

### MODERN FOUNDRY AND PATTERN SHOP EQUIPMENT.

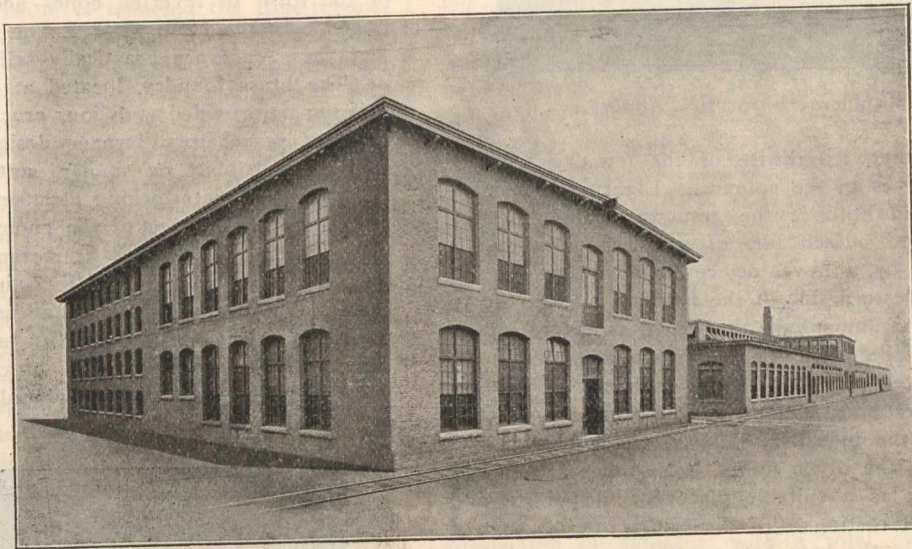
For several years the B. F. Sturtevant Co. has felt the excessive pressure of increased business and the necessity for much more extended facilities for manufacturing than were possessed by its old plant at Jamaica Plain, Mass. The fire which visited this plant in 1901 definitely settled the question of removal and plans were immediately begun for a thoroughly modern manufactory at Hyde Park, about nine miles from Boston.

The plant comprises a commodious four-story office building measuring 45 ft. by 125 ft., a three-story building 80 ft. by 500 ft. devoted to the manufacture of blowers, heaters and galvanized iron work; a building 80 ft. by 250 ft. of the same height, on the first floor of which all engines will be tested, stored and shipped, while the other floors will be utilized by the electrical department; a general machine shop measuring 120 ft. by 500 ft., with 40 ft. side galleries devoted principally to the building of engines; a forge shop 40 ft. by 100 ft.; a two-story building of the same floor area devoted exclusively to lockers, washing and sanitary facilities for the employees; a pattern and storage building 80 ft. by 150 ft. in ground plan; a foundry measuring 170 ft. by 350 ft.; a power house 80 ft. square with detached fire and service pump house. All told, the aggregate floor area of the build-

vided with intermediate floors, making four in all, is utilized for pattern storage.

The flask-shop, measuring about 60 ft. by 80 ft., is equipped with band, cross-cut and splitting saws, boring machine and lathe, all driven by a 10-h.p. Sturtevant motor suspended from the ceiling. The industrial railway runs directly into this room from the foundry across a distance of about 40 ft., and together with an over-head transfer truck reduces to a minimum the cost of handling flasks. The lumber for their manufacture is unloaded from cars directly in front of the building. This room also includes the metal pattern makers' department equipped with the necessary machine tools. Adjacent thereto is the locker, wash and toilet room for the building.

Immediately above is the pattern shop abundantly lighted upon three sides and equipped with a full complement of tools, including one single and two double saw benches, two band saws, a buzz planer and a double surfer, five lathes, one of which is 66-in. by 11½-ft. gap lathe, a drill press, a core box machine, numerous wood trimmers, etc. All the power machines are operated by two 10-h.p. Sturtevant motors, both being required for ordinary work, but one always serving as a possible relay in case of accident. The benches, which accommodate two men and measure 2 ft. 6 inches in width by 16 ft. in length, are so arranged



B. F. Sturtevant Co., Boston, Mass.—Pattern Building and Foundry.

ings exceeds nine acres. Brick has been used for all walls; steel columns and girders form part of the construction of such buildings as are equipped with travelling cranes; all upper floors are of plank with top course of maple laid on heavy wooden beams and designed in the case of the principal buildings for carrying safe loads of 200 to 250 lbs. per square foot. The roofs are of heavy plank covered with tar and gravel.

Numerous spur tracks permit of ready handling of incoming and outgoing freight, while a complete system of industrial railways connects all departments. The industrial system is equipped with 12-lb. T rails laid 24 inches gauge on centres, with turntables, trucks, cars, etc., all of which were specially designed and made by the Sturtevant Company.

Before the completion of the new power-house, a temporary plant was established in the foundry building. This comprises a locomotive boiler, draft for which is produced by a Sturtevant induced draft fan, and two 75-K.W. Sturtevant generators driven by two Sturtevant 13 by 12 horizontal engines which furnish direct current at 220 volts. This is utilized both for power and for arc and incandescent lighting throughout the plant. The entire transmission equipment including motors and hangers, is of Sturtevant manufacture.

The pattern building is divided midway of its length by fire walls enclosing stairs, elevators, etc. One-half the building, with stories respectively 17 and 15 ft., is devoted to the flask and pattern making rooms, while the other half, pro-

vided with intermediate floors, making four in all, is utilized for pattern storage. The benches are supported upon cast iron legs of special design, built by the Sturtevant Co. They are equipped with vises and their tops are of heavy maple plank. A warming chamber for glued work is provided which receives warm air through the general heat flue from a Sturtevant heating apparatus below. Around the pipe columns which support the floors of the pattern storage end of the building are clamped the pattern shelving brackets which are adjustable to any height. All patterns are consecutively numbered upon the drawings as made. When delivered to the pattern storage department proper locations are assigned, and records thereof made upon cards, one for each pattern. These cards are filed in the order of the pattern numbers. Four figures with the addition of a letter are in every case sufficient to locate a pattern. A given location, for instance, may be 2125B; that is, it is upon the second floor, as shown by the first numeral "2" it is in the twelfth row of shelves and the third division of that row, as shown by the succeeding numerals "125," and on the B level, the floor being designated A, and the letters B, C, D, etc., indicating the shelves in their order above.

The first floor is of concrete and is designed for the keeping of heavy cast iron patterns. It is served by an industrial railway and turn-table which permits of transfer to the elevator and thence to other floors. Communication between the pattern shop and storage department is direct.