cement (best Portland cement to be used). The floor is to be so laid to have proper fall to drain off all water, and provision is to be made for this. The usual method is to give it a slope to the rear, where there is a gutter to carry off the liquid matter. The surface of the top coat should be scored.

As concrete makes a hard and unyielding floor for a horse to stand on, planks may be laid down over it, which can be easily removed for cleansing and airing. Instead of the plank, sawdust may be employed. It makes good bedding, is soft under the horses' feet, and is cheap. What is soiled can be removed every day and replaced by fresh.

Vitrified brick is considered by some as making a better stable floor than concrete.

USEFUL HINTS.

A new kind of veneering material is reported from Germany. This is composed principally of infusorial earth mixed with various binding and coloring ingredients, and spread in layers over a wooden core; on the mass becoming dry, it is cut into sheets or blocks, which resemble in effect that of figured wood.

The American Druggist recommends the following formula for waxing hardwood floors: Yellow wax, 25 ounces; yellow ceresin, 25 ounces; burned sienna, 5 ounces; boiled linseed oil, 1 ounce; spirits of turpentine, 1 gill, or about 30 ounces. Mix the wax and ceresin at a gentle heat, then add the sienna, previously well triturated with the boiled linseed oil, and mix well. When the mixture begins to cool add the turpentine, or so much of it as is required to make a mass of the consistency of an ointment.

The free circulation of water in steam or hot water heating boilers is one of more importance, says the Master Steam Fitter, than is generally considered, because where the circulation is obstructed a certain amount of power is required to overcome friction to produce the circulation necessary for the free development of steam. Restricted or otherwise obstructed circulation always calls for more fuel to produce a given heating effect. This is practically shown when comparing the action of two boilers of the same pattern but of different size, especially those used for heating purposes.

A safe, constructed of cement with steel wire netting embedded in it, was recently tested at the Reichsbank, the official bank of the German Government, in order to decide whether it is practicable to build safety vaults of this material, which will be proof against fire. The test, which was most severe, consisted in placing the safe upon a pile of logs soaked with kerosene, which were then set on fire, the safe being exposed for half an hour to a heat of 1,800 degrees F. Two hours later the safe was opened, and the contents, consisting of silk, paper, blank drafts and a maximum thermometer, were found to be entirely uninjured. The maximum thermometer showed that the temperature inside the safe at no time exceeded 85 degrees.

Buildings divided into offices, consultation rooms, dormitories, or "light housekeeping" apartments for the use of many occupants, require, says a contemporary, not only thoroughly deadened floors, but extra care in perfecting the partition walls. Two-coat, or better, three-coat work in plastering should be specified, continued down close to the floors, to prevent the passage of air or sound. The first coat is usually neither very even nor smooth, partaking of the inequalities of the lathing, and purposely left rough as a foundation for the next or brown coat. Care should be observed in putting on this second coat, to make the walls straight and true by filling up and leveling out malformations visible in the first coat. The third, or last coat, the white finish, is too thin to hide any defects of this kind. On the contrary, it is understood that the finer the finish of the last coat, the more sensibly will the inequalities of the surface appear.

RUST OF STEEL AND IRON.—Iron and steel with a perfectly bright surface do not rust in absolutely pure water or air; carbonic acid, or similar agent, must be present. Moisture, carbonic acid and oxygen being present, oxidation is not produced so long as vapor of water is not condensed upon the surface of the metal. In rusting, carbonate of iron is formed, which is dissolved in the water charged with carbonic acid and transformed into bicarbonate. In the presence of air this is decomposed and gives magnetic oxide, then a hydrated oxide of iron. Polished iron and steel resist oxidation for a long time, but once started the rust forms rapidly and soon spreads over the entire surface. This is because the oxide of iron formed is electro-positive relatively to the iron, and is very hygroscopic, facilitating the absorption of moisture from the air. Steel and cast iron rust more easily than the purer metal; the more pure the iron is, the more it is subject to oxidation.