

leakage and waste of water somewhere on the premises, and calls for immediate investigation and stoppage.

21. All persons shall keep their service pipes, stop-cocks and other fixtures on their own premises and from the line of the street in good order and repair, and protect from frost, at their own risk and expense.

22. Stop and waste cocks must on no account be covered up with coals, vegetables, or anything which will prevent the inmates of the house or the water inspector from getting access to them at once. And whenever any licensed plumber is called into any premises, his first care shall be to see that this rule is attended to, also to see that the stop and waste cock is in good order and easily turned.

23. Taps, faucets, cocks or fittings in porches or sheds, or outside of buildings are strictly prohibited. Any such supply required must either be by means of a suitable approved hydrant or by special written sanction of the city engineer.

24. The water supply to stables, barns, outbuildings or any other description of buildings or property must come under the operation of Rules 10, 11, 15, 16, 17, 21, 22, and 23, and must conform in all other respects with the requirements of these rules and regulations. If after every practicable precaution has been taken the pipes or fittings cannot be wholly and effectually protected against the action of frost in the severest weather they must be cut off and removed, or an approved hydrant with valve well below the reach of frost may be substituted in order to procure the required supply.

25. All urinals, except those which are especially sanctioned by the city engineer, and rated by the works department, shall either be supplied through a meter or shall have some approved valve or apparatus attached thereto, or in connection therewith, by which the same can be flushed, with not more than two gallons of water, at intervals not exceeding thirty minutes, or with not more than one gallon at each time of use.

26. After the 31st day of December, 1896, it shall be unlawful for any person whomsoever to have upon his premises, and connected with the city water supply pipes, any water closet which is not provided with a suitable and effective valve and cistern, or other substantial arrangement, approved by the city engineer, by which the water supply may be cut off automatically after flushing the closet with a quantity of water not exceeding three gallons each time it is used.

The remaining rules provide for permits, inspection, licensing of plumbers, appointment of inspectors and their duties, penalties, etc.

NEW PATENTS.

THE last issue of the Patent Record contains notice of the granting of a number of patents relating to architecture and building. Like so many of the patents taken out, some of them are of little practical utility, but we give a list, with some notes, so that if any of our readers wish to look further into them they may have the opportunity of doing so.

Water Closet—P. H. Howard, assignee of Wm. T. Fox, Rochester, N. Y.

Roofing Tile and Machinery for manufacture of same—Abraham Weil, Steinheim, Prussia. The claim in this case consists mainly in a packing consisting of a metal plate, which is slit and bent back, bringing about an intimate connection of the tiles and augmenting the durability of the roof.

Combined Screen and Storm Door—Chas. C. Wheeler, Holland, Michigan. This door is so made that wire screen can be used in summer and panels in winter on the same frame.

System of Heating Buildings—John D. McEachren, Galt, Ont. All the hot water is conveyed, by this system, from the heater to an expansion tank in the upper part of the building, whence it is distributed to the radiators.

Means of Applying Paints and Varnishes—H. C. Cleaver, London, England. This is a plan by which paint is sprayed from a tank by means of an air pump or compressor. It is substantially the plan adopted at the World's Columbian Exhibition buildings.

Window Screen—Chas. C. Wheeler, Holland, Michigan. This screen is so constructed as to permit of its extension to fit windows of different size.

Ladder—Thos. J. Quinn, assignee of Mark A. Walker, Detroit, Mich. Simply an extension ladder.

Hot Water Heating Apparatus—The Phoenix Hot Water Heater Co., assignee of S. N. Murgittroyd, Phoenix, N. Y. A new form of construction of hot water heater.

Machine for Bending and Trimming Metal Shingles—The Metallic Roofing Co. of Canada, assignee of C. W. Conner, of Montreal.

Cornice Mould Embracing Frame—Henry Burbidge, Kentville, Nova Scotia.

Hot Air Heating Apparatus—C. P. Shindler, Vancouver, B.C. This is a combination of a fire frame with an angular shaped coil.

Artificial Stone—Wm. Owen, London, England.

Sewer Pipe—Moise Courtemanche, Montreal. Means of securing opening in the side of sewer pipes.

Paving and Roofing Composition and method of making the same—The Asphaltina Co. of America, assignee of J. A. Just, Syracuse, N.Y. (3 patents). The first is for a composition made by adding resin and sulphur to petroleum sediment. The second is for a composition made of a calcium resinate, a heavy hydrocarbon, tar and sulphur. The third is for a composition made by treating tar with sulphur.

Method of Manufacturing Cement—Jasper Whiting, Chicago, Ill. Molten slag is chilled, dried and ground, and caustic soda or lime added to form this cement.

Warm Air Register—Charles H. Foster, Omaha, Nebraska. This register combines a frame, with guard, valve panel, foot rest and dust receptacle.

Sash Lift, Balance and Lock—F. H. Peters, Montreal. A sash lift, balance and lock in combination.

Metallic Shingle—Frederick Crawford, Toronto. A new form of metal shingle.

A NEW CANADIAN PAVING MATERIAL.

AN experiment has been made at Cleveland, Ohio, in the use of trap rock as a paving material, and it promises to result very satisfactorily. A foundation of crushed limestone, ten inches thick, is laid; above this is placed the trap rock, eight inches thick, arranged in three layers—coarse screenings, fine screenings and dust. The trap is obtained from quarries near St. Joseph's Island, St. Mary's River, at the north of Lake Huron. The rock can be had for little more than the cost of quarrying and transportation, and the pavement as laid down cost \$3.10, \$3.19 and \$3.65 according to grade. Two miles have been laid in Cleveland and it promises well. Trap is used extensively in Germany for road making.

ARCHITECTS AND BUILDERS IN CONVENTION.

The American Institute of Architects held its twenty-ninth annual convention at St. Louis, during the third week of October. One of the matters considered was a classification of the membership into four grades, which was determined upon. The questions of education and the licensing of architects received much consideration. This we shall have occasion to refer to more fully at a future time. A permanent home for the Association is proposed, probably at the national capital, and a committee was appointed to deal with it. Fire protection was also considered, but the association seemed disposed not to take the initiative, and it was left in the hands of a committee. A number of interesting papers were read. The next convention will be at Nashville, Tenn.

The National Association of Builders met at Baltimore the same week. The greater part of the time was spent in re-arranging the constitution, provision being made for state associations. Next year's convention will be held at Buffalo.

A WORKMAN'S SUIT FOR DAMAGES.

While working at the new court house in Toronto, on the 20th of September, 1893, Samuel Garland met with an accident, through a four ton stone falling from a derrick, whereby his foot was crushed. He sued the city for \$3,000 damages, the case being tried before Judge Street in April, 1894. It resulted in a non-suit, but on appeal a new trial was ordered, and the case came up again recently before Judge Meredith. The jury was chosen entirely from the country, and the verdict was again in favour of the city. The plaintiff's foot had only one small bone broken, but it was so badly bruised that it will always be disabled.

One of the points involved was as to the method of lifting large stones at the building. It was the custom to raise them by means of chains placed around them, but in this instance the stone was lifted by dogs, which tore out and allowed it to fall. The evidence established, however, that the plaintiff and a man who was working with him, who was not a foreman or anyone he was bound to obey, were wholly responsible for the accident, and that therefore the city could not be held for damages.

The Toronto Radiator Mfg. Co. have recently erected extensive additions to their buildings on Dufferin street. The ground floor of the new buildings is conveniently fitted up as offices and show rooms, the upper floors being used for manufacturing purposes.