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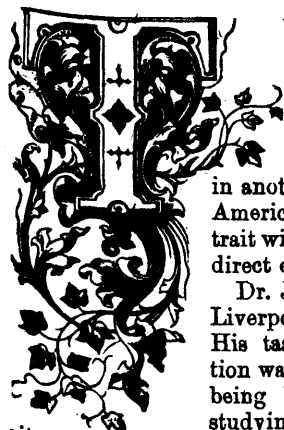
AND
PATENT OFFICE RECORD

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NOTE AND COMMENT.



FOUR men who should be well known to most of our readers have died since our last issue. Of the one Mr. Street the English architect, we publish a portrait and life in another volume. Of the other, an American by adoption, whose portrait will be found on page 37, a more direct editorial notice seems fitting.

Dr. J. W. Draper was born near Liverpool, England, May 5, 1811. His taste for scientific investigation was developed early, chemistry being his favourite study. After studying some time at the University of London, he followed his family to this country in 1833, and completed his academic studies at the University of Pennsylvania, graduating with honor in 1836. Some of his scientific investigations having attracted attention, he was called to a professorship in Hampden-Sydney College, Virginia, where he stayed two years teaching chemistry, physiology, and natural philosophy. In 1839 he was called to the chair of chemistry and physiology in the University of New York, with which institution he has since been identified.

When the medical department of the University was organized Dr. Draper was chosen secretary, and in 1850, on the death of the first president, Dr. Valentine Mott, he succeeded to the presidency, filling that office until 1873, when he retired to give his attention to his literary work and his academic classes in science.

Notwithstanding the severe draught upon his time and strength demanded by his presidential and professional duties, Dr. Draper found time to pursue the scientific investigations which have gained him a place among the great leaders of intellectual progress in all ages. His earlier studies in vegetable physiology were many years in advance of those of the rest of the scientific world. He led the way by twenty years into that marvelous field of research opened up by spectrum analysis. In his conception of the essential unity of radiant energy he was a full generation ahead of the

physical investigators of Europe. As a philosophical historian, tracing the influence of material progress, as sociation and environment upon the natural development of nations and races toward civilization and rational thought; he was not less a leader and a worthy representative of the type of man toward which scientific civilization is making. Though in no respect what is known as a popular writer, Dr. Draper probably reached a wider range of active minds among all civilized peoples than any other modern writer, his principal treatises having been translated into most if not all of the leading languages of the world, some of them having been adopted as text books in the colleges of all nations, notably his "Physiology" and "The Intellectual Development of Europe."

Mr. Peterson has presented his report on the subject of the new bridge over the St. Lawrence for the Atlantic and North Western Railway. Three different routes were reported on; those crossing respectively, at Nun's Island, Heron Island and opposite Lachine. In spite of the slight advantages possessed by the easy connections with existing roads offered by the first of these, and the good foundation which the rock bottom opposite Heron's Island affords, both these routes, Mr. Peterson considers, will have to be abandoned in favor of the third on the score of economy. The line opposite Lachine is not only the shortest but it also provides a more direct route to New York by ten miles than by the Victoria Bridge; it is also a shorter route for through traffic from the West to New York, St. Johns, etc. Another advantage it possesses is that on one side there is a high bank which does away with the necessity of constructing an approach. It also has the shortest waterway, the length being 3,418 feet. Mr. Peterson proposes to bridge the river with ten spans of 300 feet, and one over the channel of 330 feet. The borings have all displayed a solid rock foundation, and in no place is there more than two feet of gravel over the rock. The greatest depth of water is forty feet and the greatest current seven miles an hour. The spans are made unusually large on account of the ice from Lake St. Louis, and also with a view of interfering as little as possible with the water way of the river. The estimated cost is only \$1,407,373, as against \$2,946,186 and \$2,176,435 for the Nun's Island and Heron Island