structures, requires a great amount of judgment to do good work. The use of the iron cap for driving piles in trestles that are in use is not very practicable, as you cannot drive the piles up so close to the stringer with them as you can without them. It is too much extra work to move the stringers so as to use the iron caps and follower, but for driving piles for foundations and dock work, or any place where there is no obstruction, we think Wm. T. Casgrain's patent cap and follower an excellent device. It is especially adapted in driving foundation piles, as that class of piles are generally short —not over 25' in length, and with the patent cap they will not need any togles to keep them right, and they are good protection to pile heads, as the piles in foundations should be driven home until they stop and the hammer bounces on them. In driving piles through shell-rock or soapstone or hard pan, where piles require shoeing, the best way is to use old arch-bar iron, welding four pieces together and drawing the end to a point and flaring the four pieces out to fit the four sides of the pile. Have some holes punched in the strap to fasten the points on the pile with boat spikes; this kind of a point will go through hard substances where the round cast-iron point will not work. These kinds of points have been used by some of your committee to drive through concrete around piers to great advantage, and any one having occasion to drive piles through hard substances too hard for piles should not neglect to shoe them with points made out of old flat iron. A little practice will soon teach one how to make them."

GREEK MASONRY.

What must be observed in the edifices of Greece is the high finish of all the parts. In them the object which is not intended to be seen is wrought with as much care as the exterior composition. The junctures of the blocks which form the columns of the Parthenon are so perfect as to require the greatest attention to discover them, and they leave a mark no thicker than the finest thread. In order to attain this extraordinary perfection, the marble was first reduced to its proper shape by a chisel. Afterwards the two pieces were rubbed one against the other, and sand and water thrown upon the centre of friction. The courses, by means of this practice, were placed with incredible precision, and this precision in the shaft of the columns was determined by a square pivot of olive wood. The roses, the plinths, the mouldings, the astragals, all the details of the edifice exhibit the same perfection. The lines of the capital and the flutings of the columns of the Parthenon are so sharp that you would be tempted to suppose that the entire column has passed through a lathe. No turner's work in ivory can be more delicate than the Ionic capitals of the Erechtheum, and the Carytides of the Pandroseum are perfect models.

MUNICIPAL DEPARTMENT

WATER SUPPLY FOR MONTREAL WEST.*

By William Thompson.

The subject of my paper for this evening is not altogether of my own choosing, but it is nevertheless presented to you for consideration with a great deal of pleasure. Ever since I first arrived here seven years ago, this subject has forced itself upon my attention, and it is to-day just as important a question as it was then. While a great deal of attention and study has been devoted by me to this question, with the idea of providing your town with a permanent and satisfactory water supply, the importance of the whole question before us has not in any way decreased. I can hardly imagine anyone failing to realize the great importance of securing an abundant supply of fresh water for domestic purposes, even for individual uses; how much more important, then, becomes the question of water supply when towns and villages are concerned, and particularly towns that are situated as is Montreal West—inland from rivers or lakes. Still, if your town is ever to be successful, either with present or increased population, some source of efficient water supply and drainage must be provided.

Allow me to consider my subject under separate and distinct headings. Let us first discuss water supply and usual requirements in a general way. We will divide the source of supply of all natural waters intended for town and domestic supply into four classes:

1. Rain water.
2. Surface waters, including rivers and lakes.
3. Ground waters, including shallow wells.
4. Deep-seated water, including deep wells, artesian wells, etc.

* Paper read by special request as a farewell address to the residents of Montreal West, Que.

Under each of these heads let us briefly study the advantages and disadvantages of each particular class, and the liability of pollution and contamination, and then endeavor to apply the knowledge gained to our particular case.

Before proceeding with this discussion, let us briefly for a few minutes consider in a general way the connection which exists —or, we will say, is supposed to exist— between drinking water and disease, because our question really resolves itself into this form, and to save time we will drop all intermediate and connecting points. Waters containing a very considerable quantity of dissolved substances, such as could be properly designated mineral waters, are not thought of for the purpose of a public water supply, and consequently we can entirely eliminate these from our discussion. Small amounts, however, of mineral matter are by many authorities considered necessary for the health of the consumers. This must not be regarded as being at all necessary, as experience has repeatedly shown that distilled water properly aerated is not only perfectly wholesome but equally healthy. It is evident also that soft sur-

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