

Scientific American.

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Mechanics, Farmers, and Lawyers.

When the Crystal Palace, in this city, was opened amid the pealing notes of orchestra and organ, and when to witness that splendid pageant, soldiers, clergymen, lawyers, and literary characters were appointed to conspicuous positions, while the sons of industry and invention were passed over as nonentities, we took occasion to express our views freely on the subject, and to point out the slur that was thereby cast upon some of the most worthy men in our country. That was a case which called freely for rebuke, and it was honestly given. We have now something to say by way of rebuke to our mechanics and farmers, for it is the duty of an honest press to give censure to whom censure is due, as well as honor to whom honor is due.

Our mechanics and farmers are justly to blame themselves for the negative position which they generally occupy on all public occasions; they compose the mass, the overwhelming majority of our population, and yet by their acts they virtually say, "we are as nobody in prominent affairs," and they bend low and are led and guided by the superior intelligence or duplicity of another class—our lawyers. If a speech is to be made at an agricultural dinner or Fair, a lawyer is the man selected for the purpose. If an address is to be made before a Mechanics' Institute, a lawyer is sure to be the orator on such an occasion also. By this conduct our farmers and mechanics virtually acknowledge that they are totally incompetent to discuss the very questions which belong to their callings, and with which they should be most particularly acquainted, and that another class have all the intelligence and the civil qualities which command their respect. Is it a strange thing, then, that lawyers should rule our country in every department, that the President, every one of his Cabinet, all of our Foreign Ministers, the very Collectors and Surveyors of the port of New York should be "lawyers all?" It is indeed strange, but the fact is easily accounted for. Do we blame our lawyers for this? No. The very statements we make is the highest compliment we can pay them, and inversely a rebuke to our farmers and mechanics. Our lawyers, we believe, possess more general information than any other class of men in our country; if this be not true, how is it that such a small class as they are, among such an immense population as ours, exercise an influence on the destinies of our country, greater than that of all other classes put together.—There is no disputing this assertion; they are the arbitrators and rulers of our country. It may be said, "their business peculiarly fits them for governors and rulers of the people." This is true in a measure, but yet to understand law, it is not necessary to be professionally a lawyer. This, however, is not the point to which we have peculiarly directed the attention of our mechanics and farmers. Our object has been to point out the folly, the absurdity, the weakness, and admitted want of ability in our farmers and mechanics, selecting others out of their own circles to address them upon the very subjects with which they should be best acquainted themselves. A reform is certainly demanded among our industrial classes in the matter of self respect and self dependence.

Patent Office Report for 1852—No. 1.

We are indebted to Senator Seward for a copy of Part I, of the Patent Office Report for last year, which was presented by the late Commissioner Hodges. It has taken a long time to get it before the public, but the printing and paper are so superior to former reports, that we must give Robert Armstrong, our meed of praise for this great improvement in Congressional printing. There is a happy departure in this report from that of Mr. Ewbank's last, which did not contain any of the Examiner's comments, the excuse being that patentees whose inventions had not been noticed, found fault with previous Reports. The excuse was not sufficient to compensate for the pleasure and

profit always derived from the comments of Examiners on the prominent improvements which have been patented during the year.

We learn by this Report that the total receipts of the Patent Office during 1852, were \$112,056,34; total expenditures \$74,531,92, and \$21,384,99 refunded, leaving a balance over expenditures of \$16,139,43, nearly double the amount of surplus of 1851, which was \$8,821,68. No less than 2,639 applications were made for patents, out of which number 1,020 were granted, and 1,293 rejected, the rest not being acted upon. It is stated that the applications examined, probably cost no less than 7,000 examinations, some, no doubt needlessly. There were 381 more applications in 1852 than in the previous year. The Commissioner alludes to the calorific engine, and exhibits the same want of correct knowledge of the subject that has been displayed by so many writers, prominent for scientific information. We shall carefully review the Report of the Engineering Examiner in our next number.

We admire the firm stand taken by Commissioner Hodges against the misappropriation of any portion of the Patent Office, to other objects, than to the legitimate purposes for which it was originally designed.—A valuable portion of the building is now occupied by the Secretary of the Interior, while the Patent Office proper is curtailed for want of room; this unquestionably interferes with the business of the office, and the models of the patented inventions are in such a crowded condition that it is almost impossible to make proper examinations. The Report also says:—

"The models of rejected applicants have been heaped upon one another, lost from search, exposed, to injury, many of them broken, their component parts destroyed, and not a few entirely destroyed." Our inventors have never yet had justice done to them by the principal officers of our government, and in no particular case have they been so meanly treated as in the way they have been deprived of the use of the Patent Office to conduct its business properly. When a Museum was wanted for the products of the Exploring Expedition, one was procured by tumbling the models into the cellar of the Patent Office. When offices were required for the Secretary of the Interior, they were soon found by chicanery, in the new wing of the Patent Office. To get space for the transaction of the legitimate business of the Patent Office, the Commissioner and his staff of Examiners were sent begging throughout the nooks and cellars of the the very building that was erected for their especial use, with inventors money.

A complete separation of the Patent Office, into a Department, one in itself, not under the dominion of the Secretary of the Interior, is advocated. This accords with our own views.—We believe it should be entirely distinct from any other, as its interests, business, &c., are of a very peculiar character. Amendments to the patent laws are discussed and the wilful infringement of patents, to be held criminal, is suggested. This recommendation requires careful consideration; at present, it appears to meet our views, but we may yet see that such a measure of protection might prove more injurious to the interests of patentees than any good they would derive from it; it may savor of what Bacon called "the last infirmity of a good man—indiscreet indignation against vice." On the whole, the Report is a good one, it is terse, clear, and breathes the right spirit.

Our Naval Steamers again—The Latest Failure.

We are determined to ding away at every disgraceful evil connected with the engineering departments of our navy, as we did with the evils of steamboat boiler explosions—until a reform is effected, so thorough that our navy steamers, instead of being a laughing-stock to our people, and a disgrace to our country, will be an honor and a subject of pride to every American citizen.

A correspondent of the New York "Journal of Commerce," speaks of the Alleghany as follows:

"The necessity of naval reform is a stale, but not unprofitable subject. Naval abortions come so thick and fast upon us, that we pass them by without notice. But, as the U. S. steamer Alleghany has been relied upon as a proof of the

new skill and energy infused into the Navy Department, and as her admirable machinery and performances have been made the theme of much newspaper puff, I cannot help stating the substance of the last authentic report from her.

"This steamer was built at Pittsburg, and has altogether cost the Government more than eight hundred thousand dollars. She was repaired and furnished with new machinery, &c., at Norfolk, under the direction of the Department. It was intended to send her to China with the Minister, R. J. Walker, who refused to go out in her. But the other day she was ordered for the Brazil station, and pronounced to be one of the finest ships in the service.

"With a great flourish of trumpets, the Alleghany, after her contractor had been discharged, proceeded on a trial trip from Norfolk. She got under weigh at Norfolk, on the 5th October, at noon, and the same night, at 9 o'clock, anchored in Lynn Haven bay. The next morning she went out to sea, fifteen miles beyond the capes. She returned to Norfolk on Saturday the 8th, and anchored in the harbor, with her forward frame engine broken clear through the center, with her aft engine much broken, and with a leak in her hull in the wake of the engine. She and her machinery are worthless, and she is to be brought up the Potomac, and will be condemned, and probably broken up."

[The above "Alleghany" is an iron vessel, and was first built in 1847, in Pittsburg, from plans by Lieut. Hunter, U. S. N., and was fitted with his patent wheels, for which, no less than \$10,320 00 were paid. Her whole cost, then, was \$290,053 72. Her burden was 1200 tons,—for a steamer of such a size, the cost was enormous. When completed she descended the Ohio and Mississippi rivers, to New Orleans, then went round to Norfolk, Va., at the astonishing rapid rate of 4.92 knots per hour. She was afterwards sent on a cruise to the Mediterranean, and made the wonderful amount of 45½ days' sailing in two years, consuming 1940 lbs. of fuel per hour. After her return, in 1849, the Hunter wheels were condemned, and the common paddle wheel recommended, by a board of two Chief Engineers of the Navy, the Engineer of the Washington Navy Yard, the Chief Naval Constructor, and a commander of the Navy. Now, amid such a quantity of "Chief Engineers" as there is in our Navy, it would naturally be inferred that whatever changes were made in this way, they would be for the better, but alas, the above recorded feat of the "Alleghany improved," is like a piece of putty placed on the ugly nose of an ugly picture.

It seems that it took from 1849 (thus showing the inefficiency of our Naval Department) to 1853 to make amendments to this ship. These consisted of improving the hull, by putting in additional iron ribs, and extra braces in stern and bow. For the old engines, new cast iron frames were made; also a new propeller and shaft, and a great many of the minor parts of the engines. The engines were placed athwart the ship, the one forward of the other "novelty arranged," it is said, and four new piston rods, and one new piston, new cross heads, and guides, were said to be "ingeniously devised by Chief Engineer, B. F. Isherwood," for each engine. These alterations were made under the immediate supervision of W. P. Williamson, U. S. N., at the works of A. Mahaffy & Co., Portsmouth, Va. This vessel was also fitted with one of Pirron's Condensers, and with such alterations, (great improvements, said to be,) it was predicted that she would attain the speed of nine knots per hour. We do not know what it cost to make these alterations, but we suppose they will come up to \$100,000 at least, according to the usual luxuriance of navy jobs. The defect—in appearance—has been in the frame of the engines, and this has been trumpeted by some of our daily papers, as the real cause of failure, because, as they say, the frames were of cast iron, instead of wrought iron. But the frames may have been good; the engines may have been badly arranged, put together, or misproportioned, and thus have racked the frames. The old Cunard steamers had all cast iron frames, and many voyages did they make across the Atlantic, without a single break down, so it is not because the frames of the Alleghany were of cast iron that they were broken,

but because they were either poor cast iron, or the engines miserably arranged.

Those gentlemen who are "Chief Engineers," and "Engineers in Chief," in our navy, many of whom are very able men, have their character at stake, and they must do something to retrieve it. They must do something meritorious, that will wipe out the disgrace of the many steamer failures in our navy. We really dislike to notice such affairs, because it is humbling to our national character, and were it not a matter of duty, we would forbear to do so, but we shall hammer away at such evils, until they are ground to powder, and until our naval steamers, as they should and can, will be the pride of our country, and the admiration of the people of all nations.

Hours of Factory Labor.

We have been informed that the mills of Lowell have adopted the system of eleven hours for a day's work, and that many other mills in Massachusetts and New Hampshire have conformed to the same rule. We believe that the factories in New York still work their twelve hours per diem, but for a long time they have been in advance of those in our Eastern States in this respect. We have been a consistent advocate for the reduction of the hours of factory labor, and in doing so have always avoided violent language, and opposed violent measures. We have counselled our manufacturers to adopt the very policy which they have embraced in Lowell, with the exception that they have not yet gone far enough—namely, to the "ten hour system." But then it may be the best policy to approach the mark by degrees, and not too suddenly.

In Pennsylvania and Rhode Island the hours of factory labor have been shortened by law; it is a pity that such laws are required, but oftentimes they are. In 1846 a law was passed in England for regulating the hours of factory labor; it was called the "ten hour system." By it, children under ten years of age, and young females under 17, we believe, could not be employed over ten hours per day, and on Saturdays only seven hours. The mill owners had also to provide the means of education for the youth in their employ; adults could, by contract, labor for a longer period than ten hours, but then the law virtually reduced the hours of factory labor to ten per day. It was a pity that such a law was required, but it was a just and wise measure, and has proved to be a most beneficial one both for manufacturers and operatives. Those who, before it passed, predicted that it would injure the manufacturers and reduce the products of manufacture, have been happily disappointed, and the very manufacturers who opposed it, would not go back now to the old system upon any consideration. The effect of that law, in that country, has been to improve the condition of the operatives, and instead of reducing the products, has rather increased them. The operatives in the course of a year, produce as much by ten hours regular labor daily, as they formerly did in twelve hours. The reason is, they are more active, intelligent, and careful. We believe that no loss would be entailed by all our factories adopting the "ten hour system," but that both employers and employed would be gainers. Our manufacturers and merchants, would find it conduce to their health and happiness to employ more hours in recreation, and a few less in business, than they now do; they should reduce their own hours of labor. It is a great mistake in operatives to suppose that it is all sunshine with their employers; the very reverse of this is often the case. Many employers who, although they make handsome returns, do so at the expense of health the sweets of social intercourse and leisure hours.

The North-West Passage Made.

By the latest news from Europe, it is asserted that Capt. McClure, of the ship "Investigator," who was sent out in search of Sir John Franklin, has achieved the long problematical enterprise which has swamped so many millions of money, and destroyed the lives of so many able men—we mean "a passage round the North Pole," as it is called. He did not lose a single man during the whole time he was making the passage. Inhabitants were discovered farther to the North than known previously.