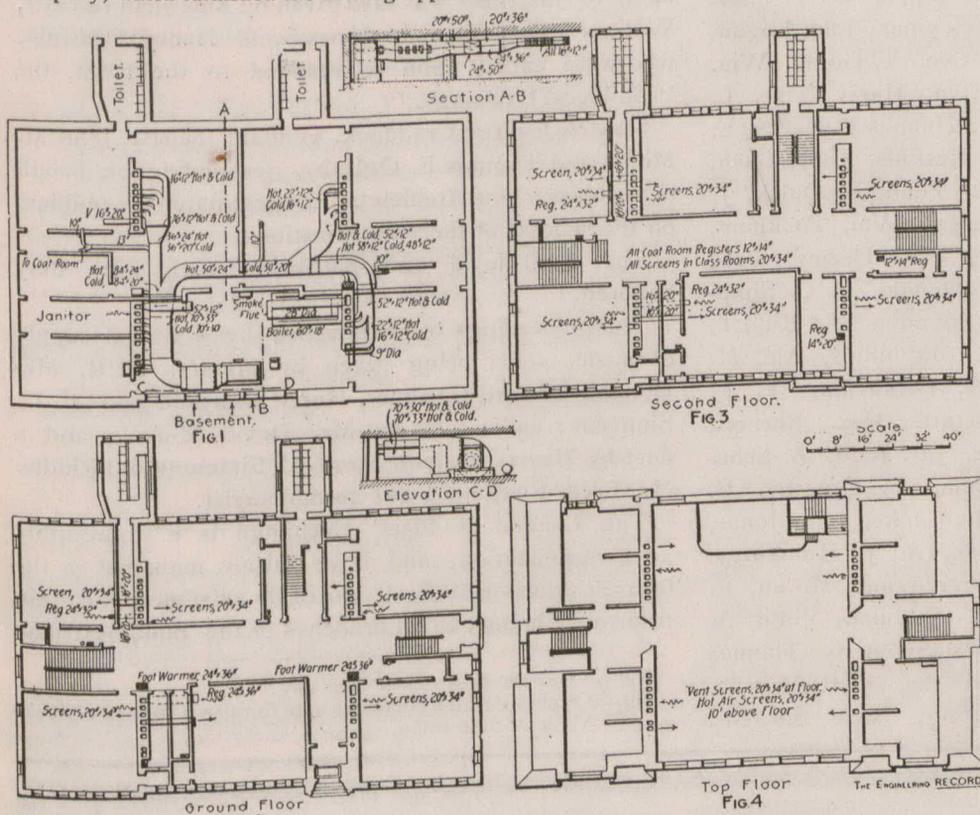


VENTILATION AND HEATING OF A NEW BRUNSWICK SCHOOL.

The new high-school building in St. John, New Brunswick, Canada, is heated by an unusually complete indirect blower system for a building of its size. Air is supplied by the double-duct method, the mixing of the cold and hot air taking place at the base of the various fresh-air flues.

The building was erected from the plans of Mr. G. Earnest Fairweather, of St. John, and the heating system was installed by Mr. Thomas Campbell from the designs of the B. F. Sturtevant Company, which furnished the heating apparatus. The following



VENTILATION AND HEATING OF A NEW BRUNSWICK SCHOOL. The B. F. Sturtevant Company, Boston, Mass., Engineers.

description is reprinted from the Engineering Record of New York:—"The building is a three-storey and basement structure, measuring about 78 x 128 feet in plan. Figure 1 shows the basement, in which the machinery and apparatus of the plant are located; Figure 2, 3 and 4 are plans of the ground, second and top floors respectively. The entrances and stairways for the pupils are at either end of the building and are connected on both the ground and the second floors by a central corridor provided with coat and cloak rooms for teachers and for pupils. There is an entrance for teachers and visitors at the front of the building, and over this is situated the principal's office. Two parts of the building projecting from the rear, and accessible through hallways adjoining the cloak rooms, are used for toilet rooms. These are located in the basement and on the two floors above, as shown on the plans. The top floor is chiefly given up to a large assembly room occupying the center of the floor, with two small rooms on either side separated by continuations of the main stairways which rise in dormer windows, as shown in Figure 4.

A single boiler located in the basement furnishes steam for the heating coils and for the steam engine, which drives by belt a 7-foot blower capable of discharging about 40,000 cubic feet of air per minute at a speed of 180 revolutions per minute. Air is drawn into the basement of the building through adjacent windows, and is forced by the blower through heating coils of the sectional-base type, containing 5,000 linear feet of 1-inch steel pipe, equivalent to a heating surface of about 1,700 square feet. The coils are provided with a by-pass leading to a system of cold-air ducts located above, and separated from those conveying the hot air. An elevation of blower and heating coils is shown in Figure 5. A damper in the by-pass is only opened during school hours, as cold air is, of course, not needed when warming the building previous to its occupation by the pupils. The outlet chamber of the blower is also provided with a hinge damper, which is ordinarily allowed to project against the current of hot air so as to divert a sufficient quantity to temper the cold air passing through the heater by-pass. The two systems of ducts, the cold above the hot, are suspended around the center of the basement, decreasing in size as branches

are taken from them. There are four interior walls extending through the building, and in these are located the flues, both for heating and for ventilation. The branches from the ducts lead to the bases of these flues, as shown in Figure 1, and a mixing of the air in the two takes place at this point. The mixing dampers are of the Sturtevant hinged-cylinder type, and are controlled by hand from the room to which the flue leads. The air supply of each room may have, therefore, any temperature desired, irrespective of that of any of the other rooms, within the limits of the temperature of the outside air and that available from the heating apparatus. Fresh-air inlets to the class rooms are located 8 feet from the floor, and those in the assembly room 10 feet. They are 20 x 34 inches in size and are provided with wire screens. Air is carried through similar screened openings located at the floor and almost directly below the inlets, leading to flues rising alongside of the heating flues. The flues are brought together into four groups at the roof, where four ventilating covers serve to discharge the vitiated air into the atmosphere.

As shown in the drawings, floor registers are provided in a number of places and are supplied by circular flues. These are located in the cloak rooms, and two of large size in the ground-floor hall are for use as foot-warmers. Where the class rooms are separated from the flue wall by a cloak room or corridor the fresh air is carried in a short duct as shown. Under these conditions it is necessary to lead the corresponding ventilating duct from a floor register underneath the floor to the ventilating flue.

The toilet rooms are given no direct supply of air, but are provided with ventilating flues to carry away the foul air and to assist in maintaining a passage of air from the corridors into these rooms. This is brought about by a slightly greater pressure of the air as it is delivered by the blower into the main part of the building. At the third floor, pipes lead from the top of the flues to brick ducts above the third-storey ceiling, where they discharge to two of the ventilating centers."

This method of heating is now being introduced in this country

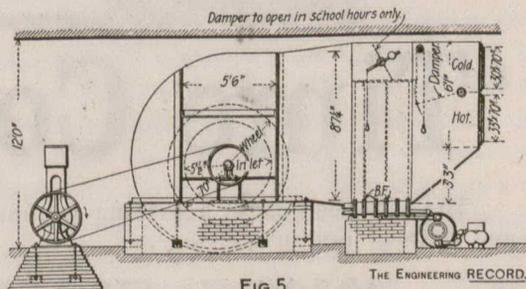


Fig. 5

by Messrs. G. W. Reed & Co., Montreal, who are the Canadian agents of the Boston Blower Co., and who have earned an enviable reputation for good workmanship.

RESTORING THE ACROPOLIS.

On a stone of the temple of "Winged Victory" on the Acropolis at Athens an inscription has been found stating that the monument was built by Kalicrates, who was one of the architects of the Parthenon at the beginning of Pericles' government. This fixes its date at about 450 years before Christ. The Athens Archaeological Society is about to undertake the restoration and strengthening of the Parthenon. Marble from Pentelicos will be furnished free for this by the company working the quarries.

A bill has been introduced in the Ontario Legislature to incorporate the Toronto Hotel Company, with a capital of \$1,500,000 in shares of \$100 each, for the purpose of carrying to completion the project for the erection in Toronto of a first class hotel building.