WHAT WE OWE TO INVENTORS AND PATENTS.

The following paragraphs, culled from the speeches and writings of statesmen and men who have achieved distinction in arts and science, are published to show the appreciation due to inventors, the dignity of their calling, and their claims upon the consideration of their fellow-countrymen.

Hon. Robert S. Taylor.

"In the light of the reflections which this occasion suggests, we can faintly realise how vast is the obligation which we owe to inventors. Not a garment that we wear, not a meal that we eat, not a paper that we read, not a tool that we use, not a journey that we take, but that makes us a debtor to some inventor's thoughts."

President McKinley.

"Our future progress and prosperity depend upon our ability to equal, if not surpass, other nations in the enlargement and advance of science, industry, and commerce. To invention we must turn as the most powerful aid in the accomplishment of such a result."

Professor Thurston, M.A., LL.D.

"One ton of engine to-day does the work of eight or ten in the time of Watt; one pound of fuel or steam gives to-day ten times the power then obtained from it. A half-ounce of fuel on board ship will now transport a ton of cargo over a mile of ocean."

Octave Chaunte.
(*President, Society Civil Engineers.*)

"It is now possible to carry across the Atlantic 2,200 tons of freight, with 800 tons of coal, where in 1870 it was only possible to carry 800 tons of freight with 2,200 tons of coal."

Sir Henry Bessemer.

"I do not know a single instance of an invention having been published and given freely to the world, and being taken up by a manufacturer. I have myself proposed to manufacturers many things which I was convinced were of use, but I do not know of one instance in which my suggestions have been tried; but had I patented an invention and saw no means of recouping myself except by forcing, as it were, some manufacturer to take it up, I should have found some one who would have taken it up on the offer of some advantage from me. Then the invention becomes at once introduced, and the public admits its value."

Walker's Text Book On Patents.

"The right of property, which an inventor has in his invention, is excelled in point of dignity by no other property right whatever. The benefits which he confers are greater than those which he receives, He walks everywhere erect, and scatters abroad the knowledge which he created. He confers upon mankind a new means of lessening toil or of increasing comfort, and what he gives cannot be destroyed by use nor lost by misfortune. It is henceforth an indestructible heritage of posterity. Side by side stand the inventor and author. Their labour is the most dignified and the most honourable of all labour, and the resulting prosperity is most perfectly theirs."

Commissioner Holt.

"The truth is, and there is no avoiding it, that you cannot disconnect in this country inventions, manufactures, and agriculture. They are inter-dependent co-equal factors in producing our prosperity and our happiness; and so with regard to the other industries of the country, patents are directly connected with them all, and absolutely necessary to their successful pursuit. That nation which gets most of the world's trade is to be the first power of the globe. It is to be obtained only by encouraging the inventive genius of our citizens by protecting the patent system of the country, nd all that is involved and comprehended in that system."

Hon. James A. Tawney.

"There has never been in the history of the world a more impressive illustration of the value to a nation of that generous public policy which gave control to the man of the Products of his mind than is shown by our progress under the patent system. The genius of invention is the mainspring of advance in our material civilisation, the foundation of that prosperity on which culture must rest for its solid support."

Hon. Benjamin Butterworth.

"But for the patent system only an infinitesimal part of the triumph of inventive genius would have been accomplished, and if we could cut the ground from beneath the material prosperity of the age, there is no way in which this could be more effectively done than by the repeal of our patent laws."

Hon. Karekiyo Takahashi.

"It is only since Commodore Perry, in 1854, opened the ports of Japan to foreign commerce that the Japanese have been trying to become a great nation, and we looked about us to see what nations are the greatest, so that we could be like them; and we said, 'There is the United States, not much more than one hundred years old, and America was discovered less than four hundred years ago; and we said what is it that makes the United States such a great nation? And we investigated and found that it was patents, and we will have patents.'"

Examiner Pierce, in commenting thereon, said, "Not in all history is there an instance of such unbiassed testimony to the value and worth of the patent system as practised in the United States."

Newell Dwight Hillis.

"Every new tool that is invented, every new business that has developed carries with it a hundred new positions and openings for young men."

W. E. Simonds.

"A vastly large number of inventions are of a greater value than the public dreams, and those which seem to fall dead, contain within them seeds of suggestion, which later live and grow to rich fruition."

Lord Bacon.

"The introduction of great inventions appears one of the most distinguished of human actions, and the ancients so considered it; for they assigned divine honours to the authors of inventions, but only heroic honours to those who displayed civil merit. And if anyone rightly compares them he will find the judgment of antiquity to be correct, for the benefits derived from inventions may extend to mankind in general, but civil benefits to particular lands alone; the latter, moreover, last but for a time, the former for ever."

Commissioner Duell.

"Few men, I believe, have thought of the actual money value of patents. The mind cannot measure it. It would be safe to say that they are worth 500 dollars on an average, and if so, we have as the value of the patented inventions upon that basis, not reckoning cost, 115,000,000 dollars the actual saleable value. Others would put the average value of patents very much higher."

Senator Platt.

"I have heard it argued that we had approached the perfection of patent system; that there were now no worlds to conquer; that nature had no more secrets to bestow upon mankind for their benefit. So far from this being the case, we stand but in the very vestibule of the great storehouse of nature's secrets. We have but gathered a few pebbles along the shore on which beats a limitless sea. There is no limit to the evolution of human invention until it reaches the realm of the infinite.

"Every round of the ladder on which we have climbed to national pre-eminence is a patented invention, and every sign board which points to a greater future of achievement and progress shows that the path continues to lead through the field of invention. We stand to-day in the gateway of a most marvellous future. Let us hope that eyes may be given us to see that the inscription above the gate reads, 'Protection to the Patent system, and all that it comprehends and involves.'"

Rice Machinery and Windmills in Siam.

Of late years the cultivation of rice has been extending in several countries outside the Celestial Empire, notably in Siam and Indo-China, and with the increasing area of land being put under this cereal there is a growing scarcity of manual labour as well as of draught animals, the number of which is undergoing a steady diminution. According to the French Consul in Bangkok, the difficulties represented by the shortness of the labour supply in Siam are so serious that in the absence of sufficient immigration of Chinese coolies the only way of properly cultivating and preparing rice is by the employment of suitable machinery, although he admits that so far as the tilling of the land is concerned, the soft clayey nature of the soil offers many difficulties. Nevertheless, he is convinced that these could be overcome by engineers who would be prepared to spend a year in Siam in view of studying the means of adapting machinery to the various processes at present performed by hand, and he holds out excellent hopes for manufacturers of such mechanism, who would find an equally large market in Indo-China and other countries in the Far East. There is also a large opening for windmills in the Menam Valley, as well as in Cochin China, Cambodia, and Tonkin, where the vast wind swept plains are specially favourable to the employment of such appliances. No serious efforts have yet been made to introduce wind-mills the growers apparently being disposed to wait for the carrying out of certain irrigation works which will take several years to complete; but if manufacturers of windmills could induce a number of growers to purchase a single wind engine for experimental purposes there is no doubt that its advantages would be quickly appreciated, alike for the irrigation of the rice fields during the dry season, and at other times for driving rice thrashing decorticating, and other mechanism. In the opinion of the French Consul there is much to be done by those agricultural engineering firms who will take a close and intelligent interest in the requirements of rice-growers in the Far East.

A Great Technical Institute.

Writing in the *Magazine of Commerce*, Mr. J. H. Reynolds, principal of the Manchester Municipal School of Technology, says.—The courses of instruction in the school are directed more especially to the requirments of the industries of south-east Lancashire, of which Manchester is the commercial centre.

These embrace a wide range of subjects, and include mechanical engineering, electrical engineering and general technical physics, sanitary engineering, industrial and general technical chemistry, inclusive of the bleaching, dyeing, printing and finishing of textiles, paper manufacture, brewing and metallurgy, and the manufacture of textiles. In the course of an exhaustive description of the appliances used Mr. Reynolds remarks:—

The equipment of the school is on a scale of considerable magnitude, and, indeed, it exceeds that of any English institution devoted to technological teaching.

The workshops are well fitted up with modern tools, and the engineering shop has a special tool room, in which a complete installation of American fine-grinding machines, by the Brown and Sharpe Manufacturing Company, offers facilities for carrying on standardised work according to modern methods. A smithy, which contains eleven forges, by the Buffalo Forge Company, and a large hearth and a steam hammer, gives accommodation to twelve students at one time; and a similar number of students can be dealt with in the foundry.

The equipment of the electrical engineering department embraces the most modern English, American and continental plant and appliances.

Automatic Stamp-Selling Machine.

From communications received by the Frisco mail by Mr. Dickie, of the staff of the General Post Office, it would seem that the automatic stamp-selling machine—the joint invention of that gentleman and Mr. H. Brown, photographer, of Upper Willis street— is going to prove a really good thing for the inventors. When Mr. Dickie visited San Francisco a few weeks ago he met a Mrs. Kermode, of Tasmania, who was so struck with the invention that she acquired the patent rights for all those countries in which it had not been protected by the inventors, and she is to use her best endeavours to have the machine taken up in America and elsewhere. In a letter received from New York, Mrs. Kermode writes that she had an interview with the Chief Postmaster of Canada, at Ottawa, and he had been greatly impressed with the possibilities of the machine. It appeared to him to be complete, yet simple, it could be manufactured at a nominal cost, and there was apparent impossibility of its getting out of order. Another letter, dated December 10th, says that the Minister had written, stating that the Canadian Government was willing to order a hundred machines if they could be manufactured cheaply. The writer said they were getting an estimate, and if the Canadian Government accepted, and Mr. Dickie agreed to the offer, it meant everything to the life of the machine. The letter further stated that the Dominion officials had tested the machine, and were convinced that it was a really fine invention. Negotiations were also proceeding with the head officials at Washington, where further success was expected The stamp-selling machine in question was exhibited in the portico of the General Post Office in Wellington for some time, where it dispensed penny stamps with great promptitude on the penny-in-the-slot principle. It proved a very great convenience to the public—particularly after office hours, and on Sundays—and very many would have liked to have seen such a machine permanently installed.

It would be most interesting were some motorist with plenty of time at his disposal, to keep a strict account for six months of his runs, their complete cost, and all details, and then draw up a contrasting itemised bill of what his trips would have come to had he and his passengers travelled first class by rail.