

view, the bright colors, landscape views, &c., used in their decoration, presenting a very bright and showy appearance. Vault doors, Combination Locks, Chronometer Time Locks, etc., are also on view, and the intricate machinery with which they are fitted, is quite a study to any one with even the slightest mechanical turn of mind. The offices are on this flat, and in the rear is also the Burglar-proof Department.

On the first floor is the Fire-proof Department and Lock Room, where the Combination and other Locks are made, while the second floor is devoted to the cabinet-makers, who manufacture all the inside fittings, partitions, etc. A hoist reaches from cellar to top of building, and as it has a capacity of six tons, the heaviest parts are easily forwarded up or down as required.

In the various departments from 110 to 120 skilled mechanics are employed, who are all instructed by the firm to pay the minutest attention to every detail of their work, "perfection," not gain in time and consequent loss of quality, being the aim, as the intention is not to place in jeopardy the well-earned reputation they have secured, after years of learning "how to labour and to wait." A great many interesting particulars have been crowded out for lack of space, but we may, at some future period, give minuter details as to the technicalities of the manufacture of these safes, and in the meantime, Messrs J. J. Taylor will be happy to furnish all particulars required.

### SOLDERLESS STANDING-SEAM CONDUCTOR PIPE.

The ordinary round pipe, with soldered seams, as many householders know, to their serious inconvenience and damage, is very liable to burst, whenever ice is formed within.

To overcome this difficulty various forms of expanding conductor pipes have been devised, the theory upon which they are all constructed being that, if the pipe is made so that it will expand to the same degree that the water expands when freezing, it will not burst.

We illustrate herewith a pipe, which is manufactured by the Solderless Standing-seam Conductor Co., office, 47 Federal Street, Allegheny, Philadelphia. This company owns, and manufactures under, the patent of Irwin & Reber, issued in June, 1879. As will be more clearly seen by referring to the sections marked B and C, which give a sectional view of

of metal than the cylindrical, gives an opportunity for each one of the eight sides to expand before a breaking strain is produced upon them.

The parts marked D and E show how the metal is joined by an outside seam, a device which obviates the necessity of using solder, and gives this pipe its distinguishing characteristic and name. These sections also show the manner in which this seam allows the pipe to expand, without at all affecting its integrity. By means of the octagonal shape and the solderless seam, it is claimed that the liability of bursting is reduced to its minimum, and they are certainly correct scientific designs.

The standing-seam, in addition to affording an opportunity for expansion, furnishes a secure hold for the fastener, and prevents the conductor from being placed close to the walls of the building, thus keeping them dry, in case of an overflow caused by obstructions in the pipe. The "Secret" fastener, as it is called, marked F in the engraving, requires no solder to fasten it, inasmuch as it is secured to the standing-seam by means of a wedge, as clearly shown in the section of this cut marked G. By this method of fastening, the conductor is perfectly secured to the wall, and is rendered easy to be put up by any mechanic.

These pipes are made in 6 ft. lengths, which does away with the necessity of numerous cross-seams, and the sections are so constructed that the end which has the bevelled seam is made to slip into the other end of a corresponding section which is opened at the end to receive it. In this method of joining no soldering is necessary in the cross seams either, so that the whole pipe is absolutely solderless.

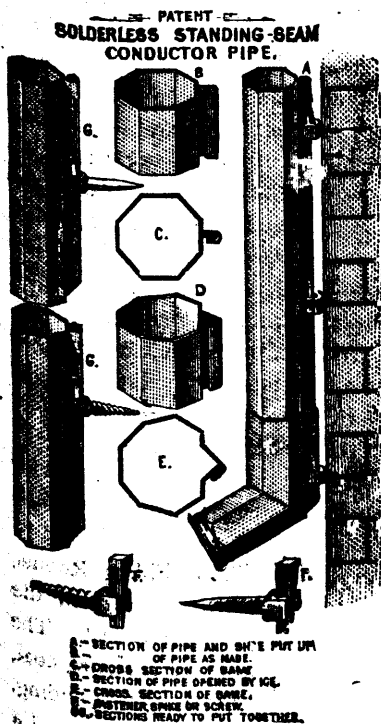
These conductors are made of cold rolled charcoal iron, galvanized in five regular sizes of 2, 3, 4, 5 and 6 inches. They were awarded a medal at the Massachusetts Charitable Mechanics' Exhibition, and it is claimed by the manufacturers than they are cheaper, more durable and make a more handsome ornament to a building than any other in the market.

The above company have taken out a patent for the Dominion of Canada, on their invention, and desire to sell rights to manufacture under same, or exclusive rights for localities or territories in the Dominion.

### CONTINGENCIES IN PROSPECT.

There is a certain contingency which may very probably turn up before long, one for which the Canadian Government would do well to be prepared. The contingency we refer to is that of a considerable reduction of the American excise duties on beer, spirits, and tobacco. Were this to take place, our duties on these articles would have to be correspondingly reduced too, otherwise there would be smuggling and loss of revenue on a large scale. In the articles named there is at present no smuggling to speak of, the duties being nearly the same on both sides of the border. There are reasons, however, for believing that a large reduction of the American duties is among early probabilities.

The long tariff debate now going on at Washington is not likely to be wholly without results. There is a considerable majority in favor of thoroughly revising the tariff, in some complete and systematic way, though what particular method



pipe, in its normal condition, it is octagonal in shape. This form, since it gives a smaller area from a given quantity