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A New Science.

In this age of new ideas and new development, no subject is of equal importance to that of sanitary reform—the health of the people. What signifies prosperity in business to the merchant who languishes in sickness; or what pleasure can be derived from all the luxuries and abundance that can be obtained in this world, if disease sits brooding at the fountain of public health? The sanitary condition of the people is a new science, because it takes cognizance of the durability of general life, and examines into those causes which shorten or prolong it. When thousands suffer from the fever, it examines into the causes of the plague (for plague it is), and seeks out the best means to remove them. If a disease like the cholera suddenly strikes down multitudes in our midst, it investigates the causes and endeavors to provide a remedy. It is the same with all other diseases—nothing escapes its searching scrutiny, for it includes not only medical, but religious, social, and political considerations; the field is of boundless range—it encircles the whole human race, the earth, the air, the waters, the sky. Its first process is the collection of knowledge, next, the arrangement of facts, and then the best means of applying those facts to effect the desired object, namely, the prevention and alleviation of disease. Thus the decay of vegetable matter, filth, and bad ventilation are known to generate, fevers. Statistics of health are very useful, for by them we can form a good idea of the sanitary condition of cities, villages, &c. Thus, in cities in the same latitude, we find the average duration of life to be twenty-five in one; in another thirty, and in another thirty-five years—hence we conclude that there must be some powerful local evil causes in operation which thus shorten life in the one place by ten years less than it is in the other. As it is with different cities and localities, so it is with individuals; here we find two men working at the same bench, and each furnished with equal physical constitutions, yet the one is always in the enjoyment of exuberant health, while the other is frequently confined to his bed, unable to follow his occupation. There can be no doubt, in our opinion, but more than one half of our diseases are manufactured, and while this is the case, we hold ourselves responsible, and every man is responsible according to his influence, for those evils. It is, therefore, our duty to speak out and labor for the removal of them. A few years ago the ship fever carried off hundreds in this city; then came the cholera with its frightful bill of mortality; and at present there is not a single week passes away but what it will be found that some peculiar disease has carried off more victims in the city than any other: yea, perhaps a greater number than all the rest put together. When such a fact presents itself we should mark it well, for there must be some important cause at the bottom of it. At present we do not mean to speak of the causes—the specific evils, nor the remedies; we merely wish to direct the attention of every person to the importance of this new science, for every person who has eyes to see, ears to hear, and common sense to appreciate, can, by observation and reflection, know a great deal about it, and, what is more to the purpose, be a counsellor in the good work, for this science links both the moral and the physical sciences together.

Patent Office Report for 1850.—No. 3.

EXAMINER FITZGERALD'S REPORT.—Five hundred and twenty-two applications were referred to Mr. Fitzgerald last year, for which the small number of 227 patents were granted—a great many more rejections than were made by Examiner Page: the number of rejections stated were 406, but this includes all rejections; the reason of this is, that a very great number have been dissatisfied with Mr. Fitzgerald's first decision, and have therefore appealed for a second: Mr. Fitzgerald is peculiarly unfortunate in this respect, and his report is made in a very complaining spirit. Speaking of the present system of examinations, he says—

"Prior to the introduction of the present

system of examinations, applications for patents were never numerous. Although patents were granted to all who applied for them, yet, owing to a want of revision by men of artistic knowledge and experience, they were found to be so imperfect, and so large a proportion of them were granted for things that were old, that they afforded very little security. No one feared to infringe a patent, as he was almost sure to be able to defeat it, for insufficiency of description, a defective claim, or for covering what could be shown to be old. The maxim was, that any patentee could be defeated who dared to commence a suit, and the most valuable invention seldom afforded any remuneration to the inventor. Patents were not only defective, but their reputation was bad, and the government did little else for the inventor than keep its promise to the ear."

He says the old system was abandoned in 1836, and the new superior system, under the supervision of men having artistic knowledge, went into effect, and "it was found that the infringement of a patent, which had been perpetrated without fear and with impunity, had become a dangerous experiment." The new system of examinations is good, we find no fault with it, if conducted in the right spirit, by just Examiners, but it happens strangely that more patent litigation has resulted in connection with patents which he has passed, than those of any other Examiner. More trouble in every way has resulted from his examinations, and to prove this we have but to refer to the numberless suits about Planing Machines. He should not have taken so much credit to himself, but, like Atlas, he bears the whole Patent Office on his shoulders. His Report takes cognizance of all the past, and present operations of the Patent Office. The Commissioner must have had a very insignificant view of his own place and office, to have allowed some parts of this Report to appear before the public. It appears to be a cypher—Examiner, the head of the Department.

Twenty-four patents were granted for mills, thirteen of which were for grinding and crushing,—one of which was for an improved way of steaming grain before grinding, as it passes from the hopper—a bad plan, as we have heard many millers say. Seven or eight patents were granted for cast-iron car wheels; six patents were granted for pumps, one of which was illustrated and described on page 12 of our fourth volume; sixty patents were granted for improvements in working on timber, many of which, Mr. Fitzgerald suggests, have been got up from bad motives. Perhaps they have, but it appears to us, that he looks upon almost every applicant for a patent as a rogue or a fool—a bad disposition truly. Fourteen patents were granted for machinery to plane boards and shingles, every one of which machines, we believe, has been sued on the improved principle of Mr. Fitzgerald's examination for infringement of another old patent. This Report takes the ground, that an improved system of granting patents commenced in 1836, by which they at once became more valuable than they were before, but knowing that there are just as many law suits as ever, he gets over the difficulty, by saying the "patents are granted for whatever is novel," and insinuates that these novel granted patents are obtained for bad purposes: it is really shameful; but if patents are more valuable from the superior examination of such men as Mr. Fitzgerald, how did it happen that two patents were as good as declared void on the 11th of last month, before Judges Grier and Kane, in Philadelphia? As we said before, we do not find fault with an examination to make a patent valuable, but it is our opinion that as much injustice as justice—as much evil as good, is committed by the conduct of the Patent Office: it has the power of doing much good and much evil.

A disposition has been manifested on the part of the Patent Office, especially under its present management, to destroy the business of regular and respectable Patent Agents. No one, we presume, is so green as not to understand the nineteenth section of the Information Circular, issued from the Patent Office, or fail to discover the real and concealed purpose for which it is intended, viz., to get possession of the inventor's funds, and reject his claims without giving him anything more

than simply references, to which he has no means of access; while, on the other hand, agents, qualified for the proper discharge of their profession, can readily refer to the cases named by the Commissioner, in his letter of rejection, and expose the falsity of his position where errors are committed: this is annoying to the Examiner, and hence the clause in the "Information" against agents. Any one, on a moment's reflection, can see the shallowness of the pretext; and we believe that those who undertake their own cases will, in ninety-nine cases in a hundred, express the regret that they had not employed an agent to execute their drawings and specifications. It is unreasonable to suppose that the Examiners in the Patent Office would choose a set of imperfect drawings, a cloudy and indefinite specification, simply because they were prepared by the inventor, or what is generally worse by a lawyer who has no pretensions to science and refuses all responsibility. Depend upon it, inventors, there is little real candor in such professions, and to prove this we have only to state that the moment an Examiner retires from the office, he sets himself up as conspicuous as possible, in the Patent Agency business. We see from this that there is apparently a selfish current running through the whole of this Report, and we are sorry to see it. From our experience, and from our acquaintance with inventors, we believe that not one in a hundred applies for a patent who is not honestly sincere about the originality of his invention and his claims to the improvement. We have calculated that about three apply to us to act as agents in procuring patents, for one that we take in hand to do the business for. If we believe no patent can be granted, we say so at once; but it is sometimes very difficult to know what to say or what to do. The action of the Patent Office is so eccentric: sometimes like that of an inebriate and sometimes like that of a sober man, that we find it very difficult to give that clear advice which we should like to give, was there a different spirit existing from that exhibited in this Report, and uniformly displayed in the Patent Office.

Inventions.

The following ideas are selected from the Buffalo Pathfinder. The first paragraph is so true that we wish more of our people understood it.

"There is nothing which contributes so much to the permanent prosperity of a nation as its inventive talent. It is what has contributed more to the wealth, commercial importance, and national prosperity of England than any other cause, and is at this time doing as much and perhaps more for our own republic. We are behind no other people in mechanical ingenuity and genius, and this cause is surely, though perhaps silently and imperceptibly, working out for us the first position among the nations of the earth.

Perhaps nothing does more to foster our mechanical interests than the circulation of good mechanical papers; and we know of no publication which is doing more in this respect than the Scientific American, published by Munn & Co.; it is a valuable repository of inventions and a record of the progress of scientific discovery, and having a large amount of interesting and valuable reading matter.

The weekly report of patents is alone worth the price of the paper."

To our cotemporaries generally, we return our sincere thanks for the flattering notices extended to the Scientific American. If space would permit, we should present the names of such of our friends as have spoken indulgently of our humble abilities.

Gwynne's Centrifugal Pump.

A correspondent of the New York Daily Times informs his countrymen that the test trial between the pumps of Appold and Gwynne, which took place in England not long since, resulted much in favor of the former, notwithstanding the eulogies heaped upon it by the eccentric Editor of the Tribune, and the reported sale of the Scotch patent for \$50,000. The inventor is said to be a member of the Static Pressure Engine Co., and, probably, for want of proper information about centrifugal force, has suffered a defeat he might otherwise have avoided. See Scientific American, Vol. 6, page 341, for a correct expose of the centri-

fugal force theory: as a consolation to our countrymen, we would state that there are plenty of pumps here which never could have been beaten, four to one; no, not one to one. In the estimation of scientific men we shall not suffer in reputation by the trial.

Webster's Unabridged Quarto Dictionary.

It gives us pleasure to hear of the increasing popularity of the Great Dictionary of the English Language; and as its price has been reduced to six dollars by the enterprising publishers, Messrs. G. & C. Merriam, Springfield, Mass., it is our opinion that the time is at hand when it will be used (for it is the recognized one) in all parts of the world as the exclusive standard of the English language; we say this because we know that no person that wishes or requires a new dictionary, would ever think of purchasing any other. The last Legislative Assembly of this State (New York) exhibited its wisdom and high sense of the value of this Dictionary, by passing a law to supply all the Common Schools with it. The State of Massachusetts has also furnished about three thousand copies of it to her Common Schools. The most eminent men in our country have expressed their decided opinion respecting its superiority. Daniel Webster said that he "never felt armed and equipped without Dr. Webster at command." The London Times has said that it was the best Dictionary of our language; Dick, the Christian Philosopher, says, "it is the most complete Dictionary of the English language ever published." Judge Spencer, of this State (and we have not a better umpire) says, "it is relied on in our Courts of Justice, Legislative bodies, and in public discussions, as conclusive." It is indeed the standard work of our language, and as such it is relied on in the Court, the Camp, the College, the Bench, the Printing Office, and the School Room.

We have nothing to add to what others have so well said respecting the general merits of this work, but we have something to add re-

specting its peculiar scientific qualities. We have a number of dictionaries relating to Science and Art, and we have glossaries of scientific terms, and those relating to the operations and particular parts of machinery, &c., and we must pay this compliment to Webster—"it contains scientific terms not to be found in any other work," and we have often been surprised to find that it contained full and clear definitions of many technical phrases, which we thought had never been heard outside of the workshop. It is a real Encyclopedia of Science, for it not only gives the definitions of scientific terms, but describes the nature of many chemical actions and the operations of many machines. In its unabridged present form, it is complete, and no man pretending to scientific knowledge can be without it: we mean the Unabridged Dictionary, the present new edition, which contains all the results of Dr. Webster's forty-seven years' labor and revising, and the labors, for a number of years, of Prof. Goodrich and several other gentlemen distinguished in science and literature. In Chemistry, Architecture, Geology, Engineering, Mechanics, &c., &c., it is full and accurate, and is not only essential to the student in science, but the most erudite philosopher. We are proud of this work as an American production; it is certainly gratifying to know and feel that England looks to America as having now produced the standard work of the English language.

Our New Type.

We have been congratulated in a number of instances, upon the beauty of the type, and the general typographical appearance of our new volume. The type was manufactured by Mr. H. H. Green, whose foundry and establishment constitutes our next door neighbors. The type manufactured by Mr. Green are not surpassed by any establishment in our country.

Phillips' Fire Annihilator.

What has become of this "Annihilator?" It does not seem to have done any good as yet in this city, for the fires are as numerous as ever and just as destructive. Bring on your "Annihilators," gentlemen, at some of our fires, and let us see what they can do. It will be found that wherever the Scientific American is read the people do not go such things blindfolded.