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O. D. MUNN, S. H. WALES, A. E. BEACH.

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OUR MANUFACTURING INTERESTS.



UR politicians sometimes endeavor to make it appear that a tariff of protection to home industry will bear unequally upon various classes; and they assert that, while it might for a time benefit the manufacturer, on the other hand it would in some way ultimately injure the planter and general producer. The idea of a tariff for protection has long been a foot-ball for two great parties to kick, and at last they have partially covered it up in other political issues. We do not propose to discuss the question of a tariff, as government ought to be competent, from its experience, to draw the line of happy medium between the seemingly conflicting interests of a great and growing people. We have this to say, however, that the importation of manufactured goods into our country from abroad has been lately going on at a fearful rate, costing millions of our golden treasure, and many of our manufacturers are beginning to feel this competition. We should never willingly see the mechanics, artizans and laborers of our country compelled to receive the same wages that are paid abroad. How shall this contingency be avoided? and how shall we, as a people, develop our vast and unparalleled resources, and thus advance the interests of the country and its productive power? We say emphatically our reliance is mainly in the skill of our inventors and mechanics. This conclusion is borne out, in regard to its correctness, by the entire history of those American arts in which we have become distinguished and successful. In the manufacture of common clocks, for example, great numbers of which were annually exported to almost every country on the face of the globe, it was the genius of our inventors which devised the superior machinery for making their parts, and which has enabled us to defy competition at home and abroad. It is the same with light carriages, coarse textile fabrics, india-rubber goods, and some other manufactures; and if this is so in one case, the inevitable conclusion is, that it may be so in every case. England is the workshop of the world, and in competition upon equal terms, it is stated that she has no equal for almost every article which is manufactured within her borders. How can this be accounted for? By the vast sums which her capitalists are in the constant habit of expending for new improvements in machinery. Her wisest statesmen and her leading noblemen—the prince and the premier—acknowledge that the mechanics and artizans are the life-blood of the nation; and to maintain the power of Britain among the kingdoms of the earth, the government has recently devoted large sums and much attention to scientific schools, more especially for instructing the youth in those branches of education which will render them superior mechanics and artizans. In a recent speech of Lord Napier (late representative of the Court of St. James to our country) at the Society of Arts' dinner in London, he said:—"It cannot be too often repeated, that more than half the population of the British empire live by arts, manufactures, and commerce—that is, they subsist on the results of skilled labor, or labor directed by invention and design in contradistinction to the simpler forms of industry." In another place he says:—"We can only maintain our superiority by ceaseless vigilance and exertion," and "it is our bounden duty to levy from every department of intellectual inquiry, auxiliaries in maintaining

and enlarging our present ascendancy." "If the markets of continental Europe be partly closed against us, by the existence of older establishments, by conventionalities and the impediments of legislation, we may still find in the markets of rising states, in those which have been planted by our own race in the plains of America and Australia, a fair field and ample scope for the higher departments of invention and design."

It is thus that the leading statesmen of Great Britain recognize the true source of that country's material greatness—the inventive genius and skill of the people!

We recognize the same mental forces as the grand levers of our advancement in the arts, and our reliance is fixed upon our inventors and skilled mechanics for elevating our country to higher eminences in industrial progress. Unless we advance with rapid strides in invention, we will assuredly fall further behind the other nations which now compete with us in those products which are sold in our markets. The question is not with us, "Can we do so?" but, "Shall we do so?" We have natural resources for manufacturing purposes unequalled in extent by those of any other people, and we have vast mental resources also. Our manufacturers must bring to their aid the highest intellectual abilities and mechanical skill, and open their hands wide for encouragement, if they wish to maintain their own position in the great manufacturing struggle which is now going on among the nations.

A NEW TELEGRAPH.

A pamphlet has recently been published in England, under the title of "The Globe Telegraph," by Septimus Beardmore, C. E., in which it is proposed to employ, for telegraphing on long lines, a principle of operation different to that which has hitherto been exclusively used. There are two kinds of electricities developed by distinctive batteries, namely, *tension* and *quantity*. The former is developed in a very active battery composed of a considerable number of small plates, the latter in a battery of a very few large plates. Tension electricity meets with great resistance from induction in cables, while very little of such resistance is experienced in using electricity of quantity. Electricity of very high tension was employed on the Atlantic cable, as it is used on our telegraph lines. The author of this pamphlet referred to proposes to use quantity electricity as a substitute for that of tension, and in doing so candidly confesses that he is not the first person who has done so, nor the first who has shown its practicability. This credit is given to Alexander Bain, who, in 1843, took out a patent for employing electric currents in telegraphing, generated by positive and negative plates forming a simple voltaic couple. All those who are versed in the history of the application of electricity to the arts will remember that Mr. Bain's battery for moving his electric clocks consisted of a large plate of baked carbon and a plate of zinc simply buried in the moist earth, and connected by a single wire. In its application to telegraphic purposes, he did not seem to have attached much value to this invention, as it was inferior to the tension battery, because return signals could not be obtained by it, and therefore he made but little use of it. Taking up this system, where it had been left by its first inventor, M. Hoga, about a year ago, commenced a series of experiments in England for applying it to submarine cables, upon which it would be most useful for obviating the evils of inductive resistance, were it in other respects applicable. The results of these experiments were so far flattering, upon a line of six miles of wire in one case, and on a cable 110 miles long, between Guernsey and Southampton, in another, that they ended in securing a patent in the names of Messrs. Hoga, Piggott & Beardmore, on the 17th of last November.

This improvement on Bain's system consists in a method of obtaining return signals by employing in the line a metal intermediate in its character between copper and zinc. A plate of iron is therefore stated to fulfill this condition; consequently, plates of copper, zinc and iron are employed at each side to produce positive and reverse signals, and by this means a remedy is proposed for the evils of induction, to render telegraphing on long lines as practical as on short circuits. This invention is certainly quite novel, and has drawn out considerable discussion in foreign scientific periodicals. In contemplating its probable success for overcoming the evils of static electricity in ocean cables, the direct resistance which is experienced in every conductor, no matter

what battery is used, seems to have been in a great measure overlooked. The reason why batteries of very high intensity have to be employed on long lines is for the purpose of overcoming direct resistance, and in this respect the quantity battery (Globe Telegraph) does not appear to be suitable. At the same time, while we make this statement, we must admit that electricity is such a subtle agent that we are almost ready to admit that nothing is impossible to it in the hands of inventors, considering what great results have been accomplished within the short space of twenty years, in which electro-telegraphy and electro-plating have attained to such magnificent proportions in the useful arts.

THE PATENT OFFICE REPORTS FOR 1858.

In answer to numerous inquiries about the Patent Office Reports for the last year, we would state that the two volumes containing the claims are already issued; those containing the illustrations are in press, but it is uncertain at what time they will appear. As the Commissioner of Patents receives but a limited number of these reports, he can supply but few of the calls that are made upon him for them; and he has no stock on hand for sale, as some seem to suppose when they inquire of us, "how much does the Commissioner of Patents charge per volume for his annual reports?" That officer only supplies the patentees for the year, and such other persons as have a recognized business connection with the Patent Office. The great bulk of the reports are handed over for gratuitous circulation to patriotic Senators and Representatives, each of whose autographs, when seen on the brown Manila wrappers that cover the volumes, sends a thrill of grateful emotion through the veins of the constituent who is thus noticed, to the exclusion of his more humble neighbor. Those of our readers who cannot, for reasons indicated, receive the direct autographical attention of the Commissioner of Patents (who, by the way, is an excellent penman), should lose no time in finding out the name and post-office address of the members of Congress for their respective districts, and make formal application to them for copies of the reports. No one of our readers need feel afraid to write to a live member of Congress. We have seen and conversed with many of them in our day, and have invariably found them made up of flesh, blood and bone, and they are not always perfect Masters of Arts or professors of the *Belles Lettres*.

The demands for these useful reports are increasing every year, and it is therefore important that they should be well circulated; we mean by this, that they should be placed in all our libraries that are accessible to the public, sent to every editor who reads and writes, and circulated gratuitously, so far as they will go, among that class of citizens who know the difference between the modern spinning-jenny and the old-fashioned "quill" wheel, whose music has so often hummed in our ears. We heard a Senator once declare—while speaking against appropriating money for the publication of such "trash" as he thought these reports contained—that he had bags of them at a certain post-office in his State, but did not know what to do with them. This same grave Senator could undoubtedly have found open channels for the distribution of his political verbiage to the extent of thousands of copies, yet he was dumbfounded with ignorance when he found himself encumbered with a few mail-bags of patent reports, showing forth the progress of the nation's material interests which he in part represented. This stupid indifference gives a clue to the reason why session after session of Congress treats the Patent Office and its interests as though such things existed in Spitzbergen instead of at the Federal Capitol.

The Commissioner of Patents would make the most proper distribution of these reports, and ought to have them under his sole control. There are thousands of persons who want these reports, and yet never receive them; we confidently believe this, from the vast number of applications made to us for them, every year.

THE PEABODY INSTITUTE AT BALTIMORE. — This building is now progressing rapidly, and is expected to be inclosed by the first of November next. The walls are of Maryland marble, and present a commanding appearance. The arch-girders, to which we alluded two weeks ago, for sustaining the walls of the lecture-room, are now in place and secured. Each girder is a composite of cast iron and wire cables—a combination of the best materials for sustaining tensile and crushing strains.