

vacuum. The independent condenser is also used in connection with fire-pumps, mine-pumps, and water-works pumping-engines, as well as with vacuum pans and other evaporating apparatus. They are made by Henry R. Worthington of this city.

#### THE DEVELOPMENT OF THE POTTERY INDUSTRY OF THE UNITED STATES.

MR. WILLIAM C. DAY, in the recent issue of the "Report on the Mineral Resources of the United States," traces the history of the pottery industry, which has of late become of considerable importance.

The first pottery established in the United States was in New York City, in its earliest days, when under Dutch rule. It was situated near the North River, above the present Chambers Street, the locality being at that time well out of town, in the country. More than a century ago, perhaps, a small pottery was established in Trenton, N.J., by some Frenchmen. Here porcelain, similar to what is now known as French china, was made, and it is said that the goods were very creditable. This establishment existed for some years, but it attained no great importance. At Philadelphia there was a similar pottery venture, also making porcelain or china wares, which are well spoken of for quality. This enterprise was sustained for a number of years, but failed to reach a permanent existence.

There were other attempts to establish potteries in various parts of the country from time to time, and the only one which seems to have given the greatest concern to English manufacturers was one established in South Carolina. This was contemporary with the great Josiah Wedgwood, who has been called the father of the pottery industry in Great Britain, from the fact that he made great improvements in the quality of earthenware, which gave a very great impetus to the business in England. This South Carolina pottery proved quite alarming to Wedgwood, as he feared that it might become a dangerous competitor in supplying the earthenware markets of the colonies: he therefore petitioned Parliament that the manufacture of such goods be prohibited. He seemed to think, that, with the excellent materials found in South Carolina for making earthenware, the industry would become a successful one. His fear, however, proved groundless, as the unequal struggle was of short duration.

One or two pottery enterprises, inaugurated within the past forty years, making special articles of white crockery-ware rather than a general assortment, maintained their existence only, and cannot be termed successful.

The term "pottery industry," as understood at the present time, does not include the many little potteries scattered all over the United States; making stone-ware jugs, pie-plates, drain tile, yellow crockery, etc., and which employ from six to twenty men each. These little establishments made the cheapest and commonest class of pottery products, with which foreign competition was powerless. Owing to the very low-priced class of such wares, the expenses of their importation bore so large a proportion to their cost at the foreign potteries, that competition was out of the question. In fact, in many cases the crates in which the goods were packed, and the inland transportation charges, equalled the original cost of the goods themselves. The pottery industry, as now spoken of, had therefore practically no existence in the United States in 1861, the several hundreds of so-called potteries in this country which statistics show then existed being all of the class above referred to. The Morrill Tariff Bill, and the increase of duty from 24 to 35 per cent, and the subsequent increase to 40 per cent, did not act as inducements towards the establishment of any new enterprise. In 1863 the rapidly increasing premium on gold offered the necessary inducement, and several pottery enterprises were inaugurated. These manufactured at first the commonest class of crockery-ware for domestic uses; but as experience gave confidence, and the wares gradually found favor, better grades were made, until the standard of the china-ware used by the millions of American citizens, and manufactured in this country, is recognized as equal to that made anywhere. It is true that there are several potteries in the United States who make more or less of very fine art

pieces, which are forcing recognition on account of their superior excellence; but the stability of the pottery industry rests upon the fact that it supplies the wants of the people for fine and common crockery for domestic uses, of which we in this country manufacture about 60 per cent. The American potter does not claim to be the peer of his foreign competitor in art productions, but he does claim to equal any foreign manufacturer in the class of china which he produces for the American people. To-day the English potter is copying American shapes, designs, and styles of decorations. How different is this state of affairs from that which existed a few years ago, when the American potter depended upon foreign ideas for his shapes and designs! With the development of the manufacturing process, talent for designing shapes and patterns or styles of decoration has likewise progressed, until we have made our own American shapes and designs, which foreigners have been compelled to copy and adopt in order to find a market for their wares in the United States.

This country still takes about 40 per cent of the total crockery-ware exported by England. This is about the proportion that has been maintained for many years, thus showing that the American potter has increased his output in keeping with the increased consumption of the country.

In regard to the present prices of pottery, it may be said that the consumer can now obtain for two dollars and a half what in 1861 would have cost four dollars.

The pottery industry gives directly employment to about ten thousand people, to whom wages amounting annually to four million dollars are paid; this amount being nearly 50 per cent of the total value of the output of the potteries. In addition to these, there are many thousand more employed in the preparation of the materials for the potter's use, such as mining the clays, quartz, and felspar, and grinding and washing the materials. To these people nearly as much more in wages is paid; in fact, a careful estimate shows that 90 per cent of the cost of manufacturing pottery is paid for labor in one form or another.

The decorating branch of this industry is one of its most interesting features, and one in which great advances have been made in late years. It gives employment of a light, interesting, and elevating character to many young people, both male and female. The growth of this branch has been wonderful, and has made the demand for beautiful decoration, both simple and elaborate, very general, and far more wide-spread throughout the country than ever before. Formerly beautiful decoration was to be found only in costly French and English wares, and the consumption was consequently limited to the wealthiest classes: now beautiful decorated wares are found in almost any household, where they have been obtained at prices which would have been considered impossible a few years ago, and which have reduced very greatly the cost for French and English decorated products, and to a very great extent have enabled American decorated ware to supersede the foreign.

#### HEALTH MATTERS.

YELLOW-FEVER. — Dr. George M. Sternberg, U.S.A., has been relieved from duty at Baltimore, and is, by direction of the President, in pursuance of the authority contained in the provisions of the Act of Congress approved March 3, 1887, "making appropriations for sundry civil expenses of the government," etc., relating to the methods of preventing the spread of epidemic diseases, to proceed to the Island of Cuba for the purpose named in the letter of the President addressed to the secretary of war, April 17, 1888, and upon completion of this duty to return to his proper station and submit his report to the President. Dr. Sternberg is at the present time at the Hoagland Laboratory, Brooklyn, of which he is general director, engaged in making his preparations for his proposed trip to Cuba to pursue his investigation in yellow-fever. He expects to leave for Havana during the latter part of March.

LEGAL REGULATION OF MEDICAL PRACTICE. — The laws of West Virginia require that every physician in that State must have a certificate from the State Board of Health to entitle him to prac-