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The Benefits of Patents.

It has been suggested by some of our daily papers who endeavor to make the public believe they are acquainted with all subjects, that it would be well, instead of granting patents, to have a Government Board, composed of distinguished men, to whom inventions should be referred for examination, and if found to be new and useful, the inventors of them should be paid accordingly, out of the Treasury, and the inventions made free to the public. No other plan, worth a moment's consideration, has been proposed as a substitute for the present patent system. This is evidence to those acquainted with this subject, that such persons know not what they talk about. In many cases, however, they may deceive the people by their sophistry; this is the reason why we, as a matter of duty, find it necessary to combat, and allude to such ideas, more often than we otherwise would.

As a measure of common justice, every inventor who benefits community by his improvements, should receive his reward,—"the laborer is worthy of his hire." If he be not rewarded, community acts the part of a robber and ingrate towards him, when there is no fault on his part. Well, allowing our present system of patents to be suspended, and a Government Board constituted to carry out the object of special rewards for useful inventions, how would it carry out continually the great principle of its organization? According to the manner of conducting our government politics, a very excellent and impartial Board of Examiners might be appointed when one party was in power, and then, in the course of four years, a most partial and inefficient Board might be appointed when the next party came into office. Offices are often filled by party favorites of no great qualifications, and a Board of such men might grant a large reward for a poor and miserable invention, and on the other hand, reject a most meritorious one. In this way the whole community would be taxed to pay a premium for discouraging useful inventions. And even if the Examining Board were made permanent, like our United States Judges, the members of it would be liable to fall behind the light of the age—all Government Boards do, if not frequently renovated. Our mercantile marine is in advance of our navy; and England is behind us in nautical architecture, not because she has no philosophic and scientific men at the head of her dockyards, but because improvements spring from the mass of the practical, driving people, of which there are so many in the United States.

Such a system as the one recommended instead of granting patents, would very soon be condemned by our whole people, for every one would then have to pay for a rewarded invention, whether he used it or not, and this would be all the more galling, because all would, in many cases, have to pay for rewards bestowed upon men who had done nothing to deserve them. The present system of patents, taxes no person who does not receive a benefit, for no one is required to pay for a patent if he does not use it; he can use it and pay for it, or he may let it alone, and get along the same way as he did before the improvement was invented and patented.

We are now prepared to point out the great benefits conferred upon society by patents,—we mean in the struggle for superiority with that spirit by which one man endeavors to surpass his neighbor by improvements. This spirit to excel, and to attain riches, when well and honestly directed, is certainly commendable. Let us take, for an example, two rival manufacturers engaged in the same business; one, let us suppose, is more wealthy than the other, and this gives him an advantage to purchase better machinery, and, to use a good pithy American phrase, "he goes ahead;" the other manufacturer, his rival, never knew what it was to say *fail*, and he is an inventor,—is there an American who is not? He toils hard all day, and studies much at night, and at last he quietly has a model made, and then comes a patent from Washington for James Ridgely, manufacturer, of such-and-such a place, for making bed posts; it can turn out twice as many in the same time, and do the work much better than any machine in use. He now feels safe, and his rival looks somewhat blue; but he, too, has the true American *grit* in him—he, too, can invent. By-and-bye he makes a superior improvement to that of James Ridgely, and, in a short time, a patent is issued to John Jenkins, for an improvement in turning bed posts, which will turn out three times the quantity of Ridgely's—and now Jenkins *goes ahead* again. Thus it is, our improvements, fostered by the refreshing dews of our patent system, gush along like thousands of rills, fed from as many prolific plodding American brains. If the system of granting patents were to cease, the spirit of improvement would flag, and perhaps die out. It is owing to the cheap and easy mode of securing patents in the United States, in comparison with other countries, that we, as a people, have become celebrated as a nation of inventors:—McCormick's Reaper, Dick's Press, Day & Newell's unpickable Lock, Borden's Meat Biscuit, Colt's Pistols, &c., which commanded prizes, and the admiration of all men at the World's Fair,—were all the subjects of American Patents. He that is opposed to patents, however honest and sincere he may be, is, ignorantly, not a true friend to genius nor his country.

Hot Air Engines.

We have lately required some communications, making inquiries about hot-air engines, and one mentioning "Ericsson's Caloric Engine," and asking our opinion about it. Reference is made to an article in the Boston Evening Transcript, which speaks very flauntingly upon the subject. So far as our opinion goes, we have expressed it already. It would be a great improvement indeed, if the common atmosphere were used instead of huge boilers filled with water, but why is it that large boilers are required for steam engines, and found to be more economical than small ones? Our knowledge of these things is experimental, practical, and not speculative. We cannot, by reasoning, find out what kind of fuel is best, neither can we, by sophistry, discover whether air is better than water, or water better than air for propelling machinery by heating these substances. The economy of propelling agents is determined by stern experience and careful observation. The loss of heat, by the use of steam, is but very small in the Condensing Engines of our river boats; it is greater in steamships where the salt sediment has to be blown out frequently. No Caloric Air Engine whatever can economize more fuel than Condensing Engines, unless it has a better principle of combustion. Heat, or caloric, is the great motive power sensible to us, when combined with some known substance, such as water, air, or carbonic acid gas,—and it is certainly good reasoning to say, that it requires the same amount of heat always to produce the same effect. It cannot be otherwise, or we could not obtain any correct ideas of the qualities of heat. The engine, therefore, which will economize most of the heat generated to produce a certain effect, will work with the least expense unless it has other disadvantages. The advantages claimed for the Caloric Air Engine (all steam engines are caloric engines) have yet to be substantiated. The employment of hot air to propel machinery is not new now—nor is this Engine young with Capt. Ericsson. Those newspapers that publish flaming accounts of new inventions, very often exhibit a great deal of ignorance.

The following extract from the Boston Transcript does this:

"The idea of substituting a new and superior motive power for steam will no doubt strike many minds as extravagant if not chimerical. We have been so accustomed to regard steam power as the *ne plus ultra* of attainment in subjecting the modified force of nature to the service of man, that a discovery which promises to supersede this agency, will have to contend with the most formidable preconceptions as well as with gigantic interests. Nevertheless, it may now be predicted with confidence that we are on the eve of another great revolution, produced by the application of an agent more economical and incalculably safer than steam. A few years hence we shall hear of the 'wonders of caloric' instead of the 'wonders of steam.' To the question, 'How did you cross the Atlantic?' the reply will be—'By caloric, of course!' On Saturday I visited the manufactory, and had the privilege of inspecting Ericsson's caloric engine of sixty horse-power, while it was in operation. It consists of two pair of cylinders, the working pistons of which are 72 inches in diameter. Its great peculiarities consist in its very large cylinders and pistons, working with very low pressure; and in the absence of boilers or heaters, there being no other fires employed than those in small grates under the bottoms of the working cylinders. During the eight months that this test-engine has been in operation, not a cent has been expended for repairs or accidents."

We must say there is nothing new in all this; In January, 1834, the "Repertory of Patent Inventions," in London, published a review of an unpublished pamphlet, written by Mr. Ericsson, on this subject, he having, at that time, taken out a patent for his Hot Air Engine, so he has been more than sixteen years before the public. It was stated, in 1834, that Mr. Ogden, the U. S. Consul at Liverpool, was a joint inventor with him, and application was made that year to Congress for a Special Act for a patent to Ericsson & Ogden, for what reason we know not. Various substances have been brought forward from time to time, to supersede the use of steam, such as gunpowder, carbonic acid gas, &c. In 1827, R. & J. Stirling, of Glasgow, Scotland, took out patents for a "Hot Air Engine," the principle of which had been devised by them ten years before that. A hot air engine, by R. Stirling has been employed at Dundee since 1844, and in 1846 he read a paper before the institution of Civil Engineers, England, and in answer to a question of Mr. Gordon, he said, "the economy of his engine depended upon the reiterated use of the same air giving out and absorbing the same caloric." This is the benefit which is claimed for the Ericsson Engine. We have not heard of a single engine on Stirling's principle being used on a steamboat in Britain—this, however, is no argument against the Ericsson Engine, for many good inventions have laid dormant for some time, after having been brought once before the public.

In 1828 Messrs. Parkinson & Crossley, of London, took ont a patent for improvements in "Hot Air Engines," and Dr. Arnott, in his "Elements of Physics," published in 1829, in treating of light and heat, presented a design for a "Hot Air Engine." The application of hot air as a mover of machinery is, therefore, not a thing of to-day—it is twenty-five years since the Stirlings took out their first patent, and eighteen years since Ericsson took out his, and the question of comparative economy, from an impartial source, between the hot air and the steam engine, has yet to be laid before the public.

Street Sewers---Iron Pipes.

Among the many nuisances to citizens, and obstructions to travel in our streets, we must set down the construction and repairing of sewers as a class of the very worst kind. Sewers are generally very deep, and from the time the operation of digging is commenced, until a sewer is completed, the street is wholly obstructed. The time required for such operations, is so long in comparison with paving a street, that the nuisance is more aggravated on this very account. Some important remedy, we hope, will soon be suggested and carried into practice. City drainage, by underground sewers, is important to public health. Our sewers are simply brick arches, and are inferior in many respects to those which were constructed more than two thousand years ago in Rome. With a considerable back pressure of water, caused by high tides, &c., or by obstructions, our sewers are liable to burst, for they are not very strong structures. When one bursts, the water soon finds its way to the surface of the street. The repairs of sewers are very expensive, because it requires so much time to make them. One great remedy would be a preventive of sewer disruption, by making them of stronger material. For example, if large cast-iron tubes were employed instead of brick—these never would burst by any water pressure to which our sewers are generally subjected. They could also be laid down much faster than brick arches. Their flanges have only to be coupled together in laying them down, and this can be done very fast by competent men. The only objection which may be urged against the use of iron pipes is their liability to oxydize and decay; but then they are used for water pipes, and last for a very long time, as cast-iron is altogether different from wrought-iron, and does not oxydize readily. They might be glazed both inside and out, to prevent oxydization; or a composition of black lead and coal tar might be applied to them, both inside and out, which, when dried, would act as an effectual coating for a century.

Whatever the opinion of city engineers and architects may be at present, about brick sewers, we are of the opinion that the time is not far distant, when cast-iron pipes alone will be used in their construction. This will also be the case with pipes for house as well as city drainage.

New York Times and the Patent Laws.

The "Times" of last Saturday, with that perversity of common sense peculiar to the egotistical and ignorant, and which should not characterize that otherwise able paper, takes up the subject of Patent Laws again, and discusses some of the principles of the New English Patent Law. The Bill has been introduced under the care of Lord Brougham, and Earl Granville. "Entertaining," says the "Times," similar views to those repeatedly expressed in the "*Daily Times*," the noble Earl avows decided opposition to all patent enactments, but gives way to prejudice; the bill makes use of what is commendable in the American system; the originality is to be inquired into, and advancing upon *our ideas*, it is provided that the *utility* of the invention shall always be a branch of the inquiry. The introduction of this principle of utility into the official examination, we would therefore recommend as an improvement upon *present modes*." What ignorance, just like that displayed by the "Times" about *a caveat*. *Advancing* upon the "Times'" ideas, forsooth; what conceit; why, it is specially provided for in our Patent Law of 1836, that an invention shall be new and useful, Sec. 7, Act 1836 says,—"If the Commissioner shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor." Is this advancing on the "Times'" ideas of 1852? The "Times" says "it is *probably foolish* to anticipate an abandonment of prejudices in favor of a system as hoary as patent rights." We believe so; but we were not aware that *the* patent right system *for inventions* was very hoary. It only dates from James I. The principles opposed to patents which the "Times" admires, we know to be hoary. They belong to the age of "the good old robber plan, that he would take who had the power." It is a great anomaly, to advocate on the one hand a system of protection in manufactures to men of wealth, and at the same time condemn the system of protecting the inventions of Whitney, Blanchard, Morse, &c., which have conferred so many blessings upon our people. Reasoning upon the principles of logic and morality embraced by the "Times," it was wrong for Whitney to find fault with those pirates who broke into his office and stole his invention—he was not a true man for so doing; he ought to have been content with the gratitude of his fellows. Such principles, we must say, are of that progressive species, which would destroy present good systems, and establish on their ruins the practices of a dark, degraded, and benighted age.

The Woodworth Patent.

We hope that the U. S. Senate will act upon this question soon. It should be settled at once, one way or the other, and not left over to cause more excitement and agitation throghout the country. The thousands of petitioners who have presented their opinions on this question to their respected Senators, expect of them more than the mere presentation of their petitions, and surely it must commend itself to Senators, to see that those petitions receive some answer.