

warmed by the hall stack. It was found also that during the coldest days and evenings it was comfortable to sit in any part of the house, even the rooms where the registers were closed, also that the difference in temperature between the outside and partition walls was slight. One fact worth mentioning is that the bath room was in constant use, and that it was designed to heat it by means of a brass coil nickel plated containing twenty feet of one inch pipe, but the valve was not opened during the winter the room being comfortable at all times to take a bath. During this season it is my intention to extend the tin flues to three bedrooms from which the direct radiators have been removed, as the stacks are abundantly large to supply them with heat. I might say in explanation that I should not have carried heat enough to carry steam, but for the fact that one of the upper rooms was used as a sewing room and steam was required to reach that room. In my opinion I shall not need to carry the water above 180 degrees the coming winter to perfectly warm the entire house. Under the conditions here described the boiler ran with the minimum of care, the draft door remaining consequently closed days at a time, the grate was shaken once in twenty-four hours in the most severe weather, and only once in 72 hours in very mild weather. With a temperature of 32 degrees outside, water

at a temperature of 110 degrees to 120 degrees at the boiler was sufficient.

The question may now be asked what has all this matter of construction to do with our craft? We do not build houses or other buildings; we must take them as we find them, good, bad, and indifferent, and place in them a heater that will fill our guarantee, be it more or less. This is a fact from one standpoint. There is, however, another view to take of the subject; every trade is responsible for existing conditions to a certain extent; by agitating a subject we bring about reforms, and if fifteen to forty dollars judiciously expended in the construction of a small residence will save the full amount in the value of fuel in one or two seasons and add largely to the comfort of the occupants all the time, our efforts are well expended in diffusing the knowledge of the fact, and intelligent inquiry will be well rewarded in its research. Further, we all make our great successes in well constructed buildings and our failures and sometimes losses in those of poor construction. With this in view I hold that it is largely to the interest of the steam fitter and heating engineer to promote in every way possible the desire which the owner and architect may have for a well constructed building. "Continual dropping wears the stone."

PERSONAL.

Mr. Surtees, City Engineer, of Ottawa, is at present on a visit to New Brunswick.

Mr. Fred. Batty, manager of the stone quarries at Wallace, N. B., died suddenly of heart disease a few days ago.

Mr. Edward Copping, City Building inspector for Toronto, received severe injuries a few days ago, by being thrown from his buggy.

Mr. Eustace G. Bird, who has been pursuing the study of architecture in England and on the continent for several years past, has returned to Toronto.

Messrs. Strickland & Symons, architects, have recently removed their offices from Toronto street to Aberdeen Chambers, corner of Adelaide and Victoria streets, Toronto.

Mr. D. Norman MacVicar, late of Messrs. Taylor & Gordon's office, Montreal, has associated himself with Mr. David R. Brown, architect, under the name of Brown & MacVicar.

Mr. Richard Dinnis, senior member of the firm of R. Dinnis & Son, contractors, has recently returned home from a visit to Great Britain. He describes business conditions in England as discouraging in the extreme.

PUBLICATIONS.

The July Cosmopolitan marks the close of the first year since the revolutionary announcement was made that the price of that magazine, already low had been cut to one-half of three dollars a year. Even severe critics admit that with each succeeding number there has been a betterment in the quality of articles and illustrations, and the size has remained unchanged.

Mr. Charles Baillairgé, of Quebec, at the last meeting of the Royal Society at Ottawa made an interesting contribution to the at present popular subject of Technical Education, in a paper entitled "Technical Education of The People in Untechnical Language." Mr. Baillairgé holds that the education of the masses should not go beyond the three R's and object lessons in scientific subjects. "Let us beware," he says, "of too much education; there is a danger of over doing the thing, and thus causing our should be agriculturists to become dissatisfied with their parents mode of livelihood, flocking towards populated centers, there to become second and third class professionals of every hue, with little or nothing to do; with mischief and discontent and anarchical tendencies following in the wake." To our way of thinking the need of the times is in the direction of a change in character and methods of instruction rather than in restricting education.

RECENT CANADIAN PATENTS.

Mr. George A. Watson, of Toronto, has secured a patent, No. 45,906 on a sectional hot water heating boiler.

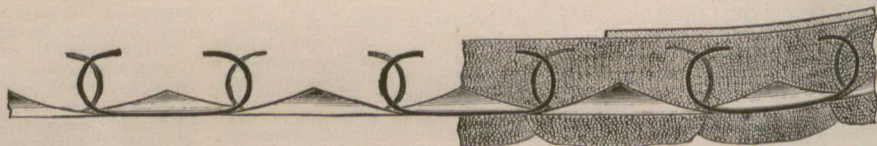
Messrs. William Pinkerton and Joseph Barrett, of Toronto, have been granted a patent on a building composition consisting of about equal parts of limestone and stone or shale containing oxide of iron and silica melted and moulded into a homogeneous mass.

TO MAKE TRACING PAPER.—Home-made tracing paper is much less expensive than that purchased at shops. Common tissue paper can be had at something less than 1/4d. per sheet of the ordinary size, when purchased in quantities. To prepare it, mix a proportion of one of boiled linseed oil to five of turpentine in a cup. Put a single sheet of paper at a time on an inverted tea-tray, large enough to allow at least the half of the sheet to lie flat. The mixture should then be put on with a small sponge, one coating only, and that not too thickly; each sheet after such process should be hung over a string stretched across the room, and when all the clear oily marks entirely disappear, it will be ready for use. —Carpenter and Builder.

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