

Scientific American.

NEW YORK, MAY 15, 1858.

Patent Office Report for 1857.

If an apology were needed for our again approaching the subject of the Patent Office Report distribution, we might refer our readers to the fact that our journal being regarded by inventors as the special advocate and defender of their interests and rights, we are ever watchful and zealous to guard them against such legislative encroachments as the one covered under the resolution reported from the Joint Committee on Printing, and passed by the House of Representatives on the 28th of last month. This resolution provides for the printing of twenty thousand extra copies of the mechanical portion of the Patent Office Report for the year 1857, for the use of the members of the present House of Representatives only, being a reduction of the number printed of the preceding year's report of forty thousand. It is not our purpose at this time to object to this retrenchment movement in the reduction of the number, but simply to protest against the exclusive character of the distribution. We certainly think that the Patent Office, which may be regarded as the source to which all inventors look for information, and which may be said to be in direct communication with inventors, scientific societies, and others interested in these reports, should have been allotted at least one-half the number printed, believing as we do, that they would be more generally and properly distributed than when left exclusively in the hands of Members of Congress.

It is a well-known fact that there are thousands of valuable works, including many of the Patent Office Reports of preceding years, now stored away in Washington, and other parts of the country, which were printed by Congress, and allotted to members of both Houses for distribution among those of their constituents likely to be benefited by their possession. Many others have been destroyed or sold for waste paper, or devoted to other comparatively useless purposes. The constituencies of Members of Congress are generally extended over a large space of country, and are included in villages, towns, and localities where the member has no personal acquaintance, and hence it follows that many of the persons for whom documents printed by Congress are specially designed, fail to receive or be benefited by them; and their limited distribution is almost exclusively confined to the locality in which the member resides. We are sorry that the extra number of the Report for 1857 was not divided for distribution equally between the members on the one part, and the Commissioner of Patents on the other. We think our readers will agree with us that under such a division a more faithful and equal distribution of them over the country would have taken place than will be effected by confining this task exclusively to Members of Congress, many of whom will distribute but few, except when a special demand is made upon them.

The Atlantic Telegraph Cable.

By our last foreign exchanges we observe that the skillful electricians having this matter in charge are seriously concerned as to whether, when the cable is successfully laid down, there will not still remain the most gigantic electrical experiment ever made. Will it be possible to send the electrical signals through more than two thousand miles of wire, submerged in the depths of the ocean, and with the requisite speed for the desired purposes? Theoretically, before the experiment of submarine cables was tried, the progress of electricity was supposed to be almost instantaneous. Experience has shown that when a current of electricity is passed through a wire covered with a non-conducting body, and that body is surrounded by a conducting material, a retardation is produced. This is

caused by an electrical condition, to which the name *induction* is given, as we have before stated—the cable with its coverings, becoming something like an extended Leyden jar. It matters little in practice whether the conducting covering outside the gutta percha be an iron wire sheath, the sea, or the earth by which it may be surrounded. In each case the phenomenon of induction is found to retard the passage of the electrical signal. The retardation takes place whether the cable be coiled *en masse*, or laid straight and covered by earth and water. At present no one can predicate positively how much greater the retarding influences in the depths of the ocean will be than those created in the coils of the electric cable. Many assert that they will be less, and instance the fact of signals urged by the same battery being transmitted with greater speed through the wires of the Mediterranean cables from Sardinia to Malta, and from Malta to Corfu, when laid straight in the depths of the sea than when coiled on board ship. The distances in these cases are short, however, when compared to the enormous length of the Atlantic cable, and the results mentioned cannot be taken as a guarantee of similar effects being produced upon it.

From experiments made by Mr. Whitehouse through one thousand miles of the Atlantic cable, it was found that about half a second intervened between making a signal at one end and its appearance at the other; and it was thought the difficulty arising from the detention of electricity was overcome. It appears, however, from experiments made through the entire cable a short time ago, that a considerable obstacle to rapid communication arises from that cause. It is asserted that these experiments developed the fact that about two words and a-half per minute only can be transmitted through the entire length of wire, which is about one-sixth the speed with which messages can be sent with the present arrangement of symbols from London to Paris.

The American Association for the Advancement of Science.

A great number of gentlemen, doctors, professors and savans, have spent six days in Baltimore for the purpose of giving to the world the results of their year's researches into the ever green fields of unexplored truth; but with a few exceptional facts, the world will be no wiser, and is not any better in an educational point of view, than it was a year ago.

A city cotemporary in an article on this subject remarks that "the labors of this Association have for the last two or three years been of use to no one." Great practical questions of public health and social science have been shirked, and pettifoggery papers upon "the Phylotaxis deduced from the Mathematical Definition of Distribution," have engrossed the time and talent of the members; the great lights of science are not so active as they used to be, and it is now chiefly in the hands of second-class men, who call each other unpleasant names, and stick to a theory as to their lives; in fact, the Association seems to be going down. Some few interesting experiments were detailed, as for example Mr. A. B. Engstrom stated that he had on one occasion taken a small bell, and rowed out half a mile from the shore, and there submerged the bell to a depth of four inches. Upon its being struck it was distinctly heard upon the shore, thus proving a well known fact, that water is a good conductor of sound. Prof. Walcott Gibbs gave some interesting results of analysis, which had, however, no practical bearing, and Prof. Henry was ever ready with his vast fund of information upon all topics. Beyond this the newspaper reports are filled with professors' names and capital letters, indicating the titles of their owners, and so anxious are quasi scientific men for these distinctions that it is proposed to make some initial letters for the use of members of the Association, which we think might well be called "A Society for the Purpose of Encouraging Mutual Admiration."

We are truly grieved to see that so little

has been done by these gentlemen for the advancement of true science, that science of which they profess to be high priests, the spread of pure knowledge on all subjects among the great mass of the people, and we venture to give them a little advice, which, if they are wise they will take, not as coming alone from us, but as the expression of a large community who truly wish "American Science" to take no second place in the history of the world. The advice is this:—Gentlemen, ignore as far as possible hard words; bring your grand ideas into simple language, and follow the example of Cuvier, Linnaeus, Humboldt, Franklin; search for facts, not theories; give to the world new truths alone, for depend upon it, every man can speculate enough for himself; whatever you discover, try also and find some practical use for it, for practical science is the demand of the age. Do this, and the meeting in 1859, at Springfield, Mass., will be the most successful you have yet had; if not, we much question whether the newspapers will report your august proceedings at all.

French Agriculture and Population.

M. de la Trahonnais has communicated to the Society of Arts at Paris a paper on the agriculture and population of France, in which he takes the position assumed by Malthus, that the increase or decrease of population is exactly in the same ratio as the increase or decrease of the production of food, and ascribes the late lamentable surplus of deaths over births to the insufficiency in the supply of food. The distinguished agriculturist mentions that since 1850 a gradual diminution in the number of births in France has taken place, and that in two years (1854-'55) the statistics exhibit the mournful fact that while every country in Europe showed a comparatively large increase of population, the numbers of the French people had actually diminished by 106,000. In 1856, the importation of agricultural produce, including cattle and meat, amounted to 30,560,000 pounds; and from this fact may be derived the most accurate agricultural statistics in relation to the agricultural deficiency in France during that year.

This continued deficiency in food M. de la Trahonnais attributed to many causes. The manufacture of agricultural implements scarcely exists as an industry in France. The rude implements used by the peasantry are generally manufactured by village mechanics, from old and unimproved patterns, handed down from generation to generation, whilst the annual conscription of 400,000 able and robust young men for the army produces a lamentable deficiency of male labor, and necessarily leaves a large amount of agricultural development to the feeble hands of women and old men. It is not denied that the French peasantry are sound and industrious; their vices are, no doubt, the result in which the system of centralization has abandoned them. They are patient, sparing, religious, and highly moral. Once get the thin edge of progress into their traditions; let a gleam of enlightenment kindle their hard and miserable career; let a little more comfort cheer their homes; let a more extensive range of ambition widen their sphere of activity; let a little more capital improve their land; in short, let them be freed from the burdens and encroachments of government, and encouraged and educated as in other liberal countries, and the French nation will rise great and powerful in the strength of its peasantry and agricultural wealth.

The late Sewing Machine Patent Suit.

In the case of the Wheeler & Wilson Manufacturing Co., and the Grover & Baker Sewing Machine Co., versus Watson and others, alluded to in our last number as having been tried at New Haven, Conn., we are assured that no trial took place. Judgment was entered for the plaintiffs, but as no defense was set up by the defendants, the case was not tried; and therefore the points of alleged infringements are in no sense settled by this decision.

Vagaries of Philosophers.

It is humiliating to behold men somewhat distinguished and devoted to the teaching of science as a profession, arraying the vagaries of their minds in the garb of science, and thrusting them upon the public under the assumption of "profound deductions," and yet this is by no means uncommon. Such attempts appear to us, like Buncombe speeches, got up for the purpose of astonishing those who do not know the difference between sense, sound, or science.

At the meeting of the Association for the Advancement of Science, held last week in Baltimore, Professor Alexander read a paper on the "numerical harmony of the solar system," but to render the theory perfect, some planets were missing. Nothing daunted in supplying such an omission, the periodic comets were brought in to supply the place of the missing stars. But how many comets, we ask, would be required to supply the place of a missing planet the size and density of the earth? Practical science can answer this question. It would take no less than 466,561,074,074,074,074—over four hundred and sixty-six thousand billions—each one hundred and eighty miles long. If there were such a number of comets in our solar system, we would see them darting through the heavens nightly, as thick as fire flies in July evenings. To find such a number of comets, we suggest to our harmonious philosophers the showers of stars which annually take place in August. They will find them very convenient to supply the deficiency.

In a lecture on comets, delivered by Professor Nichol, last winter, in the Glasgow Athenæum, he said, "What is a comet? A simple handfull of mist? no, that was too thick for a comet. The large comet seen in 1842, which was so long that if its head were at one end of the earth's orbit, its tail would come out of the other—180 millions of miles—was so light, that if it could be squeezed together to the density of water, the lecture room of the Athenæum could easily contain it. That was no theory, but positive fact, clearly proved." Upon this data, considering the lecture room named to be 150 by 100 feet, and 30 feet high in the ceiling, we have made the calculation above, thus showing that the prodigious number of four hundred and sixty-six thousand billions of immense comets, would be required to supply the place of one planet like our compact and venerable mother Earth. Having presented these figures, and described the attenuated structure of these "wanderers of the skies," we hope none of our readers will, after this, be afraid of comet collisions.

It should be the object of teachers of science to present their views on all subjects with great caution, and to theorize but little. Their duty is to present facts and describe experiments, not hypotheses and vagaries. It is no doubt very safe for some philosophers to indulge in scientific speculations, which never can be brought to the test so as to risk their reputation, but this neither advances science nor confers lasting honor upon themselves. They may gain a transitory distinction and an ephemeral adulation from some persons, by the very oddity of their views, but that is a miserable reward for time misspent and intellect frittered away upon the most useless subjects—mere vagaries.

An Error Corrected.

The London *Practical Mechanics' Journal* publishes in the April number a summary of Taylor's Bill for amending the U. S. Patent Law, and precedes it with the statement "we are informed on very good authority that the present bill is likely to become a law." We rather suspect that the good authority of our esteemed cotemporary has confounded the bill spoken of with the one subsequently introduced in the Senate by the late Senator Evans, and published in No. 28 of the present volume of the SCIENTIFIC AMERICAN. The two bills are entirely different in all essential particulars, and while the first has been virtually abandoned by its author, the excellent bill of Senator Evans is still pending, and we trust will become a law.