

tions of parts, etc., and the failure or success of your work becomes a precedent to be avoided or followed by the next man who has a similar task to perform. It is the aggregate experience of the profession that constitutes engineering knowledge, and the more a man reads, the more of other men's thoughts and experience he absorbs, the more valuable he will become. Think of this the next time you hear a slur thrown at the "book engineer." It is not the function of books or papers to make engineers, but to record and disseminate the progress and experiences of the profession, thus adding to the aggregate knowledge of all. You can make up your mind, when you hear a man boast that he can get along and run his plant without reading, that he has not got along far enough to know how little he knows, or to be entrusted with the execution of work that requires any knowledge to speak of.

YOUNGSTER.

Deseronto, Jan. 28th, 1896.

DEVELOPMENTS IN FORCED DRAUGHT.

Whenever there is dry refuse to be removed in a finely divided state, no better method can be followed than to employ a blower. In many industries blowers are used to transfer material great distances from one part of the premises to another, as the chips in a pulp mill, for instance. A field of almost greater extent is found in ventilation and the creation of forced draughts. The extensive employment of blowers may be dated from the inventions and improvements of B. F. Sturtevant. The revolution in



B. F. STURTEVANT.

fortune's wheel which took Sturtevant from the shoemaker's bench and placed him at the head of a large iron manufacturing establishment, is interesting to trace. The young shoemaker first showed his inventive genius by producing a machine for pegging shoes, which was so original and so valuable that it still leads in that department. A buffing-wheel for smoothing the soles of shoes came next. The adaptation of an exhaust to remove the dust caused by the use of this wheel was the final step in the change. The series of inventions was complete, and the boy who began on the shoemaker's bench had reached a point where he could become himself an employer of labor and undertake the manufacture of the machines which his ready wit had called into existence. Works were established at 72 Sudbury street, Boston, in 1862. The blowers were applied to the removal of dust from wood-working machinery, and also to blowing forge, boiler and cupola fires. In this connection, both a high pressure blower and a low pressure blower were developed. About this time, experiments were made in combining the blowers with steam heating apparatus, and a number of successful appliances were put on the market as a result. In 1866 the House of Representatives, at Washington, was supplied with two large fans which formed part of the ventilating system. In 1873 the firm got out a catalogue, which was one of the most extensive of the day, and had a very marked effect on the business. It had outgrown the Boston premises by 1878, and so, in that year, the industry was transferred to Jamaica Plain, a suburb of Boston. Here a number of new departures were made, each new machine turned out leading up to another, and all assisting in the growth of the business and the enlargement of the premises which went

steadily on. Steam fans, blowers connected direct to the engine, were one of these, and the "naval fan" grew out of those. Portable forges came next on the list of successful ventures. A very great enlargement of the steam-heating blowers was made, and



E. N. FOSS.

they were adapted to various uses in which a hot-blast is necessary. In addition to the other features mentioned, the B. F. Sturtevant Co. now turn out electrically driven fans and motors. When the founder of the business died in 1890, it was incorporated under the name of the B. F. Sturtevant Co. with E. N. Foss as treasurer and general manager. The buildings as they appear in the cut on next page were completed in 1895.

CANADIAN ASSOCIATION OF STATIONARY ENGINEERS.

A COMEDY IN ONE ACT.

An amusing incident occurred at the recent C.A.S.E. Convention at Ottawa. At the annual banquet Mr. Wall sang a song, in which each verse ended in the refrain "turn over." The next morning everyone was repeating the words, and a number going into the bar together, shouted in chorus "turn over." At this, a tall gentleman standing at the bar turned pale and said in French, at the same time crossing himself, "I am not turned over." Seeing there was some meaning taken from the words, they pursued the subject and again shouted "turn over." On this the gentleman raised his cane dramatically and protested with great vehemence, "I am not turned over." Brother D., of Kingston, who has a sense of the ludicrous, stepped up to him, put his mouth to the gentleman's ear, and said in a stage whisper, "turn over." At this he dropped on his knees, crossed himself again, and looked wildly from one to the other. The bewilderment and consternation on his face were indescribable, but the boys laughed so long and heartily, that it began to dawn on him that nothing personal was meant. Then he got up and assured the boys that he had not turned over. He then explained that he was the editor of a paper in the village of ——— Quebec, and had been accused of changing his politics, which he had not done. He then pulled out of his pocket a letter from the Hon. Mr. Ouimet! This letter stated that Mr. Ouimet had examined into the matter, and could assure all whom it might concern that the bearer's politics were all right. It was evident that the poor fellow had got it into his head that the boys were a band of inquisitors connected with the Government, who had got wind of his reported "bolt," and had come to decapitate him. At all events, a great load was lifted from his mind when the boys asked him to drink, and showed him there was no design on his life.

THE HAMILTON BRANCH.

Wm. Norris, secretary Hamilton No. 2, reports the continued progress of this branch. The meetings continue to be of a very pleasing character. The members are becoming more deeply interested in the education side of the association, and have supplied the rooms with books, models, and a good indicator for the use of the members, so long as they follow the rules laid down by the committee. The instruction meetings have been begun. At the first